1 Name of the department/section: Department of Horticulture, College of Agriculture, Dapoli, Dist - Ratnagiri

2 About Department: Konkan region is the part of Western Ghat of Maharashtra having warm and humid climate with assured rainfall. Geographically it is hilly region with long coastal sea shore 720 km. For the agricultural development of Konkan region, Maharashtra Govt. established an independent Agriculture University on 18th May, 1972 named “Konkan Krishi Vidyapeeth” with its head quarters at Dapoli, District Ratnagiri, Maharashtra State, India. On 12th February, 2001, “Konkan Krishi Vidyapeeth” has been renamed as “Dr. Balasaheb Sawant Konkan Krishi Vidypeeth. Horticulture is one of the major departments in this University. Education, research and extension are the major mandates of this department.

3 Academic:

B.Sc. (Hort.) Degree programme

Following courses are being taught during 1st and 2nd term.

<table>
<thead>
<tr>
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<td>Tropical &amp; Subtropical Fruits</td>
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<td>11 Hands on Training H-HORT- 472</td>
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<td>12 RHWE-Hort.-471</td>
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**II**<sup>nd</sup> Term (II, IV, VI and VIII semester)

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<td>2 Hort-123</td>
<td>Growth and Development of Horticulture Crops</td>
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<td>3 H/AROMED-241</td>
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<td>4 H/FS-242</td>
<td>Breeding of Fruits and Plantation Crops</td>
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<td>5 H/FS-243</td>
<td>Arid Fruit Crops</td>
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<td>6 H/VS-242</td>
<td>Temperate Vegetable</td>
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<td>7 H/FL-243</td>
<td>Commercial Floriculture</td>
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<td>8 H/PHT-362</td>
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<td>11 H/FL-365</td>
<td>Breeding and Seed Production of Ornamental Crops</td>
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<td>12 H/Hort-483</td>
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II) B. Sc. (Agri.)

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| II 2nd Term | | | | |
| 1 | Hort-243 | Production Technology of Spices, Aromatic, Medicinal and Plantation Crops. | 1 + 1 | 2 |
| 2 | Hort-364 | Post Harvest Management and Value Addition of Horticulture Crops | 1 + 1 | 2 |
| 3 | AEL/HORT-486 | Commercial Vegetable Production | 0 + 13 | 13 |
| Total credits II 2nd term for 3 courses | | | 2 + 15 | 17 |
| Grand Total credits (I and II term) | | | 8 + 17 | 24 |

III) P. G. - M.Sc. (Agri.)

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<p>| II 2nd Term | | | | |
| 1 | PSMA- 502 | Production technology of spices crops. | 2 + 1 | 3 |</p>
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**IV) Ph.D. (HORT)**

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**4. Infrastructure:**

1. **Laboratories**
   - Cashewnut processing and oil extraction unit.
   - Fruit and vegetables processing unit.
   - Classroom for laboratory in fruit and vegetable processing unit.
   - Ripening chamber
   - Cold Storage.
   - Hi-Tech unit.

2. **Name of the important**

instrument/facilities

3 Activities : Research, Training for Farmers, U.G. and P. G. practical, P.G. student research activities etc.

5. Faculty:
   a. Academic staff:

<table>
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<th>Recent Photograph</th>
<th>Name of the faculty</th>
<th>Dr. P. M. Haldankar</th>
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<tr>
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| E-mail          | udaykumar_pethe@rediffmail.com |

b.) Research staff:

JRA

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6. Instructional Farm:
1 Location : Department of Horticulture, Dapoli
2 Infrastructure : Hitech Unit
    PHT labs
    Processing Lab
3 Activities : Research, Training and Education (Practical)

7. Research Activities and Achievements (including projects)
   a Variety/Implements released : Mango – Ratna, Sindhu, Konkan Ruchi,
   Konkan Raja, Alphonso, Suvarna
   Cashewnut – Vengurla – 1,2,4,6,7,8
   Coconut – Pratap, banawali, T x D, D x T-2,
   Arecanut – Shreevardhanee
   Jackfruit – Konkan Prolific
   Jamun – Konkan Bahadoli
   Karonda – Konkan Bold
   Banana – Konkan Safed Velchi
   Kokum – Konkan Amruta, Konkan Hatis
   Chilli – Konkan Kirti
   Tomato – Sonali
   French Bean – Konkan Bhushan
   Drum stick – Konkan Ruchira
   Ridge gourd – Konkan Harita
   Snake gourd – Konkan Sweta
   Yard long bean – Konkan Wali
   Konkan Ghorkand
   Lesser yam – Konkan Kanchan
   Sweet potato – Varsha
   Konkan Ashwini
   Xanthosoma – Konkan Haritparni
   Cinnamon – Konkan Tej
   Nutmeg – Konkan Sugandha, Konkan Swad,
b Research recommendations:

Research Recommendations - 2013

Crop Varieties developed by the University

1) Coriander - (Kasturi)

This variety is developed by selection method. It is spreading type variety of coriander having high aroma suitable for green leaves purpose. The leaves are broad, dark green with reddish tinged petiole having average 39 leaves per plant. Fresh weight of plant is 8.67 g. High leafy shoot ratio (3.7:1). It has high yield potential (106.42 g/ha). It has good shelf life (3 to 4 days at ambient temperature). It is free from pest and diseases (up to 50 days). It is suitable for cultivation in rabi and summer season in Konkan region.

Horticulture

1. It is recommended to prepare wine from mature green (raw) Alphonso mango fruits by adopting technology developed by Dr. B. S. Konkan Krishi Vidyapeeth, Dapoli.

2. Soil application of Paclobutrazol @ 2.5 ml/m. of canopy on 15th May (if irrigation is available) or 15th June is recommended for advancement of mango flowering fruiting by 2-2½ month in rocky areas along the west cost of Konkan region in Maharashtra.

3. It is recommended to grow spider lilly or banana as intercrops in full grown mango orchard or vermicomposting in mango orchard planted at 10 x 10m for obtaining higher yield and net returns.

4. For reducing the tannin content of cashew apple juice, it is recommended to store it at 120 C temperature for 24 hours, before preparation of cashewapple wine by using fermenter.

5. On the basis of chemical composition, sensory evaluation of juice and wine and cost of production of wine it is recommended that the pasteurised cashew apple juice treated with 250 ppm SO2 (0.43 g. potassium metabisulphite) can be used for preparation of standard quality wine upto its 3 months storage at 120C ± 2.

6. Soil application of Paclobutrazol 3.75 g.a.i. per tree during August is recommended for increasing yield and hastening maturity of Jackfruit.
7. The variety ‘Utkal Ragini’ of chilli having dark red colour is be recommended for cultivation in Konkan region of Maharashtra during rabi season to get higher dry chilli yield.

8. Wine can be prepared from ripe Jamun fruits by using technology developed by Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli.

9. In Aerial yam (*Dioscorea bulbifera*), for higher production of marketable yield, retaining 10 bulbs and thereafter pruning of vine is recommended.

**Other recommendation**

**Mango**

1. For planting of Alphonso mango in hard rocky lateritic soils of Deogad taluka, pits of 1 cubic meter should be dug by blasting. Pit should have cracks for development of roots.

2. Epicotyl (stone) grafting in the month of May, June and July, and veneer grafting and soft-wood grafting from September onwards are recommended for the large scale multiplication of the desired variety of mango under Konkan condition.

3. Softwood grafting technique for mango multiplication is standardized and recommended. Using this method, grafts can be prepared throughout the year under Konkan conditions.

4. The method of preparation of mango grafts such as inarch, stone, veneer and soft wood did not show any difference in respect of field establishment, growth, yield and quality. Hence grafts prepared by adopting any of these methods can be used for plantations.

5. For induction of early and regular flowering, application Paclobutrazol @ 5 g a.i. per tree as soil drench 90 – 120 days before fruit bud differentiation (i.e. 15th July to 15th August) is recommended under Konkan condition. The solution prepared by adding 20 ml cultar formulation in 3 ltr water to be applied through soil by drenching it in about 30 holes of 3 – 4” deep made under the canopy of the tree, just inside the fertilizer application ring.

6. For the control of subsequent mortality of stone grafts, spray of 250 ppm Paclobutrazol is effective for hardening the grafts at nursery stage when it is sprayed on 4th – 5th day after sprouting.
To rejuvenate the over crowding and poor yielding orchards, a technique of hard pruning, followed by application of Paclobutrazol has been found to be effective for improving the productivity.

To control the mango parasite, remove as soon as it appear and spray Butachlor 0.3 % or apply Vaseline 0.3% or Glycel 0.5% on the cut portion of branch.

To control the mango parasite (Loranthus), remove the parasite, completely and apply cashew seed coat oil with the help of brush on the roots (Haustoria) of parasite entered in the bark of mango plants.

Higher than the recommended dose of fertilizers (i.e. 1.5 kg N, 0.5 kg P2O5, and 0.5 kg K2O / tree) had no significant effect on increasing the growth as well as yield of mango var. Alphonso under Konkan conditions. Hence, higher than the recommended dose of fertilizers should not be applied.

Scheduling of irrigation to mother orchard of mango cv, Alphonso with 100 litre water per plant at an interval of 15 days through drip method gives record 45.5 per cent increase in bud stick production.

For fruit setting and increasing fruitfulness in mango variety Alphonso, other mango varieties such as Goa-Mankur, Ratna or Kesar, which are good pollinizers, should be planted @ 10-15% in Alphonso mango orchard at different places.

Presently mango is planted at 10 m x 10 m distance. To increase the production, it is recommended hereafter, if possible, do the planting at 5 m x 5 m distance.

In the red lateritic soils of Deogad region, planting mango var. Alphonso at 5 m x 5 m distance is recommended.

Taking into consideration, the net profit, among the perennial cropping system (i) coconut – arecanut – banana and (ii) mango – cashew cropping systems give maximum economic return under seashore of Southern Konkan.

For management of the weeds and increasing the production of mango, apply Diuron 2.4 kg per ha on the soil and after the weed germination spray Glyphoset 0.8 kg per ha at 35 and 70 days on the weeds.

Cashew

Soft wood grafting, coppice grafting and flush grafting techniques have been standardized and recommended for cashew propagation.
Use of staged trenches is recommended for cashew plantation in high rainfall and more sloppy land of southern Konkan for soil and water conservation. Keep 4.5 m length of trenches, width of upper side 0.6 m, width of lower side 0.3 m and depth 0.3m. There should be 230 trenches per ha.

Regional Fruit Research station, Vengurle, has developed a new propagation method for cashew i.e. flush grafting (for making grafts in the off – season). Successful grafting of cashew can be done even in the winter months (December – January) by using this method. The procedure comprises of :

1. For grafting use 21 – 28 days old stocks as well as bud – sticks.
2. There is no need to remove the leaves from the bud – sticks before taking the bud sticks from the trees.
3. In flush – grafting, the survival percentage is more than 90 %.
4. Keep the grafts in poly – shed after grafting.

For conservation of less than 10 years old cashew trees into improved one, use of crown grafting is recommended.

It has been recommended to do plastic (500 guage) lining at the bottom and sides of a trench of 5 m long, 30 cm wide 25 cm deep for cashew nursery under southern Konkan region. Apply 100 ml water for a cashew graft every day.

Fertilizer dose consisting of 1000 kg N, 250 kg P2O5 and 250 kg K2O have been recommended for four years and more age graft every year.

Urea 3 % should be mixed in the insecticide solution and sprayed at the time of emergence of vegetative flush (before flowering), flowering and fruit set to increase the yield.

For higher production of cashew grown in the laterite soils of southern Konkan, along with the recommended dose of fertilizer (500:250:250 g NPK / tree), is recommended to spray 3% urea before the flowering, at the flowering and at the seed / fruit maturity along with sprays of the insecticides.

Taking into consideration, the net profit, among the perennial cropping system mango – cashew cropping system give maximum economic return under seashore of southern Konkan.
Intercropping of vegetables in the initial growth stage of orchard during kharif season is recommended.

Coconut

1 Fertilizer dose consisting of 1000 kg N, 250 kg P2O5 and 250 kg K2O have been recommended for coconut in sandy soils.

2 Apply organo – mineral chemical complex @ 1500 g per tree per year in three equal split doses along with the other recommended fertilizers. It significantly increases the coconut production.

3 Application of recommended doses (1:05:1 kg NPK / palm / year) with 1.5 kg Ormichem micronutrient (Zn 3.15 %, Mg 1.8 %, Cu 0.65 %, Fe 1.97 %, Mn 2%, Mo 0.05% and Boron 0.68%) gives the maximum yield (129 nuts / palm / year) in coconut. Per cent increase in yield is higher in post – treatment period as compared to the pre- treatment period. Therefore, application of recommended doses of fertilizer along with 1.5 kg Ormichem (micronutrient mixture) in three split doses is recommended for an adult bearing coconut palm.

4 Studies conducted to assess the influence of quality of irrigation water on growth of one year old newly planted West Coast Tall coconut seedlings in coastal sandy soil indicated that irrigation with sea water has detrimental effects, at any growth phase throughout the duration of the experiment, due to primary salt stress, which is responsible for membrane disintegration and disturbance in metabolic process. The dilution of sea water with sweet water reduces the extent of primary stress injury but imposes the salt injury causing decrease in uptake of mineral elements which results in poor growth of seedlings.

5 Chilli var. Jwala performs well as intercrop in coconut in both the seasons giving significantly higher yield, better net returns, and more net returns, and more net returns per man day than chilli var. Konkan Kirti. Cultivation of both the chilli varieties provides a good scope for better employment utilization opportunities and increase in net returns to coconut grower.

6 Nutmeg (at 16 years age) proved as the best intercrop in coconut plantation. On the basis of the net economic returns realized, it is recommended to interplant nutmeg,
cinnamon and clove in well spaced coconut garden in the Konkan region of Maharashtra state.

7 In coconut plantation, grow clove, cinnamon and nutmeg as intercrops. It increases the overall production by 26 – 63 %.

8 Taking into consideration, the net profit, among the perennial cropping system (i) coconut – arecanut – banana and cropping system give maximum economic return under seashore of southern Konkan.

1 **Aonla** - Soft wood grafting technique for Aonla propagation is standardized and commercialized.

2 Taking into considerion, the net profit, among the perennial cropping system (i) coconut – arecanut – banana and (ii) mango – cashew cropping systems give maximum economic return under seashore of southern Konkan.

1 **Jackfruit** - Epicotyl and softwood grafting methods have been tried first time in jackfruit at DBSKKV, Dapoli. In Epicotyl grafting the highest success (about 90%) is obtained during April. About 60 – 80 per cent success is obtained in softwood grafting during mid – October to mid – February. Both of these methods are commercially accepted by nurserymen.

2 **Jamun** - In air layering maximum success percentage can be obtained with application of Seradex – B.

3 **Sapota** - Soft-wood grafting technique is recommended for large scale multiplication of sapota on khirni rootstock.

4 For management of the weeds and increasing the production of Sapota, apply Diuron 2.4 kg per ha on the soil and then after the weed germination, spray Glyphoset 0.8 kg per ha at 35 to 70 days on the weeds.

5 **Wood apple** - Wood apple can be successfully propagated by inarch grafting.

6 **Bitter gourd** – *(Momordica charantia)* A fertilizer dose 120:50:50 kg NPK per ha and 15 tonnes FYM per ha is recommended for bitter gourd under Konkan conditions.

7 **Brinjal** - Cultivation of brinal var. Arka Neelkanth on the flat bed or ridges and furrows in the laterite soils of Konkan region and application of 25 (PP) C.P.E. water during the winter season gives the maximum yield. However, in the after scarcity
areas, 50 PP (C.P.E.) + mulching with grass is recommended for higher production.

8 Capsicum – Capsicum var. California Wonder gives higher yield in the laterite soil of Dapoli when 25 (PP) CPE water and 150 kg N, 50 kg P2O5, and 50 kg K2O per ha are applied.

9 Carrot - Taking into consideration the high production and high net return, carrot is recommended as intercrop in sugarcane under Konkan region.

Chilli -

1 Optimum spacing of 60 cm x 30 cm is recommended for chilli var. Konkan Kirti.

2 A fertilizer dose of 150:50:50 kg NPK per ha is recommended for chilli.

3 Taking into consideration the high production and high net return, chilli is recommended as intercrop in sugarcane under Konkan region.

Cluster bean - Taking into consideration the high production and high net return, cluster bean is recommended as intercrop in sugarcane under Konkan region.

Cowpea – The cowpea var. Arka Garima irrigated at 75 CPE (12 – 15 days interval) with 50 mm depth of irrigation water along with application of 10 tonnes FYM, 60 kg N, 60 kg P2O5 and 50 kg K2O per ha produced maximum (42 t / ha) yield of green pod.

For Karjat region, rice – watermelon – cowpea cropping system is recommended for higher production.

Cucumber

1 Sowing of cucumber var. Sheetal from 5th May to 15th June is recommended under Dapoli condition.

2 Under Konkan conditions, the optimum recommended spacing for cucumber var. Sheetal is 1.50 m x 0.90 m.

3 A fertilizer dose of 135 kg N, 50 kg P2O5 and 50 K2O per ha is recommended for cucumber var. Sheetal.

4 It is recommended to irrigate cucumber var. Sheetal at 25 mm (6 – 8 days interval) irrigation and apply 150 kg N per ha for obtaining higher yield (218.8 q / ha) under Konkan condition.

Dolichos bean
Planting of Dolichos bean var. Konkan Bhushan during November to December is recommended under Konkan conditions.

Planting of Konkan Bhushan var of Dolichos bean at the spacing of 45 cm x 15 cm is recommended under Konkan conditions.

For higher yield (96.6 q / ha) of Dolichos bean var. Konkan Bhushan, it is recommended to irrigate at 25 mm CPE and give 75 kg N per ha under Konkan conditions.

Use paddy (Kharif) – Dolichos bean (rabi) cropping system for rained conditions.

French bean

For maximum economic return in the soils made up from the lateritic rocks under southern Konkan seashore, it is recommended to follow paddy watermelon or paddy – French bean cropping system.

Okra

Optimum spacing of 60 cm x 30 cm is recommended for okra cultivation.

A fertilizer dose of NPK @ 100:50:50 and 15 tonnes, FYM per ha is recommended for higher yield of okra.

For control of weeds in okra grown in the red lateritic soil of Konkan region, do two weedings at 20 and 40 days after sowing, or apply Fluchlorlin 1.0 kg per ha (30 days before the sowing) or Oxydiazon 0.4 kg per ha (after the sowing but before the weed germination).

Tomato

Irrigation at 30 mm CPE and fertilizer dose of 150:75:75 kg NPK per ha are recommended for tomato.

Watermelon

Sowing of watermelon during second fortnight of October to first fortnight of December is recommended for getting higher yield of watermelon fruits under Konkan conditions.

A fertilizer dose of NPK @ 150 : 50:50 kg per ha is recommended for watermelon.

Irrigation at an interval of 3 – 4 days is recommended for watermelon cultivation.
under Dapoli conditions.

4 Use paddy (Kharif) – watermelon (rabi) cropping system.

5 For maximum economic return in the soils made up from the lateritic rocks under southern Konkan seashore, it is recommended to follow paddy watermelon cropping system

6 For Karjat region, rice – watermelon – cowpea cropping system is recommended for higher production.

China aster

1 For China aster 200 kg N, 200 kg P\textsubscript{2}O\textsubscript{5} and 60 kg K\textsubscript{2}O per ha is recommended.

Chrysanthemum

1 Planting of chrysanthemum in May – June under polyhouse conditions is recommended for higher yield and quality of flowers and to reduce the mortality of plants during the rainy season under Konkan conditions.

Marigold

1 For African marigold fertilization with 200 kg N, 75 kg P\textsubscript{2}O\textsubscript{5} and 50 kg K\textsubscript{2}O per ha is recommended.

White lily

1 For white lily, a fertilizer dose of 150 kg N, 60 kg P\textsubscript{2}O\textsubscript{5} and 75 kg K\textsubscript{2}O per ha is recommended.

Areca nut

1 A patch of hard rock in selected soil should be cleared off before planting.

2 Areca fruits were categorized in various group on fruit weight viz, 0- 20, 21 – 30, 31 – 40, 41 – 50, 51 – 60 and > 60 grams and sown in the soil for recording germination of the seeds. Seeds germination was found to be less in case of seeds weighing between 21 and 60 grams.

3 It is recommended to soak the arecanut seeds before sowing in 100 ppm Gibberelic acid solution for 24 hours in order to increase the seedling height and diameter and also for faster seedling growth.

4 For effective fertigation to arecanut, apply 15 – 20 kg FYM or compost or green
manure, 150 g N, 75 g P₂O₅ and 150 g K₂O for one bearing palm every year. The full dose of FYM or compost or green manure and full dose of phosphate be applied once in a year in the month of August-September, along with half dose of nitrogen and potash. The remaining half dose of nitrogen and potash may be applied in December- January every year.

5 Irrigate arecanut at an interval of 6 – 7 days in winter and 3 – 4 days in summer. Irrigation though drip saves the water (about 30%) as well as the labour cost.

6 Taking into consideration, the net profit, among the perennial cropping system (i) coconut – arecanut – banana and cropping system gives maximum economic return under coastal belt of southern Konkan.

**Tuber crops**

1 **Colocasia** - A fertilizer dose consisting of FYM 10 tonnes + NPK @ 120:60:120 per ha is recommended for commercial cultivation of colocasia.

2 **Greater yam** – Ghorkand is recommended to grow as rainfed crop during kharif season on the varkas land on hill slopes of Ghat Zone. This tuber crops has given more yield and monetary returns than other crops.

3 **Sweet potato** - A fertilizer dose FYM of 10 tonnes + NPK @ 90:60:90 kg per ha is recommended for sweet potato.

4 **Lesser yam** - A fertilizer dose FYM of 10 tonnes + NPK @ 80:30:40 kg per ha is recommended for commercial cultivation in lesser yam.

5 **Clove** – for multistoried cropping system in coconut colve is recommended.

**Post Harvest management**

1 **Banana** – Post harvest treatments of mature banana fruits with 400 – 500 ppm ethrel accelerates the ripening process and hence it is recommended as post harvest ripening treatment.

2 Processing technologies pertaining of different fruit crops are standardize and recommended by DBSKKV, Dapoli
   1. Mango – Raw mango, RTS drink and squash.
   2. Cashew apple – RTS, squash, syrup apple residue preserve and candy.
   3. Sapota – Raw fruit - Pickle


3 Storage conditions of different fruits and vegetables in big size cool chamber are standardized for Konkan region and is recommended for the short tem storage.

4 Cold storage as well as cool chamber storage conditions are standardized for the storage of mango, sapota, jackfruit, banana, papaya, seedless lemon, some vegetables, tuber crops and flowers and hence they are recommended.

5 The carbonated fruit based beverages from cashew apple, karonda fruits (raw and ripe), kokum and lime are standardize and recommended.

6 Karonda – It is recommended to make carbonated drink from the juice of Karonda (raw and ripe) fruits.

7 Kokum – Kokum agal prepared from ripe rind by addition of 16% common salt can be stored at ambient temperature for a period of one year.

8 Kokum – It is recommended to make carbonated drink from the juice of kokum fruits.

9 The pre- harvest sprays with 0.1 % bavistin 10 – 20 days to harvest reduces the post harvest spoilage of mango cv. Alphonso.

10 For improving the quality and sugar content of mango cv. Alphonso, spray 1 % muriate of potash when the fruits are of pea size. Give two more spray at an interval of 15 days.

11 The post harvest treatments such as : (a) diping the freshly harvested mango fruits in 500 ppm bavistin solution for 5 minutes and (b) waxing the fresh mango fruits with 6 % waxol increases the shelf life and hence they are recommended as post harvest treatment for mango.

12 Post harvest treatments of mature fruits with 400 – 500 ppm ethrel accelerates the ripening process and hence it is recommended as post harvest ripening treatment.
Harvesting of mango fruits with pedicel with the help of Nutan Mango Nipper (developed by DBSKKV, Dapoli) is recommended.

Grading of mango (cvs. Alphonso, Kesar and Ratna), Sapota (cv. Kalipatti) and papaya was done in three grades viz., large, medium and small. Based on the results the medium size fruits (i.e. medium grade) is recommended for fresh market.

Mango fruits of Alphonso variety could be graded on the basis of specify gravity into three grades viz., specific gravity <1.00, 1.00 – 1.02 and > 1.02. The fruits belonging to the medium size grade with 1.00 – 1.02 specific gravity are recommended for cold storage and export.

CFB boxes are recommended for packing of mango fruits for both the internal and export markets.

It is recommended to use corrugated boxes made by Cotton Technology Research Laboratory, Mumbai from cotton husk and the boxes made by DBSKKV, Dapoli for packing and transport of mango var. Alphonso.

Pre – cooling of mango fruits at 12 – 13°C temperature is recommended for the mango vars. Alphonso and Kesar.

The storage of mango fruits in cold storage reduces the incidence of spongy tissue.

After the harvest, if the fruits of mango cv. Kesar are given intermittent warming cycle (removing the fruits from the cold storage on 4th day and storing them in open and then again storing them in cold storage at 10 + 2°C temperature remain in good condition for three weeks.

Sapota – For harvesting the fruits of Sapota, Atul Sapota Harvester (developed by DBSKKV, Dapoli) is recommended.

Processing technologies of various vegetables, tuber crops and spices are standardized and recommended by DBSKKV, Dapoli

2. Red ripe portion – RTS, squash and syrup.
3. Tomato – Juice, puree, paste and ketchup
4. Drumstick – Dehydration
5. Tuber crops – Dehydration, flour, coarse flour and different cookies.
6. Vegetables – drying and dehydration
**Cashew**

1. For getting quality cashew nuts (for cashew processing industry), it is recommended to use the ‘cashew grader’ developed by DBSKKV, Dapoli.

2. Good quality jam can be prepared from apple of cashew.

3. It is recommended to use of a machine developed by DBSKKV, Dapoli for the extraction of juice from the cashew apple.

4. It is recommended to make carbonated drink from the juice of cashew apple fruits.

**Nutmeg** – It is recommended to prepare pickle from bark, shreds from the fruits, jam from ‘khis’ and candy from bark of nutmeg.

2. Nutmeg – Various processing technologies of nutmeg pertaining to pickle, preserve, candy, syrup, jam and chutney from rind are standardized and recommended.

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e **Ongoing research** :

Projects/Programmes/Schemes

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of project</th>
<th>Name of PI &amp; CO-PI</th>
<th>Year of start</th>
</tr>
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</table>
| 1       | PPV & FRA Project on ‘Collection, Maintenance, Evaluation and Development of Descriptors of Fruits, Plantation crops and Tree Spices through Live Repository’, | PI – Dr. P. M. Haldankar  
CO-PI – Dr. V. S. Dandekar (AHDS)  
CO – PI – Dr. V. V. Dalvi (Agril. Botany) | 2009                       |
| 2       | Indo Israel Project on ‘Establishment of Central of Excellence of Mango Under Indo Israel Work Plan’  | PI – Dr. P. M. Haldankar  
CO-PI – Shri. Y. R. Parulekar  
CO – PI – Shri. M. M. Kulkarni | 2010                       |
CO-PI – Dr. P. M. Haldankar | 2009                       |

5 | National Horticultural Mission | PI – Dr. P. C. Mali | 2006

8. Repository of abstract of the thesis:

1 Name of the candidate : Anis Dawood Rangwala
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1975
4 Name of the guide/Co guide : Dr. R. T. Gunjate
5 Thesis Title & Abstract : Changes in chemical composition of Alphonso mango fruits during ripening with particular reference to spongy tissue

The present study was undertaken to study the changes in sugars, TSS, carotenoids, ascorbic acid, acidity, tannin, moisture content, nutrient content like N,P,K, Ca and Mg content in the Alphonso mango fruits during ripening with particular reference to the chemical compotation of affected fruits (spongy tissue affected part and unaffected part) healthy fruits. It was carried out in Department of Horticulture, College of Agriculture, Dapoli, Dist. Ratnagiri. It was concluded that the normal ripening process in the Alphonso fruits appear to be affected leading to the development of spongy tissue. There is imbalance of mineral content in the spongy
tissue affected fruits. Harvesting of Alphonso fruits at earlier stages of maturity could be advocated as practical suggestion.

2 Name of the candidate : Govind Dinu Joshi
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1975
4 Name of the guide/Co guide : Prof. V. P. Limaye
5 Thesis Title & Abstract : Studies on spongy tissues of mango (*Mangifera indica* L.) fruits.

Studies on spongy tissues of mango (*Mangifera indica* L.) fruits were carried out at the Regional Fruit Research Station, Vangurla, Dist Ratnagiri during 1974-1975 harvesting seasons. The observations on the occurrence of spongy tissue in Alphonso variety along with effect of different factors like root-stock used, application stage of harvest etc on the occurrence of spongy tissue in Alphonso fruits indicate that it may be physiological in origin.
carried out at the Regional Fruit Research Station, Vengurle, Dist - Sindhudurg during 174 and 1975 harvesting season. In the investigation an attempt had been made to study the occurrence of spongy tissue in relation to application of manures and fertilizers to the tree. Situation of trees at hill tip, slope and the base of the hill, early and late harvesting in the season, age of the tree, size of fruits at harvest in Alphonso mango and occurrence and intensity of spongy tissue in some commercial varieties of mango.

The observations on the occurrence of spongy tissue in the varieties along with effect of different factors like root stock used application of manure and fertilizers age of the tree, size of the fruit, stage at harvest etc., on the occurrence of spongy tissue in Alphonso fruits indicate that it may be physiological in origin.

4 Name of the candidate : Vasant Nivrutti Kore
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1975
4 Name of the guide/Co guide : Porf. V. P. Limaye
5 Thesis Title & Abstract : Studies on growth, yield and quality of varieties of sweet potato (*Ipomae batatas* L.) under Konkan conditions.

A field experiment was conducted in the red loamy soils on the farm of Horticultural Department, College of Agriculture, Dapoli (Ratnagiri). The object of the experiment was to study the comparative performance of four hybrid sweet potato varieties introduced from C.T.C.R.I, Trivandrum namely SW.2, SW. 3, SW. 4 & SW.5 with local variety from pen district kolape under the Konkan conditions. Out of all these verities the Sw.4 variety was superior in quality of tubers with regard to starch content, non-reducing sugars and shape and size of the tubers.

5 Name of the candidate : Dinkar Punjaji Jorwehar
2 Degree for which the thesis/project report submitted: M. Sc. (Agri.)
3 Year of submission: 1976
4 Name of the guide/Co-guide: Dr. R. T. Gunjate
5 Thesis Title & Abstract: Studies on pollination, fruit set and fruit drop in Alphonso mango (*Mangifera indica* L.)

Investigation was carried out on pollination of fruit set and fruit and fruits drop in Alphonso variety. Efficiency of some growth regulator regarding fruit drop was also studied. It was concluded that only one Alphonso fruit was obtained per six panicle. In appears reasonable to expect on fruit per panicle. Similarly spray of growth harmon at NSS 30 ppm and 2-4D 20 ppm increases pH, T.S.S., reducing sugar, ascorbic acid and decreases acidity of fruit so they can be commercially used.

6 Name of the candidate: Arjun Shidwa Uradya
2 Degree for which the thesis/project report submitted: M. Sc. (Agri.)
3 Year of submission: 1976
4 Name of the guide/Co-guide: Dr. R.T. Gunjate
5 Thesis Title & Abstract: Studies on veneer grafting in mango (*Mangifera indica* L.)

Studies on veneer grafting in Alphonso variety of mango were conducted at the Department of Horticulture, College of Agriculture, Dapoli from June 1974 to March 1976 to standardize the technique under the Konkan conditions. It was observed that the veneer grafting is not feasible on seedlings raised in alkathene bags and earthen pots, though there is a possibility of getting a good success if the method of raising seedlings is slightly modified. The maximum success of 60% was obtained in first fortnight of May on seedling in alkathene bags and 30% in second fortnight of April, August and September. On an average, the percentage of success was better
From above experiment it was concluded that March to April was optimum time for the veneer grafting in ground nursery. Then under Konkan condition prior defoliation of scion shoot is not necessary. Similarly, the growth of grafts was better in alkathene bags than in earthen pots it was very poor as compared to the grafts in the ground nursery.

8 Name of the candidate : Ingavale M. T.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1977
4 Name of the guide/Co guide : Dr. R. T. Gunjate
5 Thesis Title & Abstract : Studies on growth, yield and qualities of ten varieties of sweet potato (*Ipomea batata*) under Rainfed conditions.
   The overall performance of variety SW.4 is the best. This variety produced the highest tuber yield with good amount of green matter. The quality of tuber is very superior regarding starch, non-reducing sugar and protein content. Therefore, variety SW.4 could be recommended as an improved commercial variety over the 10 cut for cultivation in Konkan region.

9 Name of the candidate : Subas Jinendra Tare
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
thesis/project report submitted

3 Year of submission : 1977

4 Name of the guide/Co guide : Dr. V. P. Limaye

5 Thesis Title & Abstract : Effects of graded levels of nitrogen, phosphate and potash on the growth, yield and quality of watermelon.

   The object of the present investigation was to study the effect of graded levels of nitrogen, phosphate and potash on growth yield and quality of sugar baby. The experiment comprised of three levels of nitrogen, viz., 50, 75 and 100 kg/ha; three levels of phosphate viz., 10, 20 and 30 kg/ha and three levels of potash viz, 50, 75 and 100 kg/ha. Thus there were 27 treatment combination replicated thrice.

   On the basis of result of the present investigation it would be concluded that the combination of 75 kg N/ha, 30 kg P2O5/ha and 75 kg K2O/ha had given better yield and the quality of fruit. However, it is
essential to try higher level of phosphate for getting optimum requirement of NP and K for sugar baby.

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<tr>
<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Studies on the effect of thinning of shoots on growth and flowering in Alphonso Mango (<em>Mangifera indica</em> L.) Investigation were carried out on use of plantix of NAA for control of fruit drop and thinning of shoots to induces regular bearing in Alphonso mango. It was found that the variety Alphonso did not respond to thinning of shoot for inducing regular bearing.</td>
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<td>Dr. R. T. Gunjate</td>
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<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Studies on propagation of nutmeg (<em>Mangifera fragrans</em> Hout.) Investigation were carried out on use of plantix of NAA for control of fruit drop and thinning of shoots to induces regular bearing in Alphonso mango. It was found that the variety Alphonso did not respond to thinning of shoot for inducing regular bearing.</td>
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3 Year of submission : 1978
4 Name of the guide/Co guide : Dr. R. T. Gunjate
5 Thesis Title & Abstract : **Studies on propagation of nutmeg (Mangifera fragrans Hout.)**

From these studies that for sowing nutmeg seed sand is the best medium. The mechanical scarification improved germination out of the various method of vegetative propagation only inarching appeared to be feasible in nutmeg. Further trials on a large scale are suggested for standardizing some of the promising methods.

14 Name of the candidate : Durgadatta Dhakal
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1979
4 Name of the guide/Co guide : Dr. R. T. Gunjate
5 Thesis Title & Abstract : **Studies on stone grafting on mango (Mangifera indica L.)**

The studies showed that stone grafting in mango under Konkan conditions can be done from June to October with 10-15 cm long under foliated scion shoots of more than two months age on rootstock of less than two week old coppery red in colour by wedge method of grafting and planting in 18 x 22 cm polythene bags. It is also concluded that the season of stone grafting could be prolonged by increasing the viability of stones by storing them in polythene bags with charwal of vermiculture for ensued supply of just germinated seedlings as rootstock. Stone grafting in this form can be used for production of mango grafts on a large scale.

15 Name of the candidate : K. M. Dengale
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
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<td>5 Thesis Title &amp; Abstract</td>
<td>:</td>
<td>Studies on stone grafting on mango (Mangifera indica L.)</td>
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It is concluded from the present studies that under the Konkan conditions stone grafting in mango can be done from June to September on the seedling of one to three weeks age. The success in stone grafting was better on seedling raised in polythene bags, filled with soil + FYM (3:1) without uprooting by either modified wedges or wedge techniques of grafting. Use of two seedlings for grafting single scion may be exploited to be obtain higher success. It is not necessary to treat the rootstock seedlings with fungicide before grafting. When incidence of disease like collar rot is not suspected. The successful stone grafting should be shifted into open space when they become pale green in colour. The grafts shifted should be kept in trenches in order to improve survival and getting better growth.

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The object of present investigation was to study the effect of seed treatment with plant growth regulators on germination, growth and yield of okra. It was carried out at the College of Agriculture, Dapoli during rainy season of 1979. The seeds of the Pusa Sawani variety of okra were spoked in the solutions of GA and IAA each at 50, 75 and 100 ppm ccc at 100, 200 and 300 ppm and Tricontanol at 0.50, 0.75 and 1.00 ppm totally there were fourteen treatments. From all the above treatments the higher
and early germination of seeds, better vegetative growth and maximum yield of pods could be obtained by treating the seeds either with CCC at 100 ppm or GA at 75 ppm.

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<th>17</th>
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<td>Name of the guide/Co guide</td>
<td>Dr. V. P. Limye</td>
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<tr>
<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Effect of seed treatment with plant growth regulators on germination, growth and yield of okra (<em>Abelmoschus esculentus</em> L. Mench) variety Pusa Sawani. The object of present investigation was to study the effect of seed treatment with plant growth regulators on germination, growth and yield of okra. It was carried out at the College of Agriculture, Dapoli during rainy season of 1979. The seeds of the Pusa Sawani variety of okra were spoked in the solutions of GA and IAA each at 50, 75 and 100 ppm ccc at 100, 200 and 300 ppm and Tricontanol at 0.50, 0.75 and 1.00 ppm totally there were fourteen treatments. From all the above treatments the higher and early germination of seeds, better vegetative growth and maximum yield of pods could be obtained by treating the seeds either with CCC at 100 ppm or GA at 75 ppm.</td>
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<td>Dr. R. T. Gunjate</td>
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<tr>
<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Studies on vegetative propagation of cashewnut (<em>Anacardium occidentale</em> L.) and Jackfruit (<em>Artocarpus heterophyllus</em> L.)</td>
</tr>
</tbody>
</table>
Studies were carried out at the Department of Horticulture, College of Agriculture, Dapoli, Dist - Ratnagiri during the year 1979 – 80.

The studies were carried out on the two aspects like vegetative propagation of cashew and vegetative propagation Jackfruit.

The experiment was carried out in RBD with ten treatments with 4 replicates each. Venner grafting was found to be successful in cashew under Konkan conditions. Wedge grafting was successful in cashew under the Konkan condition. The highest success (66%) was obtained on 30th May in cashew by softwood grafting.

Veneer grafting in jackfruit was found to be successful. The maximum (41.66%) success was obtained in the month of May and June. The method like venner, epicotyl and softwood grafting can be employed for vegetative propagation of cashew and jackfruit under Konkan region.

19 Name of the candidate : 
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1980
4 Name of the guide/Co guide : Dr. R. T. Gunjate
5 Thesis Title & Abstract : Effect of date of sowing on growth, yield and quantity of watermelon
It is concluded that on the basis of the results of the present investigation it has been concluded that the yield of sugar baby goes on decreasing as the sowing is delayed though it dose not affect quality of fruits. It appeared that 15th October to 1st December is the optimum time for sowing sugar baby watermelon under the Konkan condition. However, these observation should be confirmed before it is recommended to the farmers for commercial cultivation of sugar baby in the Konkan region.

20 Name of the candidate : Bhaskar P. Walimbe
2 Degree for which the thesis/project report : M. Sc. (Agri.)
5 Thesis Title & Abstract : Study of spongy tissue in Alphonso mango fruits

The present studies on effect of calcium treatments, mulching of trees, wrapping of fruits and sun light exposure of fruits on the occurrence of spongy tissue, and changes in chemical composition of Alphonso mango fruits during growth and development and in relation to spongy tissue were carried out during the fruiting season of 1978-79, at the Department of Horticulture, Konkan Krishi Vidyapeeth, Dapoli.

The effect of the post harvest sun light exposure of fruits on occurrence of internal breakdown was studied in ten varieties of mango. It was found that Alphonso variety of mango showed maximum (100%) occurrence of internal breakdown followed by Vanraj, Goamankur and Pairi varieties. Acidity (citric acid content) and ascorbic acid content decreased as the fruits matured. The starch content was found to increase from early stage upto the full maturity. In general, the reducing, non-reducing and total sugars showed an upward trend during growth of the fruits.

5 Thesis Title & Abstract : Effect of different levels of nitrogen phosphoate and potassium on growth, yield and quality of Brinjal (Solanum melongen L.) variety Bantivare.

The experiment was conducted during the Rabi season of 1980 - 81, at the vegetable improvement scheme, at the central farm KKV, Wakawali. The experiment was laid out in a 3
partially confounded design.

The treatment consisted of twenty seven combinations formulated by combining three levels of each of Nitrogen, phosphate and potassium replicated 2 times.

The treatment comprising N1 = 50 kg, N2 = 100 kg, N3 = 150 kg, P0 = 0 kg, P1 = 50 kg, P2 = 100 kg, K0 = 0 kg, K1 = 50 kg and K2 = 100 kg.

The maximum height was observed in N3 and P2 treatment and least height in N1 and P0 treatment.

N3 and P2 produced more no of flowers and fruits of better quality than N1 and P0.

The ascorbic acid, moisture and crude protein was also found higher in N3 and P2 and least N1 and P0 treatment.

It is seen that 150 kg N, and 50 kg per hectare significantly produced maximum yield. Hence it is recommended to fertilize variety Bantivare with 150 kg N and 50 kg P per ha.

Application of potassium is not necessary.

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<th>Robert Moscarenhas</th>
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<tr>
<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Studies on the effect of plant growth regulator on Brinjal (<em>Solanum melongena</em> L.))</td>
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The experiment was conducted at the vegetable improvement scheme, central farm KKV, Wakawali during the rabi (1980 – 81) season.

The brinjal variety used was ‘Bantivare local’.

The treatment comprising S1 = GA3 25 ppm, S2 = GA3 50 ppm, S3 = GA3 75 ppm, S4 = 2D S 2 ppm, S5 = 2D4 4 ppm, S6 = 2D6 6 ppm, S7 = CCC 200 ppm, S8 = CCC 400 ppm, S9 = CCC 600 ppm, S10 = water spray.

Method I - seed treatment and Method II – whole plant spray.

These treatments were applied thrice in RBD as seed treatment and as whole plant spray at 50% flowering.
These result showed that CCC at 200 ppm had the highest percentage of germination. All concentration of GA3 gave higher germination percentage. 2,4 D at 2 and 4 ppm gave significantly faster rate of germination than, 2,4D at 6 ppm and CCC at all the concentration.

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<th>23</th>
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<th>: Dilip Dhondu Nagwekar</th>
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<tr>
<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>: Studies on survival and growth of mango (<em>Mangifera indica</em> L)</td>
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<td>- A series of experiments on stone grafting in Alphonso mango was undertaken in the Department of Horticulture, College of Agriculture, Dapoli during the year 1980 – 81 for standardization of technique for the Konkan condition.</td>
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<td>- It is concluded from the studies under the Konkan conditions stone grafting in mango can be done from June to August. Where there is a shortage of budsticks subterminal portion of shoots could be used as scion with equal success and growth soil + FYM (3:1) was the best potting mixture for planting the stone grafts in polythene bags. Two rootstocks could be used for a single scion. The stone grafts shifted in the open space should be kept in trenches in order to improve survival and getting better growth.</td>
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5 Thesis Title & Abstract : Effect of different levels of nitrogen and potassium on growth, yield and quality of sweet potato (*Ipomea batatas* Linn. Latn.)

The experiment was conducted at the central farm, K. K. V. Wakawali. The objectives was to study the effect of different levels of nitrogen and potassium on growth, yield and quality of sweet potato, variety H – 268 during rabi season in Konkan. It was revealed that application of 100 kg N/ ha increased total yield along with increased vegetative growth, weight of tuber per plant and per hectare, number of tubers, length and girth of tuber moisture and protein content in tuber. Whereas application of 75 kg K2O per hectare, recorded maximum yield per plant and per hectare; total sugar, reducing sugar, non reducing sugar and starch content in tuber.

25 Name of the candidate : Mr. Rai J. P.

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1982

4 Name of the guide/Co guide : Dr. R. T. Gunjate

5 Thesis Title & Abstract : Studies on effect of potting mixture on survival and growth of mango

From these studies potting mixture of specific physical properties can be made by manipulating ingredients which have different properties. Proper physical properties and nutrient availability is necessary to get maximum survival and to sustain good growth and contract some of the retarding factors that confront in its growing environment soil + FYM (3:1) was the best potting mixture for planting mango stone grafts in polythene bag.

26 Name of the candidate : Lauti Moti Ram

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1982
4 Name of the guide/Co guide : Dr. M. J. Salvi

5 Thesis Title & Abstract : Studies on growth flowering and fruiting in nutmeg (*Myristica fragrans* Houtt.)

Nutmeg is an outbreeding crop with wide genetic variability. Almost no work has so far been done to improve this crop by selection and breeding. Since the information of this crops is scanty the present study has been undertaken with the objectives of knowing its floral and vegetative character from the investigation the following seemed to be the most pertinent and urgent problems to be considered:

1. Since nutmeg has a wide genetic variability’s in respect of yield and morphology there exist a great scope for its improvement. The early bearing high yielding, large and uniform seed with low terpene and thick mace are the main objectives to be attained in future.

2. The stigma receptivity range was observed to be fairly ong and fruit set can be considerably increased by artificial pollination.

3. The multi flower flush character needs to be controlled or modified to promote more flowering at a desired season probably by use of growth substances as well as by adoption of suitable cultural practices.

It was also concluded that for a long term programming easy sex determination methods have to be evolved and vegetative propagation methods have to be standardized.

27 Name of the candidate : Bhaskar Chandra Nikam

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1982

4 Name of the guide/Co guide : Dr. R. T. Gunjate

5 Thesis Title & Abstract : Studies on improving germination of seeds and subsequent seedling growth of RAYAN (*Manilkara hexandra*)

It is concluded from above experiment that it is possible to improve the germination of rayan seeds
by incubating them at optimum temperature and period. It was also noted that there is a scope to improve the germination of rayan seeds and subsequent growth of seedling with the help of rayan seeds and subsequent growth of seedling with the help of growth regulators media etc. It is however, necessary to standardize these various factors including humidity by conducting move detailed trials.

28 Name of the candidate : T. D. Gawade
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1982
4 Name of the guide/Co guide : Dr. M. J. Salvi
5 Thesis Title & Abstract : Studies on growth, flowering and fruiting in pepper (Piper nigrum Linn.)

The studies were conducted during the year 1980 – 81 on Panniyur – 1 and local varieties of pepper at the Department of Horticulture, College of Agriculture, Dapoli to obtain information on growth, flowering and fruiting.

Above findings, it could be stated that yield of green berries per standard was very less due to less number of flowers, low fruit set and high spike shedding. Hence, steps should be taken to obtain more number of plagiotropes per standard probably by adopting proper training and pruning methods, and number of spikes per plagiotropes, maximum spike length with more number of flowers per spikes and higher fruit set probably by the use of growth substances and to control the spike shedding probably by selection and multiplication of vines showing least tendency for spike shedding.

29 Name of the candidate : Tanaji Dattatraya Gawade
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
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<td>Thesis Title &amp; Abstract : Studies on growth, flowering and fruiting in pepper (<em>Piper nigrum</em> Linn.)</td>
<td>Thesis Title &amp; Abstract : Studies on growth, yield and quality of different varieties of Lesser Yam (<em>Dioscorea esculanta</em> (Lous) Buk.)</td>
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<td>It was stated from result that yield of green berries per standard was very less due to less no of spikes per fruiting branch, short spikes with less no of flowers, low fruit set and high spike shedding. Hence, steps should be taken to obtain more number of plagiotropes per standard probably by adopting proper training and pruning methods and more no of flowers per spike and higher fruit set probably by the use of growth substance and to control the spike shedding probably by selection and multiplication of varieties showing least tendency for spike shedding.</td>
<td>The present studies showed that Apfi is a promising variety among the six varieties. It has recorded significantly higher tuber yield of 23.38 tonnes / ha. The tubers of this ariety is of good size and have 67.67 % moisture; 57.38 % starch; 11.54% protein; 0.9% total sugars; 0.225% reducing sugars; 0.641% non-reducing sugars; 3.64% crude fibre and 0.17% crude fat. The tubers of this variety also have a good culinary properties. The variety performed very well under agro-climatic conditions of Konkan region and hence it is suitable for general cultivation in Konkan region of Maharashtra.</td>
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3 Year of submission : 1983
4 Name of the guide/Co guide : Dr. M. J. Salvi
5 Thesis Title & Abstract : **Studies on improving survival of mango** *(Mangifera indica L.)* **stone grafts**

- A series of experiments was conducted at the Agriculture, College of Agriculture, Dapoli during the year 1981 – 82 for increasing the survival in stone grafting in Alphonso mango.
- It is concluded that June and July are the best months for mango stone grafting under the Konkan condition. Two rootstocks should be used for single scion. There is a possibility of increasing budstick production of selected mother trees by proper pruning irrigation and manuring. Mortality of stone grafts may be result of various factors. It is possible to increase the survival of stone grafts to a great extent.

32 Name of the candidate : Oscur Sales de Andrade
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1983
4 Name of the guide/Co guide : Dr. M. J. Salvi
5 Thesis Title & Abstract : **Studies on propagation of kokum** *(Garcinia indica Choisy.)*

- Studies on propagation of kokam by sexual and asexual methods were conducted the studies revealed that for sowing kokam seeds soil appears to be the best medium which gave maximum germination in shortest time. Mechanical scarification and soaking in water for 24 hrs is best as it is cheap and simple method.
- Growth regulators like GA and cycoel can be used to improve germination. Grafting techniques like inarching wedge vennes and softwood can be successfully carried with high percentage of success but soft wood grafting can be recommended for
Konkan regions.

33 Name of the candidate : Ravikant Bhambid

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1984

4 Name of the guide/Co guide : Dr. R. T. Gunjate

5 Thesis Title & Abstract : Studies on reduction of fruit drop in Alphonso mango (Mangifera indica L.)

The investigation was carried out an reduction of fruit drop in Alphonso mango with application of water, foliar spray of NAA + Bavistin, foliar spray of urea + pesticides, pruning of panicles and fruit set and ultimate retention in pure and mixed panicles. The studies were carried out College of Agriculture, Dapoli during the year 1981 – 82 and 1982 – 83.

The study revealed that application of water to trees significantly improved the fruit retention. There was significant effect of watering on acidity and ascorbic acid content of fruits. There was low acidity ascorbic acid content. It was observed that NAA and NAA + Bivistin at various concentrations had significant effect on length and breadth of fruits and also on fruit retention. Application of 4% urea along with pesticide showed the max fruit retension. The foliar application of urea + pesticides had significant effect on N and k content of this pruning of ¼ of rachis appeared to be effective in improving the fruit set.

34 Name of the candidate : Shri. Ravindra Sharad Gole

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1984

4 Name of the guide/Co guide : Dr. G. D. Joshi

5 Thesis Title & Abstract : Studies on fruit development and some aspects of...
The present investigation “Studies on fruit development and some aspects of post harvest handling of mango (Mangifera indica L.) fruits” was undertaken in the Department of Horticulture, College of Agriculture, Dapoli during the years 1984-86. During the course of investigation physico-chemical changes in mango fruits during maturation, distribution of mango fruits amongst the various specific gravity groups of harvest, storage behavior of mango fruits at different conditions and incidence of spongy tissue in Alphonso, pairi and seedling mango varieties were studies. During storage study fruits were analysed for different chemical constituents, physiological loss in weight, ripening behaviour of fruits, condition of fruits, organoleptic evaluation and incidence of spongy tissue.

It can be concluded from results of the present investigation that the length and breadth of fruit, weight of fruit, peel, pulp and stone and length and width of stone of the varieties under study increased after fruit set till the day of harvest. The specific gravity declined up to 46 days after fruit set in Alphonso and pairi fruits and 60 days after fruit set in seedling mango. Moisture, pH, ascorbic acid content of fruits decreased till the day of harvest during maturation irrespective of variety. Total soluble solids, acidity, sugars, starch and total carotenoid pigments went on increasing in all the varieties under study.

**Name of the candidate** : Rajesh Patil

**Degree for which the thesis/project report submitted** : M. Sc. (Agri.)

**Year of submission** : 1984

**Name of the guide/Co guide** : Dr. R. T. Gunjate

**Thesis Title & Abstract** : Studies on germination of mango (Mangifera indica L.)

Studies on germination of mango stone and
aspects were concluded at the Department of Horticulture, College of Agriculture, Dapoli during the year 1983 – 84.

The present investigation revealed that higher germination and maximum no of graftable seedlings can be obtained by preparing stonegafts by using stones P had only marginal influence on leaf P. The K content of leaf has steadily higher levels of K application.

Soil analysis for nutrient status showed that continuous application of NPK significantly the N content in soil upto 25 cm depth and K at all the depth (0-25, 25-50 and 50-100 cm). However, P was not significantly by NPK fertilizer. Production of barren nuts decreased as the N and K fertilizer dose were increased.

36 Name of the candidate : Bal Suhas Vishwamurti
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1984
4 Name of the guide/Co guide : Dr. R. T. Gunjate
5 Thesis Title & Abstract : Varietal trial on tomato (lycopersion esculentum Mill.) in wilt sick soil
The experiment was conducted on a sandy loam and wilt sick soil of at the farm of the Department of Horticulture, College of agriculture, Dapoli, Dist - Ratnagiri. About eleven tomato varieties were grown of these varieties. Variety T – 2 showed medium growth habit with significant higher yield (63.33 t / ha). The TSS of ripe fruits was also superior over all the varieties. Thus, it can be cultivated in wilt sick soil under Konkan condition. The second variety EC – 118277 showed the determinate growth habit with minimum number of branches and leaves per plant as compare to T – 2. thus the high density planting can produce higher yield as hig has (60 t / ha).

37 Name of the candidate : Pulekar Shankar Chandrakant
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
The studies on production and utilization of scion sticks in Alphonso mango were conducted at the Department of Horticulture, college of Agriculture, Dapoli during the year 1982–83. From this study, it was concluded that stone grafting in mango can be done commercially during June–July. In young or grown up mango mother trees the pruning had a marked effect on production of the vegetative growth. Light pruning along with judicious manuring helps in production of the maximum number of scion stick. Lightly pruned trees during September to January produced the maximum number of scion stick. Storing of bud sticks in refrigerator (at $8^\circ$C temperature) in sealed polythene bags after dipping them in 100 to 200 ppm kinetin was found to be the best method of storage of bud sticks up to ten days. The bud sticks of 75 to 15 cm length could be used with equal success. It was possible to suppress the ultimate sprouting of shoots on mango trees by spraying the cycoceal at 2500 ppm to 5000 ppm. Dipping the bud sticks in either Bavistin (0.1%) or Bordeaux mixture (1%) for half an hour significantly reduced mortality of stone grafts.
Carissa carandus L.)

Recent investigation was conducted to examine the possibility of vegetative propagation of karonda. From the study, it could be concluded that application of IBA at 1000 ppm concentration (quick dip) was the best treatment for rooting of cuttings. Mist with growth regulator IBA (3000 ppm) could also be successfully used for propagation of karonda by cutting with 35 cm of length and six numbers of leaves. The rainy season was found to be the best period for propagation of karonda by air layering. The air layers could be treated with 4000 ppm IBA to get promising results.

39 Name of the candidate: Ulhas N. Choudhary

2 Degree for which the thesis/project report submitted: M. Sc. (Agri.)

3 Year of submission: 1984

4 Name of the guide/Co-guide: Dr. M. J. Salvi

5 Thesis Title & Abstract: Studies on epicotyl and softwood grafting in cashewnut (Anacardium occidentale Linn.)

A series of experiments on epicotyl grafting and softwood grafting in cashewnut were conducted at Regional Cashewnut research Station, Vengurle during the year 1982-83 for standardizing these techniques under the Konkan conditions.

It is concluded from the present studies that under the Konkan conditions, epicotyl grafting in cashewnut can be successfully done from February to May and softwood grafting can be done throughout the year except in the month of December. Ten days old rootstock was observed to be the best for epicotyl grafting in cashewnut by using 4 months old scion stick. The variety Vengurle-1 was found the best for propagation through epicotyl and softwood grafting on its own rootstock. The cashewnut budsticks can be stored up to four days by dipping cut ends after separation. The four months old scion stick was found to be better for softwood grafting. The softwood grafts can be prepared successfully in open space by providing overhead shelter of perforated bag. It is also
concluded from the present studies that epicotyl grafting and softwood grafting can be employed for successful vegetative propagation of choice cashewnut verities like Vengurle – 1, Vengurle – 2, Vengurle – 3 and Vengurle – 4. The methods were found to be fast, cheap, simple and economic as compared to other methods of grafting.

40 Name of the candidate : Rajesh D. Patil
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1984
4 Name of the guide/Co guide : Dr. R. T. Gunjate
5 Thesis Title & Abstract : Studies on germination of mango (Mangifera indica L.)

Studies on germination of mango stones and related aspects were conducted at the Department of Horticulture, College of Agriculture, Dapoli.

It is concluded from these studies that the higher germination and maximum number of grafted seedlings can be obtained for preparing stone grafts by using the selected stoned from canning unit and sand could be the best media for germination. germination and number of grafted seedlings could be increased by treating the seeds with gibrellic acid at 500 and 1000 ppm concentration. It is also concluded that the season of stone grafting could be prolonged by increasing viability of stones by storing them in polythene bags with charcoal / vermiculture for ensured supply of just germinated seedlings as rootstocks. The mortality of stone grafts and seedlings could be recorded by raising the seedlings in polythene bags in situ and making stone grafts on in situ raised seedlings. Survival of grafts and seedlings could be increased by repeated drenching of soil with 2 percent Bordex mixture.

41 Name of the candidate : Nilkanth Ganpatrao Pawar
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Studies on the effect of application of different starters on survived growth, flowering, fruiting and quality of chilli (*Capsicum annuum* L.)

It can be concluded that starters in solution form help to give the better survival, growth, fruit set, yield and quality of chilli fruits over their corresponding solid application and the controls (T1 and T10).

Treatment T3 (Starter No. 2 containing urea + single super phosphate + murate of potash in 2:1:1 proportion in liquid form) proved over all superiority in improving the growth, yield and quality of chilli variety DPL - C - 1. Therefore starter No. can be profitably used for the chilli crop at the time of transplanting and 15 days after it.

Effect of sowing dates on growth, development, yield, quality and diseases and pest incidence of okra (*Abelmoschus esculenthus* L. *Moench*)

The present investigation was carried out on okra crop to determine the effect of dates of sowing on the various characters like vegetative growth, yield, quality and the incidence of pest and diseases. The field experiment was conducted at Central Experiment Station, Wakawali, Dr. B. S. Konkab Krishi Vidyapeeth, Dapoli during kharif season of 1984.

From the experiment it can be concluded that early sowing at okra crop from 5th May to 25th May, result in better growth, development, yield and returns than the late sowing.
Hence, it can be recommended to sow early crop of okra for lucrative returns.

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<td>Prof. M. M. Patil</td>
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| Thesis Title & Abstract       | Effect of application of growth regulators on growth, yield and quality of sweet pepper (*Capsicum annum* Var. *grossmsendt*)  
  The yields of s. pepper can be increased effectively with 600 ppm cycocel and 10 ppm NAA with any method of application under Thane agro-climatic conditions during rabi season. Further studies in this regard can be undertaken to know the effect of lower concentration of NAA and higher concentrations of cycocel as there was linear increase in yield per hectare due to decrease in concentration of NAA and increase in concentration of cycocel. |

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<td>Year of submission</td>
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<td>Name of the guide/Co guide</td>
<td>Dr. A. G. Desai</td>
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| Thesis Title & Abstract       | Studies on the effect of application of different starters on survival, growth, flowering, fruiting and quality of Chilli (*Capsicum annum* L.) Variety DPLC-1.  
  Studies on effect of application of different starters on survival, growth, flowering, fruiting and quality of chilli variety DPLC-1 were conducted at the Department of Horticulture, College of Agriculture, |
Dapoli.
Remits obtained were while using starter No. 3 and starter No. 2 and starter No. 4 in solution form were found to increase the survival percentage of seedlings over the control and their corresponding method form applications. Starter No. 3 and 4 showed better increase in height of mainstem as well as the total plant height over the control treatment T9 and T10. Starter no 1, 2, 3 and 4 in solution form were found to induce better starting than their solid forms and the controls. Treatment 7 was significantly superior in increasing the plant spread over control. Starters in solution were completed 50% flowering earlier than their corresponding solid applications. Starters in solutions form contributed to increase the fruit set percentage over their solid applications and control. Number of fruits and yield per plant were found increased in plants treated with starter in solution form were found to increase yield per plot and per hectare over their corresponding solid application and control. It is concluded in starters in solution form help to give the better survival, growth, fruit set, yield and quality of chilli fruit over their corresponding method applications and controls. Treatment T3 proved once all superiority in improving the growth, yield and quality of chilli variety DPLC-1. Therefore starter No. 2 can be profitability used for the chilli crop at the time of transplanting and 15 days after it.

45 Name of the candidate : Vishnu K. Patil

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1985

4 Name of the guide/Co guide : Dr. M. M. Patil

5 Thesis Title & Abstract : Effects of dates of sowing on growth, quality and seed production in watermelon (variety Sugarbaby)
The object of present investigation was to standardize the suitable season for sowing watermelon crop. The effects of different dates of sowing from 15th October to 15th January (at fortnight interval) on growth, quality, yield and seed
production in sugarbaby watermelon was studied.

It was late swon crop the minimum length of the vine was observed throughout the life period. Highest fruitset per vine was obtained in 15th October sowing, whereas it was lowest in 15th January sowing. The sowing dates delayed, production of total flowers and fruitset were reduced. Delaying in sowing is also resulted in decrease in fruit yield.

It can be conducted from the results of this research that the sowing of watermelon should be done within a period ranging from 15th October to 15th November to get better growth, ultimately resulting in better yields of quality fruits and maximum seed production. Further it can be suggested that fruits from first and second pickings can be sold in the mark and the fruits of last picking can be retained for seed production to fetch better return.

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Name of the candidate: Mahendra S. Gawankar
Degree for which the thesis/project report submitted: M. Sc. (Agri.)
Year of submission: 1985
Name of the guide/Co-guide: Dr. A. G. Desai
Thesis Title & Abstract: Effect of application of plant growth regulators on germination, growth, sex expression, yield and quality of pumpkin (Cucurbita moschata poir) Cv., Arka Suryamukhi

A study on the “Effect of application of plant growth regulators on germination, growth, sex expression, yield and quality of pumpkin Cv., Arka Suryamukhi was conducted at the Central Experiment Station, Wakawali during kharif season during the year 1984.

The trial was laid out in a RBD with three replications and eleven treatments in this experiment, three different concentrations each of ethrel, IBA and GA in compassion with water and the control were tried.

The growth regulator were applied as seed treatment as well as in the form of foliar spray at two
stages of growth. First spray was applied at 2 leaf stage and the second at 4 leaf stage.

The findings of the present investigation thus lead to the general conclusion that different plant growth regulators when used in proper concentration and applied at correct stage of growth hold a great promise not only in increasing the number of female flowers but also in increasing the final yield and improving the quality of pumpkin fruits. Ethrel at 500 ppm and GA at 50 ppm seen to be promising.

These findings are based on one season observations and are therefore suggestive and not conclusive. But from above results we can say that plant growth regulators play a useful role in increasing the crops production.

47 Name of the candidate : Panicker Pratap
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1986
4 Name of the guide/Co guide : Prof. M. M. Patil
5 Thesis Title & Abstract : Studies on softwood grafting in mango (Mangifera indica L.)
An experiment was conducted on standardization of softwood grafting in Alphonso mango at the Department of Horticulture, College of Agriculture, Dapoli during the year 1984 – 85. From this study, it was observed that the optimum period for softwood grafting was in the month of October. The matured scion sticks of 4 months old of any convenient length and selected from comparatively younger scion mother trees. Prior defoliation was not necessary under Konkan conditions. The grafting can be done on any new emerging shoots with coppery brown coloured leaves by retaining matured leaves on the rootstocks. For better success of grafts, double polyhtene strip may be used. After grafting the graft are placed in open sun or in glass house. In situ softwood gratings can be successfully practiced for the establishment of mango orchard in the Konkan region.
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<td>Year of submission: 1986</td>
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<td>Thesis Title &amp; Abstract: Performance of different varieties of Garden Bean (<em>Dolichos lablab</em> Linn.) var. Typicus under Konkan agro-climatic conditions. The experiment was conducted at vegetable improvement scheme, Central Experiment Station, Wakawali, Ta. - Dapoli, Dist - Ratnagiri during rabi season 1984 -85. Eight varieties of garden bean were grown in three replicates of randomized block design. Out of eight varieties, Poona Red was the best in producing nutritive pod yield.</td>
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<td>Name of the guide/Co-guide: Prof. M. M. Patil</td>
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<td>Thesis Title &amp; Abstract: Study of maturity indices in ten sweet potato (<em>Ipomoea batatas</em> L.) varieties under rainfed conditions. The present investigation carried out at All India Co-ordinated Tuber Crops Improvement Project Subcentre Wakawali, Tal – Dapli. It is concluded that the harvesting stage of the sweet potato should vary with the purpose for which (starch extraction). The variety 75 of 19 should be harvested after 105 days of planting because of better marketable yield good size of high tuber bulking rate. The variety co-3, Kalmegh and S – 30 should be harvested after 120 days of planting. The marketable tuber yield, size, tuber bulking rate sugar</td>
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content and acceptability by the people are better than the other stages of harvesting. While the H-268 should be harvested after 120 days and before 1350 days of panting because though tuber bulking rate, sugar % and acceptability by the people was better at 120 days the marketable tuber yield as well as size of tuber was better after 13 days of planting.

The varieties x-5, V-35, collection-43, collection 71 and Pen local should be harvested after 135 days of planting for culinary purpose because of the better marketable yield, size and better tuber bulking.

For industrial purpose (Strach extraction) they should harvested after 150 days i.e. in later stage of development after 150 days i.e. in later stage of development after planting as starch content high in this stage.

CO-3, Kalemegh, Collection-71 and Pen local better suited for industrial purpose because of high starch content.

50 Name of the candidate: Megha V. Antarkar
2 Degree for which the thesis/project report submitted: M. Sc. (Agri.)
3 Year of submission: 1986
4 Name of the guide/Co guide: Dr. G. D. Joshi
5 Thesis Title & Abstract: Studies on maturity indices of cashew apple and nut (Anacardium occidentale L.) and post harvest technology of cashew apple.

The present investigation regarding studies on maturity indices of cashew net and post harvest technology of cashew apple was carried out at the Konkan Krishi Vidyapeeth, Dapoli during 1984-86. The experimental material was obtained from the orchards of the Konkan Krishi Vidyapeeth, Dapoli. Physical changes in cashew fruit (nut with apple) cashew nut and apple during growth and development were the might of cashew fruit and apple increased throughout its growth and development interptetive of varieties. In chemical change, the moisture content of cashew apple
increased during growth and development. TSS also increased during growth of cashew apple. The highest moisture content of kernel was recorded in Vengurla – 5 and least by Vengurla – 4. The mixture content of ripe cashew apple decreased at the end of storage of varieties and storage conditions the decrease being greater at ambient condition followed by cool chamber and low temperature like storage. Cashew deputed a desuckering trend with respect to TSS reducing and total sugar serpentine of lenities storage conditions, decrease being better at ambient temperature storage, pH, ascorbic acid and tannin content exhibited a desuckering trend during storage of cashew apple juice superfine of varieties and storage condition cashew apple juice of variety Vengurla – 2 retained its palatability even after 4 months but the same of variety Vengurla -1 for palatability before 4 months of storage. The cashew apple squash remained palatable at both ambient and low temperature conditions even after 8 months of storage.

The present investigation regarding studies on grading, storage and processing of kokum (Garcinia indica Choicy) and karonda (Carissa carandas Linn)

The present investigation regarding studies on grading, storage and processing of kokum and karonda” was carried out at College of Agriculture, Dapoli. Physical charactirsticks of raw and ripe kokum and karonda fruits. The mean weight of raw and ripe kokum fruits was 42.65 g and 42.51 g respectively. In karonda the average weight of raw and ripe fruit was 3.31 g and 2.49 g respectively. Chemical composition of raw and ripe kokum and karonda fruits. Moisture content of raw kokum
82.25% and ripe 87.30 % TSS of raw kokum 13.44 °Brix and ripe 16.54 °Brix. In karonda moisture content of raw fruit is 14.25 % and ripe is 77.20% TSS of raw karonda was 13.14 °Brix and ripe was 17.65 °Brix.

Changes in chemical composition of ripe kokum and karonda fruits during storage recorded maximum moisture loss followed by cool chamber and cold storage conditions in both the fruits. The study increase in pH of the kokum and karonda fruits were observed. The ascorbic acid content of ripe kokum and karonda fruits were found to decline irrespective of storage conditions.

In general, PLW of the kokum and karonda fruit increased at all storage conditions as the period of storage increased. The fruits stored at cold storage recorded minimum PLW.

In kokum the maximum shelf life 916 days) and then the ambient temperature (10 days) storage conditions. In karonda the maximum shelf life (12 days) was observed in fruits stored at cold storage followed by cool chamber (10 days) and ambient temperature (8 days.)

The acidity was found to decrease at the storage period increased. pH of the products was observed to be increased as the storage period increased.

Name of the candidate : Smruti Madhukar Sadvilkar
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Year of submission : 1986
Name of the guide/Co guide : Dr. A. D. Rangwala
Thesis Title & Abstract : Response of different levels of nitrogen and phosphorus on Marigold (Tagetes sunrise) under Konkan agro-climatic conditions
It can be concluded that the fertilizers play an important role in the production of marigold. However, as the maximum dose of fertilizers resulted in better in better growth, flower yield and quality. Hence, it can be suggested to apply 200 kg N, 75 kg P2O5 with 50 kg K2O per hectare for
As it was observed that there was a liner in the increase in the yield of the flowers with increasing doses of fertilizer further research can be conducted with higher doses of fertilizers to obtained maximum yields.

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<td>Name of the guide/Co guide</td>
<td>Prof. M. M. Patil</td>
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| Thesis Title & Abstract    | Studies on the performance of different varieties of turmeric (*Curcuma Longa* L.) under Konkan agro-climatic conditions
   It can be concluded that the turmeric variety ‘Krishna’ (Plate II) is suitable in producing higher yield under agro climatic conditions of the Konkan region. However, to arrive at a definite conclusion more detailed studies are warranted. |

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<td>Name of the guide/Co guide</td>
<td>A. G. Desai</td>
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| Thesis Title & Abstract    | Effect of application of different growth regulators on yield and quality of Black pepper (*Piper nigrum* Linn)
   A study on the “Effect of application of plant growth regulators on yield and quality of Black pepper variety Panniyur – 1 was conducted at the Department of Horticulture, College of Agriculture, Dapoli during the period from June 1985 to March 1986.

The trial was laid out in a randomized Block Design with four replications. In this study, three different concentrations each of GA, NAA,
Ethephon, 2,4-D and planofix in comparison with the control were tried.

The growth regulators were applied by dip method and spray method at two stages. First, they were applied at initial berry setting stage and then after 15 days. The bindings of the present investigation, thus lead to the general conclusion that different plant growth regulators when used in proper concentrations have a promise in increasing the yield of pepper. GA, NAA, 2,4-D and planofix seem to be promising in both the methods application. Though application of GA increased the yield significantly better than the other treatments, it’s high cost does not permit it’s economic use.

55 Name of the candidate : Deshmukh Satish Marutrao
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1987
4 Name of the guide/Co guide : Dr. A. D. Rangwala
5 Thesis Title & Abstract : Studies on the growth and yield performance of tomato (Lycopersicon esculentum Mill.) var. Selection – 2 as affected by different levels of fertilizers and spacing.

The experiment was conducted at ASPEE Agricultural Research and Development Foundation, Met, Tal – Wada, Dist – Thane the objectives was to study the effect of nitrogen, phosphorus and spacing on growth and yield performance of tomato variety Selection – 2 (Sonali). From this, it was concluded that application of 200 kg N along with 50 kg P2O5 per hectare by following closer spacing of 60 x 40 cm for better yields of tomato.

56 Name of the candidate : Kailoulein Kipgen
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1987
4 Name of the guide/Co guide : Dr. A. D. Rangwala

5 Thesis Title & Abstract : Studies on performance of different varieties of cowpea (*Vigna unguiculata* L. Walp) for vegetable purpose under Konkan agro-climatic conditions.

The results obtained form the investigation revealed that the variety Sel 61 –B having medium growth habit, produced the maximum yield (71.021 g/ha) which was significantly superior over all other varieties under study. The protein content of this variety was also highest (4.17%) as compared to other varieties under study. It could be concluded that the variety Sel – 61-B is high yielders and rich in protein. It can be recommended for cultivation in Konkan region during rabi season.

57 Name of the candidate : Ramesh B. Hande

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1987

4 Name of the guide/Co guide : Dr. M. J. Salvi

5 Thesis Title & Abstract : Propagation of jamun (*Eugenia jambolana* L.)

Studies on propagation of Jamun by seed and vegetative methods were conducted at the Department of Horticulture, College of Agriculture, Dapoli from March, 1986 to April, 1987 to find out best medium for germination and also to find out the best possible method for vegetative propagation of Jamun.

It could be conducted from these studies that for sowing Jamun seeds, FYM is the best medium. Out of the various methods of vegetative propagation air-layering, inarching and sfotood grafting appered to be feasible in Jamun. However, further trials on large scle are suggested for standardizing some of the promising methods.

58 Name of the candidate : R. G. Khandekar

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1987
4 Name of the guide/Co guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Studies on evaluation of some tomato \textit{(Lycoperscion esculentum Mill.)} varieties for processing

On the basis of tomato yield, the tomato fruits per hectare, physical and chemical characteristics at different stages of harvest, PLW, shelf life and ripening behaviour at different stages of harvest in different storage conditions, per cent recovery of juice, chemical composition of products their evaluation for palatability taste, it could be concluded that variety Sel – 2 was ideal for cultivation which recorded maximum yield which significantly superior over all other varieties. It can also be used for processing because of its better recovery of juice (75.22%), maximum shelf life and better score for colour, flavour and texture of the products. Though, the variety PI-126408 was second highest yielders after Sel. 2 (51.70 t/ha) recorded the minimum shelf life, less percent recovery of juice (64.74%) and was less preferred in colour, flavour and texture of the products by the judges.

59 Name of the candidate : Kelaskar Arvind Jagannth
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1988
4 Name of the guide/Co guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Studies of propagation of jackfruit \textit{(Artocarpus heterophyllus Lam.)} by different methods of budding under Konkan conditions.

A series of experiment on standardization of vegetative propagation by different methods of budding in Jackfruit were conducted at the Department of Horticulture, College of Agriculture,
Dapoli, during the year 1986 – 88. Out of the eight budding methods patch, forket and T budding methods during the period from September to February. However, January and February were found to be optimum under Konkan conditions. The seeds were sown in the 17 x 22 cm polythene bags for raising rootstocks. The nine months old rootstock and budstick gave better success in patch and forket budding in Jackfruit. Single polythene strip should be used. The grafts can be placed in open sun or in the glass house for good growth. In situ grafting can also be done where irrigation facilities are available during early stage.

60 Name of the candidate : Anand Ramchandra Kumbhar
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1988
4 Name of the guide/Co guide : Dr. M. J. Salvi
5 Thesis Title & Abstract : Studies on the performance of some promising varieties of Okra (Abelmoschus esculenthus L. Moench) under the Konkan agro-climatic conditions
   The experiment was conducted to study the performance of 10 varieties of okra under Konkan conditions. Varieties are as Parbani Kranti, P-7, E-2, Selection – 10, AROH – 1, selection 2-2, Pusa Makaamali, Pusa Swani, Punjab Padmini, Selection – 4. From above study variety selection – 10 is relatively concluded relatively good in fruit quality and maximum pod/ha. Thus this variety of okra may be suggested to adopt for Konkan region in kharif season.

61 Name of the candidate : Suhas Sharad Pandit
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1989
4 Name of the guide/Co guide : Dr. J. C. Rajput
The present investigation was carried out to study the variability and the magnitude of association with both direction i.e. positive and negative between different yield contributing traits and to deduce the importance different yield components. Twenty two strains and brinjal were grown in RBD at Central Experiment Station, Wakawali, Dist – Ratnagiri (M.S.) during rabi season 1988 – 89.

The present study revealed that a wide range of genetic variability existed for the different quantitative characters which would be classified for its systematic exploitation in brinjal improved programme.

The quantitative characters under study were plant height, no of primary and secondary branches, flowering and fruiting characters. Highly significant differences were observed among the strains for all the characters under study indicating greater scope for selection of desirable traits. Wide range of variability was noted for plant height, days to flowering, flowers cluster, % fruit set, fruit length, average fruit wts % early yield, yield per plant. Phenotypic variance was greater than that of corresponding genotypic variances in all the characters. Most of the component under study had higher heritability estimates and some of these were accompanied with high or moderate estimates of genetic advance.

The strains, Punjab Neelum and DPL-Br-125 are dwarf parents and DPL-Br-123 and BB-11 are tall and DPL-BR-28 and DPL-BR-124 are early genotypes. For % fruit set H-8, ARO-1-C and Pusa purple cluster were found superior.
The present investigation was conducted with 21 genotypes collected from different sources and grown in field in RBD with 2 replications at the vegetable Improvement Scheme, CES, Wakawali. From the present studies it could be concluded that, a wide range of genetic variability existed for the different quantitative for the different quantitative characters could be classified for systematic exploitation in ridge gourd improvement breeding programmes, a plant having more branching ability and more number of nodes per vine may considered as an ideal genotype in ridge gourd. The cultivars, DPL-RG-1 and Co-1 could be used for the transfer of earliners of 50% female flowering in high yielding types. The genotypes DPL-RG-1, DPL-RG-2, Co-1 and AEC-91 can recommended as high yielding genotypes in this crop. The cultivars viz., DPL-RG-6 and DPL-RG-12 exhibited low early yields whereas, DPL-RG-12 and SEL-4-12 showed appreciably high final yield and hence the genotypes amy be regarded suitable for synchronize harvesting. The cultivars AEC-91 and and RG-108 could be regarded as suitable types for suggested harvesting.
Studies were undertaken with 13 chilli varieties at the Vegetable Improvement Scheme, CES, Wakawali, Tal – Dapoli during 1987-88. The silent features of the results obtained are summarized below.

Considering superiority of chemical compostion of green chillies, it is clear that pusa jwala and DPL-C-1 were superior in quality followed by K-1 and NP46-A, varieties CA-586, J-218, K-235, CA-618-126, Musalwadi Selection and LCA – 2063 were similar in quality point of view.

Although, superior in average chemical composition, the yield of Pusa Jwala was cooperatively lower than DPL-C-1. It can be suggested from above findings that the chilli varity - DPL – C- 1 is ideal for producing higher yields and good quality fruits under the agro-climatic conditions of the Konkan region.

64 Name of the candidate : Dilip S. Bagade
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1989
4 Name of the guide/Co guide : Dr. M. J. Salvi
5 Thesis Title & Abstract : Studies on flowering, fruiting and seed germination in clove (Eugenia caryophyllata Thunb)

The studies on flowering, fruiting and seed germination in clove were conducted during the year 1988-89 at the Department of Horticulture, Dapoli.

From the above studies, it can be concluded that in clove the flowers are terminal and bisexual, which opened 188 days after passing through ten different developmental phase from bud initiation and commenced their anthesis at 12.30 p.m. and extended upto 6.30p.m. Dehiscence of anther took place 24 hrs prior to anthesis and released on an average 66 triangular, 14.6 to 21.0 in size, pollen
grains per anther of which 82.68 per cent were viable. The maxi (60%) stigma receptivity in clove was observed on 3rd and 4th days after anthesis and the fruit set could be increased by hand pollination (crossing). Fleshy, along reddish coloured fruits of clove took about 3 months (91 days) for their development with only 39.07 per cent retention. For raising the clove seedlings olive green coloured (healthy and heavy{above 400 mg}) seeds should be sown should be sown in soil + sand FYM (1:1:1) mixture at 2 depth immediately after collection.

65 Name of the candidate : Sushil Anant Desai
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1989
4 Name of the guide/Co guide : Dr. M. J. Salvi
5 Thesis Title & Abstract : Studies standardization of epicotyl and softwood grafting in Jackfruit

From the studies, it was concluded that Agril Month is optimum period for epicotyl grafting in Jackfruit under Konkan conditions. The scion sticks for epicotyl grafting should be matured five to six months old and 7.5 to 10 cm long. After grafting the grafts should be shifted under partial shade of glasshouse for obtaining better success. Rootstock should be between 9 to 12 months age could be used for obtaining better success.

66 Name of the candidate : Abhay V. Marathe
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1989
4 Name of the guide/Co guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Studies on unfermented beverages from cashew (Anacardium occidentale L) Apple

The present investigations regarding studies on
unfermented beverages from cashew apple was carried out at the College of Agriculture, Konkan Krishi Vidyapeeth, Dapoli during 1988-89. The experimental material was obtained from the orchards of the Central Experiment Station, Wakawali.

The product such as cashew apple RTS juice, squash and syrup could be successfully prepared from the apples of improved cashew varieties based on chemical composition and organoleptic evaluation the cashew apple squash with 50% juice with 45\(^{\circ}\)Brix and 1.5% acidity was rated as the best.

The different blending of cashew squash (with 50% juice) RTS with RTS four other fruits (Mango, karionda, lemon, kokum) in five different proportions were found to be palatable on the basis of chemical composition (TSS, acidity and pH) and organic evaluation. In general the blendings with equal proportions of cashew apple squash RTS with RTS of four other fruits viz., mango, karonda, lemon and kokum were found to be most palatable among all proportions of blending.

Name of the candidate : Ankush G. Desai
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Year of submission : 1989
Name of the guide/Co-guide : Dr. J. C. Rajput
A field experiment was carried out to ordinary tehe “Effect of graded levels of nitrogen, phosphorus along with growth regulators on growth, yield and quality of Dolichus bean Cv., DPL-D-1 at Vegetable Experiment Station, Wakawali during the rabbi season 1988-89.
In this investigation DPL-D-1 cultivar of Dolichos bean was tried with three levels of nitrogen, three levels of phosphorus and two growth regulators (Vipul and NAA) The used rate of Vipul gramles per
ha have not shown promising effect on yield. The cost of vipul granules per kg is more as compare to nitrogen and phosphorus which is not economical. The dose of 50 kg nitrogen and 50 kg phosphorus per ha showed be economical. The optimum constriction of NAA orchard be find out by treating the trial with different concentration.

68 Name of the candidate : Satish H. Mehta
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1989
4 Name of the guide/Co guide : Dr. A. D. Rangwala
   A field experiment was carried out at the Department of Horticulture, College of Agriculture, Dapoli during the kharif season of the year 1988 for high yielding African marigold varieties suitable of Konkan agro-climatic conditions. The experiment conducted of 8 treatments ie., eight varieties (Honey lamb, Sunset Giant Mixed, Golden Age, MDU-1, Giant Double, African lemon, Snow white, cracker jack and Giant double African orange). The experiment was laid out in sandonuized block design. On the basis of findings it can be conducted that varieties Giant Double African Orange and Giant Double African Lemon performed better under the Konkan conditions and hence can be recommended on ad-hoc basis for general cultivation.

69 Name of the candidate : Pranjale Sanjo Pundlika
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1990
4 Name of the guide/Co guide : Dr. A. D. Rangwala

A field experiment was conducted during rabi-cum hot weather season of 1989-90 at the Research cum Demonstration station for irrigation studies, CES, Wakawali, Tal – Dapoli, (Ratnagiri) for studying the effect of varying levels of irrigation and nitrogen on growth, yield and quality of cucumber Cv. Sheetal. The experiment was laid out in split plot design with three replications. The treatments comprised of three irrigation schedule based on cumulative pan evaporation (CPE) in Main plot treatments, whereas three levels of nitrogen were as sub-plot treatments. Out of all the treatments, the cucumber irrigated at 25 cm CPE (at 4-5 days interval) and fertilized with a dose of 150 kg N/ha for higher yield, on lateratic soil of Konkan. The irrigation schedule involved in irrigations and consumptive water use was 433.83 ha\(^{-1}\) mm.

70 Name of the candidate : Ranna S. Badar

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1990

4 Name of the guide/Co guide : Dr. G. D. Joshi

5 Thesis Title & Abstract : Maturity indices, grading and storage of mango (*Mangifera indica* L.) fruits Cv. Ratna and Kesar

The present investigation was undertaken in the Department of Horticulture, College of Agriculture, Dapoli during the investigation, the physico-chemical changed during maturation, distribution of fruits into grades on the basis of weight at harvest and storage behaviour of mango fruits Cv. Ratna and Kesar at ambient temperature and cool chamber condition wee studied.

TSS, Sugar, pH and total carotenoid pigments increased during storage till ripening followed by a decreased at the end of storage period irrespective of variety and storage conditions,
moisture, titrable acidity, ascorbic acid and tannin content decreased throughout in both the varieties. Starch content was completely exhausted at ripe stage. The changes in chemical composition were slower in cool chamber than ambient temperature storage fruits ripened at ambient temperature were more palatable than those ripened at cool chamber PLW was reduced in cool chamber followed by ambient temperature storage. Ratna fruits recorded higher PLW under both storage conditions cool chamber storage delayed ripening and reduced shrivelling and disease incidence. Ratna fruits ripened earlier than Kesar fruits during storage. Kesar cultivar of mango was found better than Ratna as far as shelf life, ascorbic acid and palatability were concerned where as Ratna fruits exhibited higher pulp content than Kesar.

71 Name of the candidate : N. Bakhale
2 Degree for which the thesis/report submitted : M. Sc. (Agri.)
3 Year of submission : 1990
4 Name of the guide/Co guide : Dr. M. J. Salvi
5 Thesis Title & Abstract : Studies on performance of different genotypes of French bean (*Phaseolus vulgaris* L.) for vegetable purpose under agro-climatic conditions of Konkan region

Studies on performance of different genotypes of French bean for vegetable purpose under agro-climatic conditions of Konkan region was conducted at vegetable improvement scheme, CES, Wakawali during rabi season 1989-90. Eight French bean genotypes namely, Contender, Sel-2, VL-5, UPF-626, VL-6, Pusa Parvati, Pant, Anupama and Arka komal were used as experimental material. The experiment was carried out in Randomized Block design with three replication.

From the result obtained, it could be concluded that Pant Anupama on account of its consistant height yields other entire crop season and merited with
high moisture, ascorbic acid and calcium content would be an ideal genotype for cultivating in Konkan region. Cultivars contender and Pusa Parvati could be cultivated for fetching better yields in early crop season. Improvement in component characters plant height, No. of branches, inflorescence length pods per plant, total picking and grains per pod are expected to improve pod yield for efficient breeding programme, it would be desirable to give max weightage to no of branches, leaf area index, inflorescence length, pods per plant, pod weight, pod yield per plant as selection indices.

72 Name of the candidate : Rajendra T. Bhingarde
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1990
4 Name of the guide/Co guide : Dr. A. D. Rangwala
5 Thesis Title & Abstract : Weed control in rose plantation

A field experiment was conducted at the Department of Horticulture, College of Agriculture, Dapoli in the Rabi season of the year 1988-89 with 12 treatments each replicated four times in the randomized block design to study the comparative efficiencies of various methods of controlling weeds in rose garden as compared to the conventional method of hand weeding. It can thus be concluded that post emergence application of Glyphosate @ 2 kg a.i. per hectare is most successful effective and economical way of controlling weeds and pre-emergence application Atrazine and mulching with black polythene papers was found to be the best combination for controlling weeds in rose garden upto 90 days after treatments.

73 Name of the candidate : Giridhari Maruti Waghmare
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
submitted

3 Year of submission : 1990

4 Name of the guide/Co guide : Dr. G. D. Joshi

5 Thesis Title & Abstract : Studies on standardization of softwood grafting in sapota (*Manilkara achrus* (Mill))

In this experiment it was concluded that the softwood graft in sapota could be successfully prepared in the Konkan region. The period from August to September months is the best for tying the softwood grafts. The khirni root stock of 12 to 15 months age and scion stick of 5 months age are best suited for softwood grafting in sapota. The wet sphagnum moss could be used for storing the scion sticks.

74 Name of the candidate : 

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1990

4 Name of the guide/Co guide : Dr. M. J. Salvi

5 Thesis Title & Abstract : Studies on growth and yield performance of different genotypes of vegetable cowpea (*Vigna unguiculata*) under Konkan agro-climatic condition

For this investigation seven vegetable cowpea viz., P-852E9a, P-460-1-1, Pusa Komal, Pusa Barsati, Pusa Dofasli, Sel – 61-B and Wali. The local material wali showed a great potential for quality as well as quantity of the vegetable pod harvest as compared to other genotype. The only drawback with this culture is of longer duration. Improvement of this local material through proper breeding tech. For overall maturity period and indeterminateness may lead to achieve spectacular yield of vegetable pods in this crop.

75 Name of the candidate : Giridhari M. Waghmare
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<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Studies on standardizing of softwood grafting in sapota (<em>Manilkara achras</em> (Mill) Forsberg.) Variety Kalipatti</td>
<td>A series of the experiments on standardization of softwood grafting of sapota were undertaken at the Department of Horticulture, College of Agriculture, Dapoli during the year 1998-89. From the present investigation it could be concluded that the softwood grafts in sapota could be successfully prepared in Konkan region. The period from August and September month is the best for tying the softwood grafts. The khirni rootstock of 12 and 15 months age and the scion sticks of 5 months age are best soited for softwood grafting in sapota. However, the scion stick should be 10 cm long and should be defoliated 6 days prior to the grafting operation for better success. The wet sphagnum moss could be used for storing the scion sticks.</td>
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<td>Studies on physico-chemical compostion, storage and processing of jackfruit <em>Artocarpus heterophyllus</em> Lam.)</td>
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<td>5) Thesis Title &amp; Abstract</td>
<td>Studies on physico-chemical composition, storage and processing of Jackfruit (<em>Artocarpus heterophyllis</em> Lam.)</td>
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The experiment was conducted during 1989-91 at the Department of Horticulture, College of Agriculture, Dapoli, Dist – Ratnagiri (MS) firmflesh and softflesh jackfruits were used for the study. Fruits of these types were obtained from Jackfruit trees grown by the local farmers. The physical parameters and chemical compositions of jackfruit at harvest and on ripening were studied during the course of investigation. The firm flesh fruit was characterised with bigger size than that the soft flesh fruit size. With respect to all the major chemical constituents, the B-carotene increased from maturity to ripening while pH, ascorbic acid, moisture, protein, fats decline during ripening. The blending of jackfruit nectar prepared from both the types of jackfruit under study with RTS beverages of five other fruits viz., raw mango, ripe mango, karonda, cashew apple and kokum in five different preparations were found to be palatable to acceptable on the basis of organoleptic evaluation.

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<td>2) Degree for which the thesis/project report submitted</td>
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Studies on the effect of seed storage, seed treatment, germination media and foliar application of growth regulators on germination and seedling growth in clove. (*Eugenia cauyophyllata Thumb.*)

Out of storage period treatment studied seeds of clove sown immediately after harvesting without any storage period treatment showed the best results and recorded maximum germination of 100 per cent.

When fresh seeds were sown immediately after harvesting without any storage period treatment, maximum plant height (6.84 cm), girth (0.54 mm.), intermodal length (0.54 cm.), leaf length (5.01 cm.) leaf breadth (2.07 cm.) and leaf area (6.00 cm²) was obtained.

IAA at 20ppm concentration is the appropriate growth regulator for improving germination parentage of clove seeds.

It is conceded that, foliar application of IBA at 45 ppm concentration was most effective and 300 ppm of GA₃ is the next best treatment for improving plant growth performance of clove.
5 Thesis Title & Abstract : Effect of different levels of Nitrogen and phosphorus on growth and yield of china aster (*Callistephus chunensis* Nees) Vael. Alandi mix local under Konkan agro-climatic conditions

Four levels of N (0, 100, 200 and 300 kg N/ha) and two levels of P (100 and 200 kg P2O5/ha). The potash @ 60 kg K2O/ha was applied uniformly as a basal dose from the resulted we can conclude that the application of N @ 200 kg N/ha and P @ 200 kg P2O5/ha is beneficial to obtain better vegetative growth and flower yield with good quality under Konkan agro-climatic conditions.

80 Name of the candidate : Audumbar Trivikram Jadye

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1991

4 Name of the guide/Co guide : Dr. M. J. Salvi

5 Thesis Title & Abstract : Effect of different levels of Nitrogen and phosphorus on growth and yield and flower quality of gaillardia (*Gaillardia pulchella* Foug) Var. Yellow Doll under Konkan agro-climatic conditions

The field experiment on gaillardia was conducted in order to know fertilizer requirements of this crops under Konkan conditions. The experiment was conducted on gaillardia variety Yellow Doll. The fertilizers were tried three levels N (0, 100 and 200 kg/ha N2) three levels of P2O5 (0, 50 and 100 kg /ha P2O5) and 2 levels of K2O (0 kg and 50 kg/ha).

The effect of N and P and their interaction were found to be significant for almost all growth, yield and yield contributing characters. From the result it is recommended to apply 200 kg N and 100 kg P2O5 per hectare for higher yield and net returns in gaillardia Cv. Yellow Doll under Konkan agro-climatic conditions for irrigated crops.
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<td><strong>Thesis Title &amp; Abstract</strong></td>
<td>Studies on storage behaviour and processing of lesser yam (<em>Dioscorea esculenta</em> (L) burk) and Aerial yam (<em>Dioscorea bulbifera</em> L) tubers</td>
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The present investigation was carried out in the Department of Horticulture, College of Agriculture, Dapoli.

From the present investigation, it can be concluded that cool chamber is an effective technique for reducing the losses during storage due to physiological change in wt. and sprouting elongation. Among growth regulators MH-750 ppm and MH-1000 ppm were best to minimize the losses in *D. esculanta* and MH-500 ppm in *D. bulbifera*.

From *D. esculanta* various products like laddu, uppam, sheera, yam rava, biscuits and cake prepared and from *D. bulbifera* chips, ice-cream etc prepared successfully.

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<td><strong>Thesis Title &amp; Abstract</strong></td>
<td>Effect of GR on growth, flowering yield and quality of Blanket flower variety Yellow Doll. (<em>Gaillardia pulchella</em> Foug)</td>
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The effect of GA3 MH and NAA on growth, flowering, yield and quality of Blanket flower Var. Yellow Doll was observed during the Rabi season. The experiment consisted of 10 treatments with 3
plant growth regulators each at three different levels namely GA3 (150, 200 and 250 ppm), MH (500, 750 and 1000 ppm) and NAA (30, 45 and 60 ppm). It was observed that the application of MH (500 ppm), NAA (30 ppm) and GA3 (200 ppm) performed better under Konkan Conditions. Among different treatments MH (500 ppm) performed better with regard to the net profit and benefit cost ration followed by NAA 30 ppm and GA3 200 ppm.

83 Name of the candidate : Ajit Bhaskar Joshi

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1992

4 Name of the guide/Co guide : Dr. M. B. Magdum

5 Thesis Title & Abstract : Studies on response of Alphonso and Amrapali varieties of mango (Mangifera indica L.) to the application of paclobutrazol

The experiment was conducted at plot No. 12 the Department of Horticulture, College of Agriculture, Dapoli during the period from August 1991 to September 1992.

The tree of Alphonso and Amrapali mango varieties were taken for the experiment. The age of the experiment trees was 10 years.

The experiment was laidout in the factorial randomized block design with three replications.

Paclobutrazol was applied as a soil drench dates in August 1991 with difference viz., 0, 2.5, 5.0, 7.5.

The application of PBZ reduced the girth of the trunk, spread and height of plant significantly.

Application of PBZ on August could fetch height number of fruit and weight of the fruits per tree. All the interaction effects were significantly significant for both the characters except variety x date Amrapali.

84 Name of the candidate : Bhalchandra P. Parab

2 Degree for which the : M. Sc. (Agri.)
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<td>5 Thesis Title &amp; Abstract</td>
<td>Studies on some aspects of utilization of cashew (<em>Anacardium occidentale</em> L.) apple and jackfruit (<em>Artocarpus heterophylus</em> Lam) wastes.</td>
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Form the present investigations, it could be concluded that the cashew apples of variety Vengurle-4 produced about 36.53% waste, whereas jackfruits produced about 65% material could be converted into value added food products. The cashew apple waste and jackfruit waste were utilized after recovering juice and jackfruit waste were utilized after recovering juice and pulp from then for preparation of RTS, squash, jam and chueny. The cashewapple waste and jackfruit waste could be also be utilized for making preserve, candy, pickles and sweets. The jackfruit seed could be directly consumed after boiling and roasting. These seeds could be also utilized for preparation of sweet and cookies. The present investigations has proved that the above mentioned products were acceptable organoleptically and chemically, but as the attempt were made at laboratory level it is necessary to exploit the same on large scale and look for its practical utility.

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<td>Dr. A. D. Rangwala</td>
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<tr>
<td>5 Thesis Title &amp; Abstract</td>
<td>Effect of dates and severity of pruning in Arbian Kasmine (<em>Jasminum sambac</em> Ait.) Cv. Single</td>
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The experiment was conducted to know the suitable dates and severity (height) of pruning of this crop...
It is concluded that pruning of plant in February at 45 cm height for higher yield and net returns in J. Sambag Ait. Cv. Single under Konkan agro-climatic condition. (These observation are based on one season/s observation and need confirmation with further trials on large scale.)

86 Name of the candidate : G. S. Patil

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1992

4 Name of the guide/Co-guide : Dr. M. B. Magdum

5 Thesis Title & Abstract : Evaluation of F1 Hybrid of Snapmelon (Cucumis melo Var Momerda Duth and Full) and Watermelon (Cucumis melo) Var. reticulates

The investigation entitled “Evaluation of F1 hybrids of snapmelon var. Momerda duth and full and muskmelon var., retimlatus was undertaken at the Department of Horticulture, College of Agriculture, Dapoli during summer and Kharif seasons of 1991.

Six inbread lines of snap melon namely T,1, T6, T12, T14, T17 and AL were crossed with four letters of muskmelon viz., C1, C2, PM and PSH. The crossability study indicated that snapmelon is cross compatibility with musk melon.

From the overall remarking study it can be concluded that lines T17, T6, AL and T1 and tarters viz., C2, PM, C1 and PSH appeared to be promising for futures breeding, seven promising hybrids namely T6 x PM, T1 x PSH, AL x PM, T14 x PM, T17 x C2, T6 x PSH and AL x C2 may be regarded as most promising due to high sea simultaneously for sexual important characters.

High lights of present inmerligatious. Hybridization between snap melon x Musk melon induced earliness and early maturity.
Studies on maturity indices, storage and processing of Jamun (*Syzygium cuminii* Skeels) fruits.

The present investigation “Studies on maturity indices, storage and processing of Jamun fruit was carried out at Konkan Krishi Vidyapeeth, Dapoli during 1990-92. The experimental required for this investigation was obtained from Jamun trees grown naturally and from local market during normal fruiting season.

From the present investigation, it could be concluded that the Jamun fruit took 63 days for ripening. The weight, volume, Sp gravity, length diameter, circumference and colour of the Jamun fruits can be considered as the physical indices of maturity, whereas moisture, TSS, acidity, pH, Brix to acid ratio sugars, tannins, pectins and anthocyanins could be considered as chemical indices of maturity of Jamun fruits. The ripe Jamun fruits could be successfully stored for two days at ambient temperature and more than 6 days at cold storage. For reduction in physiological loss in weight, shriveling and spoilage of ripe Jamun fruits the cold storage could be the best. The Jamun RTS could be successfully blended with the different fruit RTS (mango, cashew apple, kokum and karonda). The products like RTS, squash, syrup and jam could be successfully prepared from ripe Jamun fruits. The TSS, pH reducing sugars and total sugars content of Jamun products were increased. While acidity, tannin and anthocyanin content decreased during storage of 8 months at ambient temperature. The Jamun seeds were found to be rich in protein content. Hence, they could be used as cattle feed in combination with the other components of feed.
The present investigation was undertaken to evaluate performance of gerbera varieties under shade net in Plot No. 4 of the nursery at the Department of Horticulture, Dapoli during the year 2001-02. The experiment laid out in RBD eight varieties propagated by tissue culture viz., Rosula, cabana, Edips onion, Ringo, Triamisu, Testarossa and Twiggy were used for present investigation. The observations for growth and yield were recorded for six months.

Cv., Twiggy recorded the highest yield at 12.60 flowers per plant. It was one of the early flowering variety under study (72.66 days) having flower diameter (8.85 cm) with stalk length of 57.47 cm and the vase life of 9 days, having free suckering habit (2-46). Twiggy appear to be best variety besides its attractive pink flower colour and cost benefit ratio (1.49).

Testarossa was another high yielding variety (10.70 flowers/plant) with better performance by producing flowers with large diameter (8.87 cm) and longest stalk length 58.71 cm with long vase life of (10.4 days) in distilled water. It has attractive red flower colour which ranks second with respect to cost benefit ratio (1.35).

During the period of investigation above two varieties performed better with respect to flower yield, quality and cost benefit ration. So giving the prime importance to these characters and cost benefit ration, these two varieties may be recommended on ad-hoc basis for general cultivation in the Konkan region.
3 Year of submission : 1992
4 Name of the guide/Co guide : Dr. A. D. Rangwala
5 Thesis Title & Abstract : Studies on some aspects of utilization of cashew (Anacardium occidentale L.) apple and jackfruit (Artocarpus heterophyllus L.) waste

From studies it can be concluded that cashewapple of var., Vengurla 4 contained 7 to 8.75% proteins 2.3-3.16% fats, 0.98 to 1.87% crude fibre and 1.81% ash on dry wt basis. While 85.80 & 82.80% moisture, 8.00 Brix TSS, 11.09 and 2.62% reducing sugar and 0.246% ascorbic acid per 100 g. While in Jackfruit Ascorbic acid was found 0.9 to 6.78 mg per 100 g, tannins 0.098 and 0.7586%.

All products RTS, Squash, Jam, Chutney, Pickle, Preserve Candy were accepted of cashew and jackfruit. Among the cashew candy was widely accepted.

All products of jackfruit except jackfruit rind pickle and jackfruit core pickle were accepted from the investigation it could be concluded that capples V-4 produced about 36.53% waste where as jackfruit about 65% waste which posses nutritional values.
The present investigation was carried out from Jamun trees grown naturally and from local market during normal fruiting season. It could be conducted that Jamun fruits took 63 days for ripening. The weight, volume, specific gravity, length diameter, circumference and colour of the Jamun fruit can be considered as the physical indices of maturity. Whereas moisture, TSS, acidity, pH, Brix to acid ratio, sugars anthocynins would be considered as chemical indices of maturity. The ripe Jamun fruits could be successfully stored for 2 days at cold storage. The products like RTS, squash, syrup and jam could be successfully prepared from ripe Jamun fruits.

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The present investigation was carried out from Jamun trees grown naturally and from local market during normal fruiting season. It could be conducted that Jamun fruits took 63 days for ripening. The weight, volume, specific gravity, length diameter, circumference and colour of the Jamun fruit can be considered as the physical indices of maturity. Whereas moisture, TSS, acidity, pH, Brix to acid ratio, sugars anthocynins would be considered as chemical indices of maturity. The ripe Jamun fruits could be successfully stored for 2 days at cold storage. The products like RTS, squash, syrup and jam could be successfully prepared from ripe Jamun fruits.
Twenty one genotypes of Bitter gourd were evaluated with 3 replications in randomized block design to know the scope for improvement in yield and quality of bitter gourd. It was observed that for improvement of total marketable yield attention should be given on more vine length, higher no. of branches per vine, greater no. of nodes per vine, high leaf area per vine and more yield per vine. It was interesting to note that early varieties recorded higher yield. Higher genotypic correlation indicated strong inherent association between characters. The most ideal genotype DPL – BG-2 could be included in multilocational trial for studying of the genotype and may be released for cultivation. The emphasis on quality should be given while improvement.

93 Name of the candidate : Sambhaji Shakaram Sawant
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1993
4 Name of the guide/Co-guide : Dr. J. C. Rajput
5 Thesis Title & Abstract : Studies on propagation techniques in Kartoli (Momordica dioica Roxb.)

The experiment was carried out at the Department of Horticulture, College of Agriculture, Dapoli, Dist – Ratnagiri (MS) during the year 1992 – 93.

The studies were carried out on the germination, vegetative propagation and tissue culture in Kartoli.

The experiment carried out were designed using RBD and or factorial Completely Randomized Design (CRD), factorial Randomized Block Design.

The 12 month old seeds gave better germination percentage as compared to 4 months old seeds.

GA3 300 ppm, favour the max, germination percentage i.e. 85% in 12 months old seed. The germination was inhibited at higher concentration of CCC i.e. 300 ppm.
The basal cutting planted in potted mixture soil + FYM showed highest survival percentage IBA was found superior at all concentration in increasing survival percentage and further growth of cutting. The survival percentage was inhibited at higher concentration of NAA + IAA all concentration.

It was found that kartoli can be propagated successfully using tissue culture techniques.

The experiment was carried out at the Department of Horticulture, College of Agriculture, Dapoli, Dist - Ratnagiri (MS) during the year 1992-93 at the vegetable Improved Scheme, CES, Wakawali.

The principle objectives were to screen the hybrid and parental population for bacterial wilt, to study the extent of heterosis for yield attributes, to estimate general and specific combining ability of parents and hybrid and to work out cost of F1 seed production.

For breeding varieties resistant to bacterial wilt both the parents should have resistant to the disease. Among parents IHR-12, IHR-54, IHR-21, Sm-6, DPL-b-1 and DPL-B-3 were found to best general combines for fruit number, fruit weight, maretable yield / ha and earliness.

The hybrids IHR-12 x BB-7, IHR-54 x WGC, IHR-12 x IHR -21, IHR 12 x B. TLW and SM-6 x IHR – 21 recorded high yield with better fruit quality and can be exploited for commercial cultivation.

The F1 hybrid seeds of brinjal can be produced at the rate of Rs. 626.00 per kg whereas open pollinated seeds can be produced at the rate of Rs. 215.00 per kg.

Name of the candidate : Dilip Atmaram Jadhav
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Year of submission : 1993
Name of the guide/Co guide : Dr. J. C. Rajput
Thesis Title & Abstract : Heterosis and combining ability studies in Brinjal (Solanum melongena Linn.)
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<th>Name of the candidate</th>
<th>Degree for which the thesis/project report submitted</th>
<th>Year of submission</th>
<th>Name of the guide/Co guide</th>
<th>Thesis Title &amp; Abstract</th>
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<tr>
<td>95</td>
<td>Nimkar C. V.</td>
<td>M. Sc. (Agri.)</td>
<td>1993</td>
<td>Dr. G. D. Joshi</td>
<td>Studies on some aspects of post harvest handling of important vegetables grown under Konkan region.</td>
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<td>The study of some aspects of post harvest handling of bittergourd, Bell pepper, brinjal, Okra, Chilli was carried out. The grade 2 of bitter gourd, okra, capsicum and brinjal found to be most common, whereas in grown chilli, grade 3 was found to be the most common grade. In general, the treatments waxing and prepackaging were useful in extending the shelf life of all the five vegetables under study prepackaging being more effective. Amongst the storage conditions, cool storage was found to be the best followed by cool chamber and AT storage for all vegetables except okra and brinjal. Okra and brinjal stored better in cool chamber than cold storage.</td>
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<td>96</td>
<td>Punja K. K.</td>
<td>M. Sc. (Agri.)</td>
<td>1993</td>
<td>Dr. A. D. Rangwala</td>
<td>Effect of different levels of Nitrogen and potassium on gerbera under Konkan conditions of Maharashtra.</td>
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<td>The effect of 4 levels of Nitrogen (0,75,150, 225 kg /ha) and 4 levels of potassium (0,75,150,225 kg /ha) was studied on growth and yield of Gerbera. The application of nitrogen @225 kg / ha and potassium...</td>
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@ 225 kg /ha is beneficial for better vegetative growth and higher flower yield with good quality in gerbera cv. Single orange under Konkan agro-climatic conditions. From the studies on prolonging the vase life of cut flowers with chemical, it was found that vase life can be increased by the use of AGNO3 50 ppm + 3% sucrose (10.70 days) in the holding solution as compared to distilled water (8.40 days).

97 Name of the candidate : Satyam Natha Thorath
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1994
4 Name of the guide/Co-guide :
5 Thesis Title & Abstract : Studies on selection an vegetative propagation of karonda (Carissa carandas L.) and Jamun (Syzygium cuminii Skeels.)

The present investigation carried out at College of Agriculture, Dapoli. Forty karonda selection and 15 jamun selection were selected. Maximum fruit weight average was observed in Sel. No. 35 (15.5g) while min in Sel. No. 8 and No. 21 in Karonda. In Jamun maximum average fruit weight was observed in Sel. No. 14 while the minimum in Sel. No. 11. regarding chemical composition fruits of Sel. No. 5,12,18,23 were found to be poor and Sel. No. 12 and 14 were found to be poor of Karonda and Jamun respectively.

Regarding organoleptic evaluation, the maximum average score was recorded by Sel. No. 38 and Sel. No. 1 of karonda and Jamun respectively.

Application of IBA at 1500 ppm concentration resulted in maximum rooting % in karonda. The rainy season was found to be the best period for air-layering in karonda. The % of sprouting and survival were significantly higher in the grafts prepared during October.

98 Name of the candidate : Arun Appasaheb Chougule
The present investigation regarding “Studies on maturity indices, viability and some aspects of post harvest handling of cashewnut (Anacardium occidentale) and processing of cashew kernel Cv. Vengurle 1” was carried out at the Konkan Krishi Vidyapeeth, Dapoli.

From the present investigation, it could be concluded that the weight length, diameter and volume of increased form fruit set till 3/4th grown nut stage followed by slight decline, while, its specific gravity recorded a continuous increase from fruit set till maturity. The colour of nut changed from brown green to grey.

Regarding the grading the medium grade nuts (4.00 to 4.99 g) were best and the nut physical characters like weight, volume, specific gravity, length and breadth of nut could be considered as the basis for the nut grading for seed purpose in cashewnut.

Regarding the viability and vigour of the seedlings, medium grade nut among the 3 different grades waxing only at sinus and among different waxing treatment, polythene bags 250 gauge with plastic among the nuts storage conditions were found best.

Among the various products prepared from the cashew kernels (cashew kernel pocoder, cashew chikki, cashew ice-cream, cashew laddu, cashew burfi, cashew blending with groundnut, cashew pedha), the cashew kernel vadi was found to be best.
Early generation evaluation for yield and yield vein mosaic virus diseases resistance in okra
(\textit{Abelmoschus esculentus} \{L\} Monch.)

The investigation carried out at CES, Wakawali. Five population in F4 generation derived from the cross, viz., Sel. -4 x Sel – 10, Sel. – 4 x P-7, P. Sawant x P-7 x Sel. 10 and EMS – 8 x Bo -1. The progenies 15-3, 49-1, 27.1, 53-2, 2-1, 5-1, 5-10 and 4-10 are observed to be most promising for growth, yield quantity and YVMV resistances. These promising progenies are required to be considered for further testing for fulfilling the immediate, intermediate and 100 g term gains on account of diseases resistance, quality and yield aspects.

Performance of some chrysanthemum varieties under Konkan Agro-climatic conditions

The present study was carried out a Department of Horticulture, College of Agriculture, Dapoli during September 1993 to March 1994. From the findings it can be inferred that cultivation of varieties viz., Sonali, tara, IIHR, Sel. 4 and Pink Cascade was not profitable. Varieties Meera was the most profitable from cost benefit point of view followed by Button Yellow. Flowers of variety Baggi were attractive and can be recommended on ad-hoc basis for cut flower as well as for garland purpose. A holding solution, containing cycoel 50 ppn + AgNO3
25 ppm may be recommended on ad-hoc basis for prolonging avse life of cut flowers. Variety pink Cascade and Sonali Tara may be recommended for cut flowers purpose also

101 Name of the candidate : Mr. Yogesh Ravindra Parulekar

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1994

4 Name of the guide/Co-guide : Dr. G. D. Joshi

5 Thesis Title & Abstract : Standardization of propagation techniques in kartoli (Momor dica dioica roxb.)

The investigation “Standardization of propagation techniques in kortoli (Momor dica dioica roxb.)” was conducted with a view to find out the suitable technique for multiplication of planting material multiplication by seed, stem cutting as well as wing tissue culture technique was studied at different locations as per the available facilities. Experiments were carried out at the Department of Horticulture, College of Agriculture, Dapoli as well as at vegetable improvement scheme, central experiment station, Wakawali.

From the present investigation, it is concluded that for achieving maximum seed germination, decorated seeds should be treated with GA 350 ppm. Maximum seed germination of kartoli can be obtained by wing sixmonth rooting of cuttings can be achieved by using soil + sand + FYM in 1:1:1 proportion. Basal cutting recorded more percent rooting than middle and top portion of cuttings of kartoli vine.

It is possible to produce kartoli plan through tissue culture technique. In vitro germination of seed can provide aseptic explants for further multiplication.

102 Name of the candidate : Devendra Dattatraya Andhare

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Varietal performance of gladiolus in Konkan region of Maharashtra

The present study was carried out at the floriculture unit, Department of Horticulture, College of Agriculture, Dapoli during the year 1997-98. The experiment was conducted in the eight gladiolus varieties were used i.e., ICE gold (American), Tester (American), Ariate (American), Tiger Flame (American), Sylvia (American), Copper King (American), Vinak glory (Dutch) and Oscar (Dutch).

From the present study it could be concluded that variety Sylvia had higher net returns and was most profitable from cost benefit ratio point of view. The other varieties Oscar, ICE Gold and Tiger Flame also performed better under Konkan agro-climatic condition and hence can be recommended on ad-hoc basis for cultivation. Based on quality of spike produced Oscar and Tiger Flame may be recommended for export of cut flowers. The chemical silver nitrate 200 ppm may be suggested for prolonging vase life of cut flowers of gladiolus.

Effect of dates of sowing and spacing on growth, flowering, yield and quality on China Aster (Callistephus chinesis Nees.) variety ostrich plum mixed under Konkan Agro-climatic conditions

The present investigation was carried out at the floriculture unit, Department of Horticulture, College of Agriculture, Dapoli during rabi season of the year 1997-98. The experiment was conducted in
split-plot design with spacing as a main factor with 3 levels (40x20 cm, 30 x 30 cm, 30 x 20 cm) and sowing dates as a sub-plot factor with seven sowing dates at 15 days interval starting from 15th August upto 15th November 1997. In addition, vase life studies on china aster cut flowers was carried out in different chemical preservative solutions in RBD to find out best holding solution for prolonging the vase life.

On the basis of results obtained it can be suggested that sowing of aster be done between 30th August to 15th September adopting wider spacing of 30 x 30 cm for vigourous growth and for early and higher yield with better flower. However, for mass production of flowers during above sowing dates with 30 x 20 cm plant spacing may be followed under Konkan Agro-climatic conditions.

104 Name of the candidate : Priya Ramesh Sali
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1994
4 Name of the guide/Co guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Tissue culture studies in Anthurium and orchids

The present research work was carried out in the tissue culture laboratory of the Department of Horticulture, College of Agriculture, Dapoli. It is concluded that different species respond differently to the nutrient media so also variation is seen regarding the explant used.

105 Name of the candidate : Manoj Yashwant Godbole
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1995
4 Name of the guide/Co guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Comparative evaluation of Kartoli (Momordica
dioica Roxb.) genotypes for growth yield and quality

The investigation carried out at Vegetable Improvement Scheme, CES, Wakawali, Dr. B. S. Konkan Krishi Vidyapeeth, Dapoli.

Fifteen genotypes of Kartoli was taken. It is concluded that wide range of enetic variability exist for the different quantitative and qualitative characters in Kartoli. Exact classification and systematic exploitation of this variation in Kartoli improvement programme is of immense importance. Selection of plants on the basis of vine length, fruit length, average fruit weight, no of fruits pre vine and yield per vine will be useful and desirable in Kartoli. From correlation studies, it was revealed that the plants having more vine length, more no of 2nd branches, higher limit length, fruit breadth and fruit number can contribute to higher yield with more edible portion in Kartoli.

The culture DPL – MD-7 could be rated as the best for its high yielding performance, with associated growth characters, other qualitative aspects and acceptability from consumers point of view. The cultures DPL – MD-4 and DPL-MD-21 could also be regarded as promising types. The culture DPL-MD-6 having highest fruit weight, could be employed to increase fruit weight of Karoli while considering improvement for yield. Further the most ideal genotypes DPL-MD-7 could be include in multilocational trial for studying stability of the genotypes. More weightage should be given to these types while selecting high yielding cultivars of Kartoli.

106 Name of the candidate : Pawar Ashwini Shanu
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1995
4 Name of the guide/Co guide : Prof. R. N. Nawale
5 Thesis Title & Abstract : Effect of different levels of nitrogen and
phosphorus on growth, yield and flowers quality of zinnia (*Zinnia elegans* Jasq.) Cv. Gujara under Konkan Agro-climatic conditions

The experiment was carried out in the plot No. 4 of the floriculture unit at the Department of Horticulture, Dr. B. S. Konkan Krishi Vidyapeeth, Dapoli during Kharif season of the year 1994.

The experiment was laid out in the Factorial Randomized Block Design with 12 treatments and 3 replication.

In general N225 and P100 were superior for veg. characters. Floral characters were found to be influenced by N150 and P50. The keeping quality of flowers and yield were found to have beneficial effect of N150 and P100.

It suggested that the application of 150 kg N/ha and 100 kg P2O5 / ha for higher yield and net return in zinna Cv. Gajara under agro climatic conditions of Konkan in kharif season.

107 Name of the candidate  : Shri. Madhav Raghunath Sakhalkar

2 Degree for which the thesis/project report submitted  : M. Sc. (Agri.)

3 Year of submission  : 1995

4 Name of the guide/Co guide  : Dr. A. D. Rangwala


The investigation entitled, “Effect of different levels of nitrogen and phosphorus on growth, yield and flower quality of tuberose (*Polianthes tuberose* L.) Cv. Single under Konkan conditions” was undertaken at the floriculture unit, Department of Horticulture, college of Agriculture, Dapoli.

Plant response to nitrogen and phosphorus application was differential according to the sensitivity of character. Effect on vegetative growth and flowering attributes collectively showed that NoP$_3$ (‘O’ kg N/ha + 225 kg P$_2$O$_5$/ha) treatment combination was comparatively superior over other,
fetching net returns of Rs. 1,20,368.40 with cost benefit ratio 2.59 followed by N₃P₀ (300 kg N/ha + ‘O’ kg P₂O₅/ha) earning net returns of Rs. 1,16,557.32 with cost benefit ratio 2.58.

Based on these results it can be suggested on adhoc basis to apply ‘O’ kg + ‘O’ kg P₂O₅ + 50 kg K₂O per hectare is 300 kg + ‘O’ kg to tuberose P₂O₅ + 50 kg K₂O per hectare to tuberose cv. Single for higher yield and maximum profit. Results are based on one season study and needs further confirmation by conducting further studies on large area and with multitocation trials.

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<th>108</th>
<th>Name of the candidate</th>
<th>Shri. Mangesh Vaman Rasam</th>
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<td>Dr. G. D. Joshi</td>
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<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Studies of maturity indices and processing of nutmeg (Myristica fragrans Hortt.) fruits.</td>
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<td>From the present investigation it can be concluded that the weight, volume, specific gravity, length, diameter, circumference, &amp; colour of the nutmeg fruit can be considered as the physical indices of maturity. Where as moisture, TSS, acidity, PH, brix to acid ratio &amp; ascorbic acid can be considered as chemical indica of maturity of nutmeg fruit. Out of total fruit weight, the rind alone constitutes 80 percent, which is going waste as such. Products like pickle, chutney, preserve &amp; candy could be successfully prepared from nutmeg candy.</td>
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<th>109</th>
<th>Name of the candidate</th>
<th>Geeta P. Raorane</th>
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<td>4</td>
<td>Name of the guide/Co guide</td>
<td>Dr. A. D. Rangwala</td>
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The present investigation on “propagation of some difficult to root ornamental plants by cuttings” were made to obtain better rooting and field survival in difficult to root ornamental species namely Bougainvillea, Hawaiian hibiscus, Ixora Singaporensis with difficult types of cutting and auxins with FRBD having three replications. Total seven experiment were conducted at Department of Horticulture, College of Agriculture, Dapoli during June 1994 to Jan 1995. The salient features of the results are as follows. Bougainvillea Cv. Mahara can be propagated with hard wood cuttings treated with IBA 300, NAA 300 ppm Cv. Mary Pamer with hard wood cuttings treated with IBA 100, NAA 100 ppm, Cv. Shubhara with Semi-hard wood cuttings treated with IBA 600 ppm, NAA 400 ppm and IBA 200 + NAA 200 ppm, Cv. Thima with hard wood cuttings treated with IBA 400 ppm the treatments mentioned above could be carried out by prolonged soaking for 20 hrs in Bougainvillea.

Hawaiison hibiscus can be propagated with hard wood cuttings treated with IBA 3000 + NAA 3000 ppm. Ixora can be propagated with softwood cuttings treated with IBA 500 + NAA 500 ppm. Musaenda can be propagated with hard wood cuttings treated with IBA 5000 ppm. These ad-hoc recommendations are basis on one year study and hence need further confirmations.
The present investigation was carried out in the Department of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri.

It is concluded that the Ratna mango variety was characterized with the biggest size of fruits followed by Kesar, Alphonso, Pairi and Amrapali variety had longest fruit shape than all the other mango varieties under investigation. Alphonso fruit exhibited the best sugar : acid blend among the fruits of all the varieties under study.

During storage, T.S.S., reducing and total sugars and B carotenoids increased till ripening and declined there after till the end of shelf life. The moisture, titratable acidity and ascorbic acid decreased continuously while pH went on increasing till the end of shelf life. The starch content was completely exhausted understudy. In case of shelflife the Alphonso mango fruits recorded maximum shelf-life as compared to any other mango verities under present study.

The mango products prepared from Alphonso mango fruit were rated as the best at preparation and throughout the storage period of 8 months followed by amrapali, Kesar, Ratna and Pairi on the basis of their organoleptic evolution. Alphonso is the best suited verity for processing followed by Amrapalli, Kesar, Ratna and Pairi.

111 Name of the candidate : Miss. Nijia Odry Lawrence
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1995
4 Name of the guide/Co guide : Dr. A. D. Rangwala
5 Thesis Title & Abstract: Studies on different anthodium species and varieties under Konkan agro-climatic conditions.

A pot experiment was carried out at Department of Horticulture, College of Agriculture Dapoli, Dist. Ratnagiri.
It is concluded that the variety Lady June (Red) seems to be promising in terms of their growth of flowering.

_A. hookeri_ and _A. coucanum_ produced good growth their suitability for foliage purpose. The Anturum spikes held in 13A 25 ppm and 8 HQ 25 ppm holding solution exhibited maximum vase life.

Based on these findings, uniform experimentation to study their growth and flowering performance under field condition as well as the vase life of flowers under field and under laboratory conditions need to be conducted for further confirmation.

From the survey of Antherium growers, it can be informed that in order to extend the area under anthurium cultivation, the constraints viz., varietal improvement unavailability of planting material of choicest varieties, management practices and marketing need to be give due consideration.

112 Name of the candidate : Prashant Narayan Barve Lawrence

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1996

4 Name of the guide/Co guide : Dr. A. D. Rangwala

5 Thesis Title & Abstract : Tissue culture studies in cashew (_Anacardium occidentale_ Linn)

The present work was carried out in the laboratory of plant biotechnology unit at the college of Agriculture, Dapoli.

Water shoots and grafts for about 8-10 minutes was optimum for the aseptic establishment of explants in vitro. Higher percentage of proliferation was obtained with the treatment HgCl₂ (0.15%) for 8 minutes in the all types of explants obtained from seedlings, water shoots and grafts.

Maximum percentage of initial establishment of cashew culture in vitro (50%) was observed in MSY₂N medium supplemented with 10 ppm BA + 5 ppm IBA + 5 ppm GA₃ and followed by MX, WPM and B₅ media. 30 days old explants has maximum
The maximum percentage of culture establishment was observed using Ms ½ N medium (40%) supplemented with 10 ppm BA + 5 ppm GA3 followed by WPM, MS and B5 media, and seedlings explants showed better establishment of cashew in vitro was observed by using the big size (2cm) axillary bud from cashew seedling on MS ½ N + 10 ppm BA + 5 ppm IBA + 5 ppm GA3.

Maximum culture media in vitro in MS ½ N medium give better establishment. Use of ascisected charcoal control browings effectively the medium Ms ½ + 10 ppm BA + 5 ppm IBA + 5 ppm GA3 gave maximum rooting percentage. The maximum percentage of initial culture establishment of cashew culture were observed by using of seedlings of following by genotypes V-1, V-4, V-5, and V-6. The aseptic embryo culture gave good results than embryo excised from developing nut innoculated on basal media.

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113 Name of the candidate : A. B. Jadhav
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1996
4 Name of the guide/Co guide : Dr. M. B. Magdum
5 Thesis Title & Abstract : Studies on effect of pruning and paclobutrazol application of flowering, fruiting, yield and fruit quality of old mango trees. (*Mangifera indica* L.)

The investigation on “studies on effect of pruning and paclubutrazol application of flowering, fruiting, yield and fruit quality of mango trees. (*Mangifera indica* L.) Cv. Alphonso was undertaken at the department on Horticulture, College of Agriculture, Dapoli, During the year 1995-96.

Further studies regarding response of various paclobutrazol doses of severe pruned old Alphonso mango trees, it was found that the 10 g. paclobutrazol/tree (40ml cultar/tree), followed by 7.5g paclobutrazol/tree (30ml cultar/tree) were the
best for obtaining maximum yield without offeding fruit quality. The optimum individual fruit at with maximum yield can be obtained effectively with medium 70 light thinning of shoots in severely pruned old Alphonso masngo trees. Further, an application of 10 and 7.5 g paclobutrazol/tree coupled with medium or light thinning severely pruned trees can be effectively followed to obtain optimum yield with good quality fruits. The pruning of criss-cross branches during any time from January to August followed by 7.5g paclobutrazol/tree may be recommended to maximize the orchard productivity without affecting fruit quality especially in large, old and dense Alphonso mango trees.

114 Name of the candidate : D. I. Mane

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1996

4 Name of the guide/Co-guide : Dr. B. B. Sakpal

5 Thesis Title & Abstract : Studies on propagation of tea. [Camella sinesis (L.) o. Kuntze]

The present investigation entitled “studies on propagation of tea (Camella sinesis (L.) o. Kuntze)” were conducted with a view to find out the suitable technique for multiplication of planting material. Experiments were carried out at the department of Horticulture, College of Agriculture, Dapoli as well as at the Central Experiment Station, Wakawali at the Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (M.S.) duting the year 1994-96. The salient features of the results obtained are summarized as.

Form above experiment it can be suggested that the germination of tea can be increased effectively by using large sized seed having diameter more than 15 mm and seed treatment with 500 ppm GA3. Ungraded and small sized seeds having diameter less than 12.5 mm may not be used for propagation of tea by seed. For propagation tea by cuttings, the mature green wood cuttings with one leaf and bud may be used for planting of cuttings. For rooting potting mixture of
soil + F.Y.M. in the portion of 3:1 is found to be best. The percentage rooting with various concentration of IBA, though promising the best results in respect of early sprouting, profused rooting and shoot growth of rooted cuttings were in 7500ppm IBA treatment.

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<th>115 Name of the candidate</th>
<th>: Krishnaji Walawalkar</th>
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<td>4 Name of the guide/Co guide</td>
<td>: Dr. M. B. Magdum</td>
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<td>5 Thesis Title &amp; Abstract</td>
<td>: <strong>Effect of planting density of organic and inorganic fertilizers and their interaction of export quality.</strong> The field study was conducted at vegetable improvement scheme, Central Experiment Station, Wakawali, Tal. Dapoli, Dist. Ratnagiri dutin the <em>Kharif</em> season of the year 1996-97. The expt was laid out in split plot design three replication. The treatments comprised different combination of organic and inorganic fertilizers, F.Y.M, Neemcake, celrich, and Vikas were used exclusively and in combination with helf recommended dose i.e. 50:25:12kg NPK/ha and full recommended dose was used as central. The present study revealed that the low density planting at (60 x 30m) produced good quality pods. But to compensate yield losses caused by alternate day harvesting 7 to 8 pods suitable for export the high density planting (60 x 30cm spacing) has to be undertaken, considering the increased yield of pods of pods per ha. And there is such a difference in quality of pods which can be promised for increased yield. Among the different organic sources, vikas being organic, inorganic and having high nutrient content was the best performance respect to yield and quality of pods. The performance of different organic sources can be described as below. <strong>Vikas &gt; Neemcake&gt; Celrich &gt; F.Y.M.</strong> The combination of organic and inorganic fertilizers in 50:50% proportion was beneficial in all the respect. It caused enhanced growth, increased yield and better</td>
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quality over only organic fertilizers. In this connection Vikas 1.5 t + ½ recommended dose was found to be the best treatment during present investigation. It was superior in all respect viz., growth, yield, quality and uptake of nutrients. It was best treatment to obtain export quality okra pods.

The integrated effect of plant density and organic and inorganic fertilizers was found to be significant in increasing yield of pods and on same qualitative aspects. But the shelf life of pods didn’t show any effect of integration of plant density and organic and inorganic fertilizers.

116 Name of the candidate : Narayankar M. D.

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1997

4 Name of the guide/Co guide : Dr. M. B. Magdum

5 Thesis Title & Abstract : Effect of different levels of Nitrogen and growth regulators on growth and yield of palak (Beta vulgaris L.) All green and Kangkong (Ipomoea aquatica Farsk).

The present investigation was undertaken at the department of Horticulture, College of Agriculture, Dapoli during Rabi/hot weather 1996-97. Palak and kangkong was used as experimental material in strip plot design and three replication.

The present investigation reveals that N120 + TRIA in Palak var All green and N120 + NAA in Kangkong can be rated as best package for high yield. This package facilitated rapid growth, more yield, more no of leaves, leaf area, leaf thickness, which ensure better photosynthetic activities. Also help in incr cqulity of paqlak and kangkang results are based on one season study.

117 Name of the candidate : Amol Pushpakar Dharkar

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1997
4 Name of the guide/Co guide: Dr. A. D. Rangwala

5 Thesis Title & Abstract: Varietal variation and effect of growth regulators on growth and flowering in Anthurium (A. andreanum)

   The experiment was conducted in Floriculture until of the Nursery of the department of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, from July 96 to April, 97.

   The experiment was laid out for the study of two aspects in completely Randomized Design each with 9 treatments and with 3 replicates.

   From the above investigation, Kahuna, Paradiso and valley Red were found to be the most promising cultivars of anthurium which can be cultivated in the Konkan region.

   Application of GA (100ppm), MPC (50ppm) and NAA (100ppm) sprayed at 15 days interval are found to increase the yield of flowers from a single plant.

   The vase life of cut anthurium flowers can be effectively enhanced by B (10ppm).

118 Name of the candidate: Katalkar N. S.

2 Degree for which the thesis/report submitted: M. Sc. (Agri.)

3 Year of submission: 1997

4 Name of the guide/Co guide:

5 Thesis Title & Abstract: Studies on flowering and fruiting behaviour of Alphonso mango (Mangifera indica ) as influenced by different rootstock.

   It was observed that maximum tree-height was recorded on manjira interstock and minimum on the hybrid-50 interstock. In case of internodal length it was observed that maximum internodal length was recorded on manjira intertock of minimum on Hybrid – 50 interstock and scion-girth maximum of Manjira interstock and minimum scion-girth on velai-colamban rootstock and was followed by hybrid – 50 interstock and concluded that manjira interstock was the most vigours and the Hybird-50 interstock caused maximum dwarfing effect on the
Alphonso scion.

119 Name of the candidate : Maleek N. N.

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1997

4 Name of the guide/Co guide :

5 Thesis Title & Abstract : Performance of some gerbera (Gerbera jamesonii) varieties in greenhouse under Konkan agro-climatic conditions.

   The present investigation was carried out the plot No. 4 of the nursery, in two green houses with 50% agro-shade net (green coloured) of the Department of Horticulture, Dapoli during 1996-1997.

   The present investigation was undertaken to evaluate twelve Dutch varieties of gerbera for their vegetable growth, yield and quality performance. Among them the varieties ‘Flona’ ‘Apoorva’ and ‘Parijat’ produced higher flower yield varieties ‘Pascal’ and ‘Parijat performed better with regards to flower quality. While considering diameter and longevity of flower, variety ‘Aruba stood first. The varieties ‘Apoorva’‘Parijat’ and ‘Mirage had double type of flowers, while rest of the varieties semidouble type flowers. In case of vegetative growth ‘Explosion and ‘Parijat’ gave better performance.

   Considering the overall performance of different gerbera varieties under green house during the course of present investigation, varieties ‘Aruba’ and ‘Flona’ performed well in terms of their flower quality and cost benefit ratio.

120 Name of the candidate : Dattaprasad Chandrakant Vaishampayan

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 1997

4 Name of the guide/Co guide :
The investigation entitled “Effect of growth regulators, micronutrient complex and potassium on growth and yield of sweet pepper (Capsicum annum Var. grossum (L) Sendt ) Cv. California” was undertaken at ASPEE research Farm, Met, Tal. Wada, Dist – Thane during rabi season of the year 1996 – 97. The experiment was laid out in strip plot design with four replications. Variety California wonder was used as an experimental material. Four levels of potassium namely 0, 40, 80 and 120 K2O/ha (K0, K40, K80, K120) in combination with foliar sprays of growth regulators and micronutrients namely NAA, Triacontanol, perfectose, multiplex and water sprays constituted the treatments. Potassium was given in the form of incuriate of potash. Foliar sprays were taken at pre-flowering (92 sprays), flowering (1 spray) and post flowering development (2 sprays).

For fetching highest yields of sweet pepper, application of 80 kg K2O/ha is the appropriate dose of potassium and to such potassium enriched crop, the foliar spray of perfectose (1.5 ml/lit) given at vegetative stage (2 sprays), flowering (1 spray) and fruting 2 sprays) results in highest yield performance.

K80 + Triacontanol is another important promising package. Among the remaining foliar applications, multiplex has better effects. Inspite of higher yields obtained due to foliar spray of NAA the delayed fruit set and inferior size, shape and quality of fruit leads to a conclusion that foliar application of NAA is not a suitable practice for this crop.

Thus, application of 80 kg K2O/ha and foliar spray of perfectose (1.5 ml/lit) or triacontanol 95 ppm) or multiplex (2 ml/lit) is proper package for uplifting the performance of local variety like California wonder of sweet pepper.
submitted

3 Year of submission : 1997

4 Name of the guide/Co guide :

5 Thesis Title & Abstract : 

   Studies on some aspects of post harvest handling of mango (*Mangifera indica* L.) Cv. Alphonso

   The present investigation was carried out in the Department of Horticulture, College of Agriculture, Dapoli.

   From the above investigation it could be concluded that the cold storage, packing Alphonso fruits in CFB box with tissue paper of CFB box with polythene bags and hydrocooling of Alphonso fruits significantly increased the shelf life of Alphonso mango fruits without affecting the quality of fruits.

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2 Degree for which the thesis/project report submitted :

   M. Sc. (Agri.)

3 Year of submission : 1997

4 Name of the guide/Co guide :

5 Thesis Title & Abstract :

   Varietal variation of effect of growth regulators on growth and flowering in Anthurium

   Among the different varieties, kahuna, Paardiso and valley red were found to maintain a constant leaf number, higher leaf length and thus better plant height and spread over the entire period of investigation. In Anthurium flowering is directly related to leaf no as each flower arises from the leaf axil. Thus higher leaf number ensures higher flowers productivity. Hence, from the point of commercial cultivation, these 3 varieties seem to be the most promising cultivars of Anthurium which can be cultivated in the Konkan region. It also can be interred that foliar sprays of GA (100 ppm), MPC (50 ppm) and NAA (100 ppm) sprayed at 15 days interval are most effective. The vase life of cut flowers of Anthurium can be effectively enhanced by using BA (10 ppm) as holding solution.
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<td>Year of submission</td>
<td>1998</td>
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<tr>
<td>Name of the guide/co-guide</td>
<td>Dr. A. D. Rangwala</td>
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A field trial was conducted at the floriculture unit, department of Horticulture, College of Horticulture, Dapoli during the *kharif* season of 1997, with a view to study the effect of application of growth regulators on growth, yield and quality of tuberose (*Polianthes tuberose* L.) single under Konkan condition. From the present studies, as far as growth regulators are concerned, it can be inferred that foliar application GA (20ppm), TRIA (2.5ppm) and ecc (250ppm) through spray at 15 days interval are the most effective treatments. The foliar application of growth regulators resulted in enhanced leaf number, plant height and spread in tuberose. They increased sprouts and bullets also made the plants to flower early and improved the quality of spikes.

Amongst all the treatments tried GA at 20 ppm was comparatively superior over other, fetching net returns of Rs. 2.06,668.00 with cost: Benefit ratio of 3.01, followed by GA 10 ppm (2.99), TRIA 2.5 ppm (2.94) and TRIA 5 ppm (2.89). Based on these results it can be suggested on adhoc basis to apply GA at 20 ppm or TRIA at 2.5 ppm, four times at 15 days interval to tuberose cv. Single for higher yield and maximum profit.

The vase life of cat spikes of tuberose can effectively be enhanced by using holding solution containing 0.05% AgN\textsubscript{03} + 8% sucrose.

| Name of the candidate                | Laxuman Vishnu Khadapkar                                                                                                                                 |
| Degree for which the thesis/report   | M. Sc. (Agri.)                                                                                                                                 |
| submitted                            |                                                                                                                                              |
3 Year of submission : 1998
4 Name of the guide/Co-guide : Dr. A. D. Rangwala
5 Thesis Title & Abstract : Effect of different growth regulators and micronutrient complex on growth and yield of chilli (*Capsicum annum* L.) var. Konkan Kirti

The field experiment to study “The effect of growth regulators and micronutrient complex on growth and yield of chilli (*Capsicum annum* L.) var. Konkan Kirti” was conducted at ‘ASPEE’ A.R.D.F. Farm, Met, Tal. Wada, Dist. Thane awring rabi season of year 1998-98.

The foliar sprays of growth regulators like 2 ppm triacontanol or 25 ppm NAA given at vegetative stage (2 sprays,) flowering (1 spray) and fruiting (2 sprays) results in highest vegetative growth early flowering, fruiting and highest yield.

The fertilizer combination of recommended dose of micronutrient complex is promising treatment which provided vegetative growth as well as yield. Exclusive application of micronutrient complex retarded the plant vegetative growth, yield and fruit characters. An integrated application of recommended dose (NPK @ 150:50:50 kg/ha) along with micronutrient complex (ORMICHEM @ 75kg/ha) and foliar sprays of 2 ppm triacontanol or 25 ppm NAA is economical and feasible techniques for fetching highest remuneration in chilli.

125 Name of the candidate : Mr. Nitin Rajaram Dalal
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1998
4 Name of the guide/Co-guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Studies on growth, Yield and some aspect of post harvest handling of some brinjal (*Solanum melongena* L.) varieties.

The present investigation entitled “Studies on growth, Yield and some aspect of post harvest handling of some brinjal (*Solanum melongena* L.)
Varieties” was carried out during rubi 1997-98 at the vegetable improvement scheme, central experiment station. Wakawali Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri (Maharashtra state).

The result obtained from present investigation revealed that the variety CHES- 309 having medium growth habit recorded the maximum yield (33.25 t/ha) which is significantly superior overall other varieties under shady from the present study, it could be concluded that the variety manjari gota was wghly susceptible to bacterial wilt disease so this variety is not suitable to the agroclimatic condition of Konkan region. Where as the vanities SM – 141, SM – 6-6-C, DPL – B- 4 & Arka keshav were found resistant to wilt disease & so that these vanities are local for cultivation under the agroclimatic condition of Konkan region.

Name of the candidate : 126
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Year of submission : 1998
Name of the guide/Co guide : 
Thesis Title & Abstract : Effect of dates of sowing and spacing on growth, flowering, yield and quality on china aster (Callistephus chinensis Nees) variety Ostich plum mixed under Konkan Agro-climatic conditions.

The present investigation was carried out at the floriculture unit, Department of Horticulture, College of Agriculture, Dapoli, Dist Ratnagiri during rabi season of the year 1997-98. The experiment was conducted in split plot design with spacing as a main factor with 3 levels (40 x 20 cm, 30 x 30 cm, 30 x 20 cm) and sowing dates as a sub-plot factor with seven sowing dates at 15 days interval starting from 15th August upto 15th Nov. 1997. In addition vase life studies on china aster cut flowers was carried out in different chemical preservative solutions in R.B.D. to find out best holding solution for prolonging the vasilife.

On the basis of results o9btained it can be suggested that sowing of aster be done between 30th August to 15th Sept adopting wider spacing of 30 x
30 cm for vigorous growth and for early and higher yield with better flower. However for mass production of flowers during above sowing dates with 30 x 20 cm plant spacing may be followed under Konkan Agro-climatic conditions.

127 Name of the candidate : Ratnaakant Baliram Dalvi
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1998
4 Name of the guide/Co guide : 
5 Thesis Title & Abstract : Studies on carbonation of fruit based beverages
   The present investigation on Studies on carbonation of fruit based beverages’ was carried out at the Department of Horticulture, College of Agriculture, Dapoli, Dist Ratnagiri (M.S.) during 1997-98.
   From the result it is revealed that inclusion of kokum syrup in soda water added more to the sensory score and colour, while pineapple and jamun syrup added more to the flavour of the carbonated beverages value. Also all the beverages under study were organoleptically acceptable throughout storage period at A.T., conditions with the exception of sapota beverages in few cases.

128 Name of the candidate : V. U. Raut
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1999
4 Name of the guide/Co guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Studies on maturity indices, harvesting, integrated post harvest handling and processing of sapota (Manilkara achras (Mill) Forsberg) Cv. Kalipatti
   The present investigation was undertaken in the Department of Horticulture, College of Agriculture, Dapoli, Dist Ratnagiri during 1996-98.
   From the present investigation it could be concluded that potato brown colour (natural as well
as after scratching immediately below the skin) and low intensity of latex flow from the stalk end slight exudation to one drop can be considered as the reliable visual indices of maturity of sapota cv. Kalipatti fruits. The fruit weight, colour, length and breadth can be considered as physical indices of maturity while the chemical constitutes like moisture, T.S.S., sugars, vit.C and titratable acidity can be considered as the chemical indices of maturity. The sapota harvester for harvesting sapota fruits. The ‘C’ grade (i.e. the medium grade) of sapota fruit was most common while ‘A’ grade was the grade for quality. Two pre harvest sprays of carbendizing of (0.05%) at 15 and 30 days prior to harvest followed by post harvest dip of carbendizim at 0.05% concentration gives maximum shelflife gives maximum shelflife to sapota fruits. The CFB boxes with partition and tissue paper as cushioning material was the best packing material for packing and transportation of sapota fruits.

The cold storage has given the maximum shelflife (28 days) to sapota fruits followed by cool chamber and ambient temperature conditions. The products such as RTS, squash, syrup, milkshake, dried sapota slices, sapota powder (rind with rind without rind, sapota ice cream straight and blended carbonated beverages (Sapota + kokum, Sapota + Jamun) could be successfully prepared from sapota fruits, while, RTS, squash, syrup, blended beverages successfully stored at ambient temperature conditions.

129 Name of the candidate : Mr. Vishal Mahadeo Jadhav
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1999
4 Name of the guide/Co guide : Dr. M. B. Magdum
5 Thesis Title & Abstract : Effect of growth regulators of growth of kokum (Garcinia indica choisy) seedlings.

Studies on effect of growth regulators of growth of kokum (Garcinia indica choisy) seedlings were conducted at the Department, Horticulture College of Agriculture, Dapoli from May, 1997 to
March 1998 to find out the best germination medium and to see the effect of plant growth regulators on seed germination and seedling growth of kokum. The foliar application of GA3 at 200 ppm concentration was the best treatment for improving plant growth performance of kokum seedling.

130 Name of the candidate : Hiraman Pandurang Khade
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1999
4 Name of the guide/Co guide : Dr. V. N. Kore
5 Thesis Title & Abstract : Effect of application of different growth regulators on growth, flowering and fruiting of Bottle gourd. (*Lagenaria siceraria* (Moling standl) var. samrat under Konkan conditions).
   A field experiment to study “The effect of application of different growth regulators on growth, flowering and fruiting of bottle gourd (*Lagenaria siceraria* (Moling standl) var. samrat under Konkan conditions” was conducted during rabi season of the year 1998-99. The treatment comprised of foliar sprays of growth regulators viz. GA, NAA, triacontanol and paclobutra zol. TRIA (4ppm) and GA (5ppm) have proved to be the best growth hormones for boosting up bottle gourd production in variety samrat.

131 Name of the candidate : Shri. Verendra Prataprao Desai
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1999
4 Name of the guide/Co guide : Dr. G. D. Joshi
   Thus from the result of the present investigation it
could be concluded that weight, volume, length, breadth, circum fences, specific gravity and angularity could be considered as the physical indices of maturity in banana fruits.

The weight of fruit could be considered as basis of for grading of banana fruits. Further after a harvest wrapping the fruits in pdythene bag 100 gauge with ventilation could delay the ripening and increase their shelf life.

During storage T.S.S., PH, and sugar increased till the end of storage period. The moishre acidly and ascorbic acid decreased continuously from beginning of the of the storage peritot conditions. The fruit stored under cold storage could delay ripening, increase shelf life and avoiding shriveling acid spoilage. The product such as chipc, flour, Jam, fig, puree, Ice-cream & fruit bar could be successfully prepared from banana.

132 Name of the candidate : Sugandha Ladu Kubal
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1999
4 Name of the guide/Co guide :

The investigation was undertaken at ASPEE Research Farm, Met, Tal. Wada, Dist Thane. Foliar sprays of GA and NAA promoted the vegetative growth, where as 2,4-D retarded the growth vitamin-auxin complex induced earliness in first flowering, 50 percent flowering and fruit set, followed by tricontanol under control conditions the yield of California wonder was 21.6 q/ha and raised to 75 q/ha, when treated by vitamin auxin complex. In Hybrid – 621, yield under control condition was 28.3 q/ha and elevated to 87.6q/ha when treated with vitamin auxin complex.

Hybrid – 621 was better genotype over California wonder when we considered the yield of the genotype. Therefore it can be concluded that
vitamin-auxin complex in the trade form of micro-rich, tricontenol, in the form of Rasmal and GA 10 ppm can be rated as promising growth regulators for boosting up the production of sweet pepper in varieties California wonder and Hybrid - 621

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<td>Name of the guide/Co guide</td>
<td>R. N. Nawale</td>
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<td>Thesis Title &amp; Abstract</td>
<td>Studies on effect of seed storage, seed treatment, germination media and foliar application of growth regulators on germination and seedling growth in clove (Eugenia caryophyllata Thunb) From thin research work it was concluded that foliar application IBA at 45 ppm concentration was most effective and 300 ppm of GA₃ is the next best treatment for improving plant growth performance of clove. While the germination media viz., soil F.Y.M. (1:1) and soil and fym, (1:1) appeared to be best media combination for better growth of clove seedling. The germination percentage of seeds are best in IAA at 20 ppm concentration.</td>
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<td>Name of the guide/Co guide</td>
<td>R. N. Nawale</td>
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<tr>
<td>Thesis Title &amp; Abstract</td>
<td>Phonological studies in same mango Cvs. viz., Alphonso, Ratan, Kesar and Amrapali The present investigation was carried out with on objective of knowing the events in vegetative and reproductive growth of mango cultivars. It is</td>
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observed that the four cultivars showed remarkable variation in the events of vegetative and reproductive growth. The hybrids had more rate of growth. The hybrids had more rate of growth either vegetative or reproductive as compared to straight cultivars. In the varieties under study, Alphonso, behaved as a shy bearer while, Amrapali gave maximum fruits per panicle suggestion that for stable production, cultivation of hybrid cultivars should also be encouraged as the fruit borne on each flowering shoot is over four times higher than the traditional cultivar Alphonso.

135 Name of the candidate : Karmarkar V. M.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 1999
4 Name of the guide/Co guide :
5 Thesis Title & Abstract : Studies on in-vitro mutagenesis in Banana (Musa Sp.)

The genotypes, Cv. Basrai (AAA) was selected for study, large number of in-vitro multiple shoots were obtained by propagation techniques. In post irradiation performance of the of the in-vivo and in vitro plant material appear to be direct function of increasing gamma irradiation dose, several other factors and their complex interactions e.g. imbalance in distribution of chemical, subculture cycle, age of the plant materiel used for irradiation, dose rate etc. also might get involved which need to be further studied.

136 Name of the candidate : Manjarekar R. G.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2000
4 Name of the guide/Co guide : Dr. K. H. Pujari

5 Thesis Title & Abstract : Effect of mineral nutrition on occurrence of spongy tissue in Alphonso Mango \(\textit{Mangifera indica} \text{(L.)}\)

The present investigation was undertaken in the department of Horticulture, College of Agriculture, Dapoli during 1999-2000. The study inductive that higher levels on fertilizers may tend to produce more vegetative growth than the reproductive growth more spongy tissue higher intensity delay ripening process, lower colour development lower yield as compared to the trees receiving recommended dose of fertilizers. The N and P was higher in most of trees while K was deficient unless it as present in the soil itself. Falcium content was lowered in spongy tissue affected fruits than healthy once. However soil application didn’t proved beneficial for minimizing the spongy tissue in Alphonso.

137 Name of the candidate : Mr. Mahesh Manmohan Kulkarni

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2000

4 Name of the guide/Co guide : Dr. G. D. Joshi

5 Thesis Title & Abstract : Studies on some aspects of post harvest handling and processing of mango \(\textit{Mangifera indica} \text{L.}\) fruits Cv. Ratna.

The present investigation “Studies on some aspects of post harvest handling and processing of mango \(\textit{Mangifera indica} \text{L.}\) fruits Cv. Ratna” was undertaken in the Department of Horticulture, College of Agriculture, Dapoli during perioa 1998-2000. During the course investigation, grading of Ratna mango fruits on the basis of weight and specific gravity of the fruit, packaging of fruits in different packaging material and their storage at ambient temperature condition, the effect of different pre-cooling methods of Ratna mango fruits at different storage conditions were studied.
It was seen that proper handling & packaging to reduce the post harvest losses is must. Pre-cooling by the method of hydro-cooling increases the shelf life of Ratna mango fruits significantly without affecting quality of fruits. All the their quality upto a period of six months.

Name of the candidate : Milind Jagannath Sawant
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Year of submission : 2000
Name of the guide/Co guide : Dr. K. H. Pujari
Thesis Title & Abstract : Effect of growth regulators and pinching on growth, flowering, yield and quality of Marigold (*Tagetes spp* Linn.) cv. 'Pusa narangi' under Konkan Agroclimatic condition

The experiment was conducted at the department of Horticulture, College of Agriculture, Dapoli, Dist. Ratnagiri (M.S.) during the kharif season on the year 1999.

The field experiment was laid out in the factorial Randomized Block Design with 16 treatments of GR. And Pinching, replicated thrice.

The foliar application of PBZ 100 ppm or 150 ppm on 35th day after transplanting of marigold along with 4 ppm TRIA at the flowering stage was the most effective in influencing the veg. structure of the plant.

These resulted in reduction of plant height but improved the no. of branches, leaves, leaf area index and early flowering. However, as far as flower quality and yield are concerned, pinching on 35 the day after transplanting proved to be superior rest of the treatments.

Name of the candidate : Vaishali Yashwant Pawar
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2000
4 Name of the guide/Co guide : Dr. K. H. Pujari

The present investigation on “Effect of palobutrasol and triacontanol on growth; flowering and fruiting of bitter gourd (Momordica charantia L.) Cv. Konkan Tara under Konkan conditions” was conducted during rabi season of the year 1998-2000. Among all the treatments, the application of PBZ 100 ppm at 4 leaf stage TRIA 4 ppm at flowering is one of the most prominent treatment which induce more number of nodes per vine, more number of female flowers, more fruit set and total yield.

140 Name of the candidate : Shubhada Govind Sawant
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2000
4 Name of the guide/Co guide : Dr. K. H. Pujari
5 Thesis Title & Abstract : Varietal response of Aster (Callistephus chinensis Nres.) to growth regulators.

A research project was conducted to study the varietal response of aster (Callistephus chinensis Nres.) to growth regulators was conducted in factorial randomized Design with three replications and thirty treatment combinations. It was conducted as ASPEE farm, Met, Tal. Wada. Dist Thane (M.S.) during the course of studies performance of six aster varieties and the effect of foliar sprays of two regulators namely GA₃ (100, 200 ppm and NAA 50, 100 ppm) on these varieties and their interaction. In addition to this case life studies was also undertaken. It was concluded that, Phule Ganesh Violet variety is superior with foliar application GA₃ 200 ppm two time at 15 days interval produces maximum net returns.
Name of the candidate : Shivaji Bapu Sawant

Degree for which the thesis/project report submitted : M. Sc. (Agri.)

Year of submission : 2000

Name of the guide/Co-guide : 

Thesis Title & Abstract : Studies on maturity indices and most aspects of post harvest handling and processing of Jackfruit (Artocarpus heterophyllus Lam.)

Present investigation was undertaken in the Department of Horticulture, College of Agriculture, Dapoli during the year 1999-2000. From the results it could be concluded that weight, volume, length, circumference, number of spines per square centimeter, number of carpers, wt. of carpers and seed, and recovery percentage and colour of fruit skin and spine tips could be considered as physical indices to judge maturity of jack fruits. While moisture, T.S.S., acidity, ascorbic acid and sugars could be stored could delay ripening increase shelf life and avoid spoilage. Further the products such as nectar, squash, syrup, jam, jelly, chips and preserve could be prepared successfully and could be stored upto 9 months.

Name of the candidate : Khanvilkar M. H.

Degree for which the thesis/project report submitted : M. Sc. (Agri.)

Year of submission : 2000

Name of the guide/Co-guide : 

Thesis Title & Abstract : Studies on performance of hybrid varieties of Marigold under Konkan agroclimatic conditions.

The Present investigation were undertaken to evaluate 4 hybrid marigold varieties for their
vegetative growth, yield and quality performance under Konkan conditions, the variety Pusa Narangi Gonda and Local variety were found to be tall, while Marigold Climax Toreador and Pusa Vasnti Gainda had medium plant stature whereas the variety Ince-Orange was dwarf one. The varieties Ince-orange and Marigold Climax Toreador performed better with regards to flower quality. The yield was highest in case of verity Pusa Narangi Gainda (29.09t/ha), The variety Pusa Narangi Gainda gave the highest ner returns with cost benefit ratio of 2.65 followed by Marigold CVlimax Toreador with cost benefit ratio of 2.01.

143 Name of the candidate : Haldankar P.M.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2001
4 Name of the guide/Co guide : Dr. G. D. Goshi
5 Thesis Title & Abstract : Phonological studies in nutmeg (*Myristica fragrans* Houtt.)

The investigation was carried out at Regional research station, Ratnagiri, (M.S.), India during 1999-2000. Thirty-nine nutmeg genotypes mixed cropped under coconut plantations during were used as experimental material.

The nutmeg shoot and hr. showed cyclic growth twice yearly Fleaming in female genotypes is continuous, while that the female and hermaphrodite genotypes was restricted the period required from flower initiation to anthesis was least in female (39.13 days) and longest in male (46.05 days). The fruit set was 15% C a wide range of 2-41 among genotypes. Fruit development required 212-300 days. In initial phase of fruit development is marked by heavy deposition of assimilates in fleshy pericarp.

The perild for germination from sowing varied form 53 to more than 100 days C a success of germination to the extent of 60.91%, N 43 and N 42 genotypes showed promising performance for percentage germination. The survival percentage of
grafts varied from 42.5 (N32) to 92.5 (N66). The variability for the characters of growth, flowering and yield was noticed. Plant height, spread, no. of secondary branches, crown volume and crown surface etc are helpful in the prediction of yield performance in nutmeg.

It is difficult from the phonological studiers alone to achieve a goal of selecting a genotype in nutmeg has merits points in it. On the basis of present investigation of 39 characters in different genotypes N42, N24, N37 and N22 and N26 have been rated as most promising genotypes in nutmeg.

144 Name of the candidate : Chandsha Najit Kazi
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2001
4 Name of the guide/Co guide : Dr. V. N. Kore

The experiment was conducted at the vegetable improvement project, CES, Wakawali, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (M.S.) during the kharif season, 200.

The experiment was laid out in a Randomized Block design with twenty six treatments and 2 replicates.

The cultivars AROH-47, MBORH-913, NK-20, SOH-54 and Arka Abhay were relatively good in fruit quality, better in grown performance and closely high yielding.

Among those AROH – 47 produced the highest yield and 103.76/ha while it had good growth, low snail incidence, and high shelf life. Thus, the cultivars in the Konkan region are suggested to adopt a high yielding, good quality, better growth performance and resistant to YVMV Cv- AROH-47 for kharif season.
145 Name of the candidate : Suvarna Arvind Barve
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2001
4 Name of the guide/Co-guide : Dr. G.D. Joshi
5 Thesis Title & Abstract : Studies on Maturity indices some aspects of post harvest handling and processing of snapmelon (*cucumis melo* var. *Mamorbica Duth and full*)

The experiment was conducted in the Department of Horticulture, College of Agriculture, Dapoli, Dist. Ratnagiri (M.S.) during 2000-2001.

Fruits were obtained from experimental farm of the Department of Horticulture, College of Agriculture, Dapoli, Dist. Ratnagiri and CES, Wakawali, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli.

The weight, volume, length, diameter, circumference, specific gravity, wt. of edible portion wt. of skin, length, breadth of seed cavity and seed length could be considered as the physical indices to judge maturity of fruits. The wt. of fruits could be considered as basis for grading of snapmelon fruits. The products such as pickle, preserve, tuty-fruits and jam, pulp synp, juice syrup, milk shake, ice cras, shrikhand and vadi could be prepared successfully.

146 Name of the candidate : Miss. Jyoti Tukaram Patil
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2001
4 Name of the guide/Co-guide : Dr. A. G. Desai
5 Thesis Title & Abstract : Studies on on growth, yield quality of different varieties of colocasia (*Colocasia esuenta* L. schott) ander Konkan condition.

The experiment was conducted the “all India Co-ordinated Research Project on Improvement of Tober Crops” at Central Experiment Station,
Wakawali, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri (M.S.) during the Kharif season of 1999.

The experiment was laid out with 15 treatments replicated 2 times in the Randomized Block Design. The variety sahasramukhi and IG col.2 seem to be promising in terms of their growth and yield. But the variety IGCO. – 2 showed higher acridity and lower organoleptic score. So it is not recommended for cultivation.

147 Name of the candidate : Miss. Geeta A. S.

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2001

4 Name of the guide/Co-guide : 

5 Thesis Title & Abstract : Effect of different spacings and application of triacontanol on growth, flowering, yield and quality of gaillardia (Gaillardia pulchella Foug) Var. Lovanziana Cv. Yellow Doll under Konkan conditions.

On the basis of result obtained, it can be suggested that as the gaillardia crop is mostly grown for loose flowers, it should be planted at close spacing of 30 x 30 cm maximum production of flower (yield). However if one wants to go for best quality of flowers with longest duration of flowering, then the planting at wider spacing of 45 x 45 cm may be followed under Konkan agro-climatic condition. Further, the plants should be sprayed with TRIA at 5 ppm for vigorous growth, early and highest yield with better quality flowers.

148 Name of the candidate : Miss. Kiran Pandharinath Dhanawate

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2001
5 Thesis Title & Abstract : Studies on growth, yield and quality of bitter gourd (Memordica charantia L.) cultivars under Konkan conditions.

From the result obtained, it can be conducted that the cultivars MC-84 preeth, Konkan Tara, PBIG-I, Hirkani and DVBTG-1 were relatively good in their growth and yield produced yield of 78.66, 66.18, 65.18, 53.51 and 53.18 quintals per hectare, respectively. The cultivate MC-84 and preethi yielded outstandingly high. The studied also revealed that Konkan Tara was found to be best cultivars and could be recommended for cultivation under Konkan agroclimatic conditions.

5 Thesis Title & Abstract : Flowering and fruiting in Nutmeg (Myristica fragrans Houtt.)

From the study of 177 trees of Nutmeg it was concluded that male female and hermaphrodite flowers are present in nutmeg. Maximum number of flowers were found in the month of July in all types. Male flower completed development within 42.19 days from initiation to anthesis while female and hermaphrodite flower requited 44.59 day and 44.80 days respectively. Maximum fertility was found at the time of pollen collection. Stigma remains receptive after 36 hrs. of anthesis. Wind did not play much role in pollination. Maximum germination was found in 5 percent sucrose solution. The total production per hectare was 892.29 kg of dry nut and 156.0 kg of dry mace.
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<td>1. Name of the candidate</td>
<td>Shalaka Joshi</td>
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<td>4. Name of the guide/Co-guide</td>
<td>Dr. K. H. Pujari</td>
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<td>5. Thesis Title &amp; Abstract</td>
<td>Effect of bio-regulators on growth, flowering, yield and quality of sweet pepper [<em>Capsicum annuum</em> Var. <em>Grossum</em> (L.) <em>sendt.</em>] cv. California wonder. The present investigation was undertaken at Agriculture Research and Development farm Met, Dist. Thane (M.S.) during 2000-2001. One the basis of present finding it can be conducted that foliar application of increasing concentration of paclobutazol retards the paltn</td>
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growth. However, levels concentrations of paclobutrazol when combined C growth regulators like NAA and Tricontanol show pometry effects on plant growth, flowering, fruiting, yield and fruit quality in sweet paper Cv. California wonder. Among the various plant bio-regulators treatments tried the foliar sprays of PP$_{333}$ 5ppm, PP$_{33350}$ 50 ppm + TRIA 5 ppm & 333 50 ppm were found to be better alternatives for boosting up the production of sweet pepper cv. California wonder.

152 Name of the candidate : Yogita Ramchandra Sangare
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2001
4 Name of the guide/Co guide : Dr. K. H. Pujari
5 Thesis Title & Abstract : Varietal response pf gladiolus to levels of N,P,K fertilizers under Konkan conditions.

A research project was undertaken at Nursery section of Department of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli Dist. Ratnagiri during course of studies effect of 3 fertilizers levels viz., 150:100:100, 300:200:200 and 450:300:300 on gladiolus var. Viz, American Beauty; summer Sunshine, Candimon Red; and ‘Mexican Rose and their interaction effects in terms on vegetative growth, flowering, yield and quality were studied also vase life of spike at different preservative solution studied to find out best preservative solution.

From present studied in concluded that among 4 different varieties summer shine recorded maximum vegetative growth i.e. plant height, no. sun of leaves, leaf area, leaf area index and dry matter. Whine ‘American beauty recorded early flowering superior spike quality and yield i.e. maximum spike length no. of florets, floret size, maximum field longevity, spike common yield.

Application of fertilizer level 300:200:200kg NPK/ha was found to be superior over rest of the levels. It recorded maximum vegetative growth, high quality spikes i.e. spike length, no. of florests, length
of florests and gave highest yield and spike and corms, corms weight, corm size, cormel no.

Interaction of ‘American beauty” and level 300:200:200 was found to be superior among all the interaction under study in terms of spike length, no. of florets, common yield of the net profit (Rs. 6,41,749/ha.)

Vaselife of gladiolus spike can be expended with the preservative solution containing 5% sucrose as compared to control.

Name of the candidate : Santis Ikbal Meman
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
Year of submission : 2002
Name of the guide/Co guide : Dr. G. D. Goshi
Thesis Title & Abstract : Effect of different level of Gibberellic acid water soluble fertilizer (Fertigation) on growth, flowering, yield and quality of China aster [Callistephus chinensis (L.) Nees] var ostrich plume mixed under Konkan Agro-climatic conditions.

From the studies it was concluded that application of GA3 (100, 200 & 800 ppm) twice at 15 days intervals starting from 25 days after transplanting significantly induced the growth, flowering yield and quality of Chinsa aster. While WSF application (75%, 100%, 125% and 150% of RDF) thrice at 15 days interval starting from 15 days after transplanting influenced significantly growth, flowering, yield and quality of china aster. While interaction of GA3 at 200 ppm & WSF at 75% of RDF was found to be superior over all other treatment combinations in terms of vegetative growth flowering, yield per hectare. Vase life can be extended with preservative solution containing 8-HQS (0.2% + sucrose 5%).

Name of the candidate : Dilip Dhondu Nagvekar
Degree for which the thesis/project report submitted : M. Sc. (Agri.)
The present investigation, “Effect of NPK fertilizers on crown yield and quality of coconut (Cocos nucifera L.) variety D x T under Konkan condition of Maharashtra state” was undertaken at the requital Concert Research station, Bhatye, Dist. Ratnagiri (M.S.), India, under the all India Coordinated research project on palms (AICRPP). The experiment was levied ant in 3 confounded design with 2 replications, there with 5 palms and 27 treatment culminations. The treatment were all the combination of NPK at 3 lunch on gwen. N-0, 500, 1000g N per palm per year. P-0, 250, 500g P₂O₅ per palm per year. K-0, 1000, 2000g K₂O per palm per year.

During the course of investigation, observations of growth characters, reproductive characters, no. of bunches & fruit characters, yield tributes button shedding & fruit setting, soil & leaf analysis & barren nuts production were recorded.

From the present investigation it can be concluded that the growth parameters viz. no. of fronds produced per palm per year, leaf characters such as breadth of petiole and length of leaflet bearing portion were significantly influenced by nitrogen application where as length of petiole was influenced by K application. N & K application significantly influenced the no. of inflorescence per palm/per year and no. of female flowers per spodix. The treatment combination N₂P₂K₂ (1000g N + 500 g P₂O₅ + 2000 g K₂O/palm/ year) recorded the maximum nut yield and net profit and pruned to be the best among the treatment combination tried. The oil & copra production (kg) per palm & per hectare were significantly improved with N and K application. Soil analysis for nutrient status showed that continues application of upto 25cm depth and potassium at all was not significantly increased by
NPK application production of barren nuts decrease as the N & K fertilizer doses were increased.

155 Name of the candidate : Dalvi N. V.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2002
4 Name of the guide/Co guide : Dr. A. D. Rangwala
5 Thesis Title & Abstract : Spacing-cum-fertilizer trial on Gladiolus (Gladiolus grandiflorus L.)
The spacing 30cm x 10cm and fertilizer dose of 400:250:250kg NPK/ha was found to be comparatively superior with respect to yield of spike yield of corm and cormels. It also recorded maximum benefit: cost ratio (1.60). Considering quality aspects i.e. no. of florets per spike (9.80 days) were found comparatively better as compared to other interactions. In the vase life studies, the treatment sucrose 5% + Ag NO₃ 400 ppm in the holding solution was found to be superior with respect to vase life of spikes (11.33 days) and per cent florets opened (68.53). However the uptake of holding solution was found to be higher (44.50ml) with treatment sucrose 5% + aluminium sulphate 400 ppm.

156 Name of the candidate : Jailasila V.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2002
4 Name of the guide/Co guide :
5 Thesis Title & Abstract : Effect of nitrogen and planting density on growth, yield and flower quality of Gaillardia var. Yellow Doll under Konkan Agor-Climatic conditions

The experiment was carried out with 4 levels
of nitrogen (0,100,200,300 kg/ha) and 3 levels of spacing (45 cm x 30 cm, 45 cm x 45 cm, 45 cm x 60 cm). The spacing of 45 cm x 60 cm was found to be comparatively superior in various aspects of gaillardia. Application of 300 kg/ha resulted in increased plant spread, plant height, no of branches, leaf area and superior in improving the plant height, branches, leaves, dry matter production, no. of flowers per plant and the vase life in pure water. The vase of flowers can be extended with preservative containing AgNo\textsubscript{3} 15 ppm by 8.47 days as compared to control.

The gladiolus variety ‘American Beauty’ can be grown successfully under Konkan agro-climatic condition and application of fertilizer level 300:200:200 proved to be best superior for higher yield and flower quality. Combination of ‘American Beauty’ and 300:200:200 kg NPK/ha proved to be the best for getting maximum net returns.

### 5 Thesis Title & Abstract

Studies on growth and yield of promising hybrids of brinjal (\textit{Solanum meongena} L.) under Konkan conditions.

A field experiment regarding ‘studies on growth and yield of promising \textit{(Solanum meongena} L.) under Konkan conditions, was taken up during Rabi season of the year 2001-2002.

The results obtained from study showed that the hybrids, DPL-B-21, DPL-B-28, DPL-B-27, DPL-B-24 and DPL-B-26 were relatively good in growth and produced yield of 156.23, 236.10, 226.10, 224.80 and 221.62 qls./ha respectively.

As far as yield was concerned, the hybrid, DPL-B-21. Recorded outstanding high with overall and uniform purple fruits. The hybrids having uniform purple fruits and oval shape with good fruit quality are mostly preferred in metropolitan marker as well as
Such desirable characters were found in the hybrids, DPL-b-21, DPL-B-28, DPL-B-27 and DPL-B-26 which had yielded satisfactorily and showed less incidence of bacterial wilt disease under Konkan conditions. By considering all these characteristic, DPL-B-21 was found to be the best hybrid under Konkan agroclimatic conditions.

158 Name of the candidate : Mukund Manhor More
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2002
4 Name of the guide/Co-guide : Dr. A. G. Desai
5 Thesis Title & Abstract : Studies on growth and yield of promising hybrids of brinjal (Solanum meongena L.) under Konkan conditions.

The experiment as conducted at the department of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth,, Dapoli, during July, 2001 to Jan, 2002.

The experiment was laid out in Factorial Randomized Block Design comprising three levels of starters, 5 levels of GA, and two methods of growth regulators application viz., drenching and root dipping.

Among all the treatment S2 treatment (Starter containing urea + S.S. P. + M.O.P. in 1:1:1 parts) recorded higher survival percentage and the spread of mango stone grafts.

Root dipping in growth regulator solution along with S1 treatment (Urea + S.S.P. + M.O.P. in 1:1:1 parts) recorded higher survival percentage and the spread of mango stone grafts.

Among all the treatment S2 along with G4 (400 ppm GA3) recorded the maximum no. of leaves, internodal length, no. of nodes, branches, and leaf area through of the growth period of mango stoner graft.

Among all the treatment S2 along with G4 (400 ppm GA3) recorded the maximum no. of leaves, internodal length, no. of nodes, branches, and leaf area through of the growth period of mango stoner
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<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Effect of growth regulators on growth, yield and quality of okra (<em>Abelmoschus esculentus</em> (L.) moench) under Konkan condition.</td>
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The present investigation carried out vegetable Improvement Project, CES, Wakawali. Thirteen treatments comprised of foliar sprays of growth regulators Viz., GA₃ (100,200,300 ppm), NAA (25,50,75 ppm), TRIA (2,4,6, ppm) and Paclobutrazol (50,100,200 ppm) and control water spray given.

From the present findings it can be concluded that foliar application of NAA, TRIA and GA₃ showed promontory effect on plant growth, flowering, fruiting, yield and fruit quality in okra. Cv. Varsha Uphar. However, application of PP₃₃₃ eventhough retards the plant growth, it has increased the yield over control. Among all growth regulators NAA 25 ppm, TRIA 2 ppm and GA₃ 100 ppm were found effective for increase production in okra.

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<td>Dr. V. N. Kore</td>
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<td>Thesis Title &amp; Abstract</td>
<td>Effect of graded doses of fertilizers and polythene mulch on growth, flowering, yield and quality of</td>
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Marigold Tagetes erecta (L.) Var. Pusa Nrnagi gainda under Konkan agro climatic condition

A field experiment was conducted during rabi season of 2002-03 on ASPEE Agricultural Research and Development Foundation Met, Nave in Thane district (M.S.). From present investigation it can be concluded that the fertilizer doses significantly influence growth, flowering yield and quality of Marigold. Application of higher doses of fertilizers i.e. 300:150:150 kg NPK/ha resulted in respectively please higher plant spread, no. of branches, no. of hs, leaf area index and dry matter production. Flowering characters/ha were also significantly improved with application of higher fertilizer dose. Application of polythene resulted in enhanced vegetative growth, accelerated flowering, quality and yield of flower was also increased. Black polythene mulch proved to be best. Interaction of higher dose of fertilizer 300:150:150 kg/ha and black polythene mulching was superior in terms of growth, flowering, yield and net returns/ha. Vase life of flowers could be extended c preservatives AgNo3 (30ppm) + sucrose (4%). Marigold cultivar Pusa narangi gainda can be successfully grown under Konkan agro-climatic application of higher fertilizer dose and black polythene mulching.

161 Name of the candidate : Geeta Pundalik Raorane
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co guide : Dr. A. G. Desai
5 Thesis Title & Abstract : Studies on Growth, Flowering, Fruiting and some aspect of harvest handling of kokum (Garcinia indica choisy)

From the present investigation it could be concluded that among the different kokum genotypes, studied, the KK-27, KK-76, KK-122, KK-149, KK-157 & KK- 196 are found to be superior genotypes. Among them the KK-122 was found to be best due to earliness, better physico-chemical
parameters, moderate yield & less canopy volume. The change in fruit colour can be considered as the reliable visual index of maturity in kokum. The fruit weight, length, breadth, specific gravity can be considered as the physical indices of moisture, T.S.S, sugars, ascorbic acid & terrible acidity can be considered as the chemical indices of maturity.

The CFB boxes with the paddy straw as the cushioning material was the best packaging material for packing & the transportation of kokum fruits.

The kokum fruits treated with waxol 0-12% & stored in cold storage recorded the maximum shelf life (28 days) followed by their storage in cool chamber & at ambient temperature conditions. The products like R.T.S, sauash, syrup, rind powder, preserves, chutny, Jam, churna, Pachak, burfi could be successfully prepared from kukum fruits & the products such as R.T.S, squash, syrup, Jam, Preserve, Chutny could be successfully stored at ambient temperature condition.

162 Name of the candidate : Bhokare S. S.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co guide : Dr. S. A. Ranpise

A field experiment was conducted during kharif season of 2002-03 in RBD C four treatments and five replications.

The present investigation reveal that the bower Kuiffin training systems were relatively good in their growth, branching habit, minimum diseases and pest incidence and more economical with recording yield of 78.25 and 68.93q/ha. As far as yield is concerned Kuiffin training systems yielded outstanding fruits were long, medium long and dark green coloured having good acceptance among the
consumers. Diseases and fruit fly incidence was less in Bower and Kuiffin system.

Brower training system was superior to all the treatments due to vigorous vine growth, more us/vine, max leaf area/plant. The marketable fruit produce in Kuaffin and bower system was clear, tender, long, most attractive dark green in colour. The bower training system was observed to be stronger, durable and pest and diseases were minimum. It was also economically viable as it had given highest return/rupee inverted in its installation.

163 Name of the candidate : Mr. Shivaji Dhanraj Gaikwad
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co guide :
5 Thesis Title & Abstract : Flowering and fruiting in kokum (Garcinia indica choisy)

The present investigation was undertaken at the department of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli Dist. Ratnagiri in Kokum plot No. 32. Out of 285 trees studied, 141 trees were female, 133 trees were male and 11 trees were bisexual.

From present investigation it can be concluded that kokum is dioecious plant, however sex variability was noticed, male, female and bisexual flowers were found in komum. Eleven flower types have been recognized. However, the stamen number varied in all types of flowers. The maximum number of flowers per shoot was found in the month of November in all the 3 types, similarly the maximum% flowering was noticed in this month. Female flower completed its development within 44.04 days from initiation to anthesis while male and bisexual flower tood 42.2 and 41.88 days respectively. In pollination wind play important role in kokum. The maximum germinating on pollen was found in 15% sucrose solution and in 10 ppm boric acid. Stigma remains receptive after six days of
anthesis. The maximum fruit set was found by hand pollination.

164 Name of the candidate : Ms. Sumant Vilas Kelaskar.
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co guide :
5 Thesis Title & Abstract : Growth, flowering, yield and quality of chilli (Capsicum annum L.) var. Konkan Kirti as affected by different levels of growth regulators.

The present investigation was undertaken at the department of Horticulture, College of Agriculture, Dapoli Dist. Ratnagiri Ten treatments was given by foliar sprays i.e. control, NAA (10,20,30ppm), IAA (10,20 & 30ppm) and triacontanol (2, 4 & ppm).

The maximum values of all the parameters were observed at all the growth regulators over control. Among all the growth regulator treatments at various concentrations under study, the maximum values of yield contributing characters yield per ha. (11.514 t/ha) and fruit quality were observed at triacontanol 4 ppm, which superior significantly over all other treatments.

165 Name of the candidate : Mr. Shigwan Kiran Yashwant
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co guide :
5 Thesis Title & Abstract : Flowering, pollination and fruiting in nutmeg (Myristica fragrans Houtt)

The present study was carried out at the
From studies conducted at the Department of Horticulture, 1 male, 35 female and 24 hermaphrodite types were found in a population of 60 nutmeg plants. Maximum number of flowers completed its development within 43.19 days the time of initiation to anthesis while female and hermaphrodite required 44.58 days respectively. Maximum anthesis recorded between 4 to 5 p.m. and 3 to 4 a.m. in all the 3 seasons. Dehiscence occurred 2 days before anthesis.

Wind did not play much role in pollination. Maximum pollination germination was found in 5% sucrose solution (81.30%) and 55 sucrose solution supplied within 70 ppm boric acid (96.45%). Maximum pollen fertility (95.00%) was observed when pollen grains were fresh. Peak stigma receptivity observed on 3rd days after anthesis and stigma remained receptive upto six days after anthersis. Maximum fruit set was found in the month of November under open pollinated conditions in both the types viz., females (54.66%) and hermaphrodite (60.76%).

There was no fruit drop occurred fifth month after fruit set. The peak season of harvest was found to be in the month of September. The total production per ha. Was 316.19 kg of dried nut and 35.25 kg of dried mace.
Summer Pearl, Summer Sunshine, American Beauty and Chipper.

From the present studied it could be concluded that among six American gladiolus varieties studied, ‘Summer Sunshine’ recorded maximum vegetative growth and better flowering attributes i.e. number of leaves, leaf breadth. Leaf length, leaf area and leaf area index, dry matter of leaves and spikes, size of florets, florets per spike, longevity of spikes in field and vase life, more number of cormels and cost benefit ratio 1:71).

Further, the variety ‘Chipper’ recorded maximum plant height, larger corm size, corm weight and maximum net returns (Rs. 955618 per ha).

The variety American Beauty recorded maximum number of spikes per corm and per plot, maximum number of corms per corm and higher vase life.

Vase life of gladiolus spikes was found to be extended with the chemical preservatives solution containing 8 HQ 400 ppm + Sucrose 4% as compared to control by 1.35 days.

167 Name of the candidate : Mr. Neville Francis Fernandes

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2003

4 Name of the guide/Co guide : Dr. A. D. Rangwala


The present study was carried out at the Department of Horticulture, College of Agriculture, Dapoli to determine the optimum spacing and triacontanol concentration, which would maximize the yield and improve the quality of flowers. Three spacing (30 x 10 cm, 30 x 20 cm and 30 x 30 cm) and four levels of triacontanol (0,2,4, and 6 ppm) were tried.

The spacing of 30 x 30 cm registered significantly maximum height of the plant (77.98 cm),
leaf production per plant (39.41), plant spread (33.46 cm) and leaf area (1197.38 cm$^2$). Among the different concentration of triacontanol tried, 6 ppm triacontanol registered significantly maximum plant height (82.07 cm), leaf production per plant (40.93) and leaf area (1244.93 cm$^2$).

Significantly earlier flowering was recorded at a spacing of 30 x 30 cm (89.33 days) and other flowering parameters such as number of florets per spike (28.73), length of the flower (6.54 cm), diameter of the flower (0.69 cm) and fresh weight of the flower (1.225 g) were significantly of flowering (84.82 days), duration of flowering (40.55 days) spike length (82.5 cm) and number of florets per spike (31.66).

Flower yield per plant (35.28 g) was increased at a spacing of 30 x 30 cm, while significant increase in the yield flowers per 11.15 kg) and per hectare (53.27 g) were recorded at 30 x 10 cm spacing. Triacontanol at 6 ppm produced significantly maximum yield of flowers per plot (1.251 kg) and per hectare (57.94 g), the spacing of 30 x 30 cm recorded significantly higher yield of bulbleks per plant (9.13).

The vase life of tuberose spikes can be effectively enhanced by using a holding solution containing 50 ppm aluminum sulphate.

168 Name of the candidate : Mr. D. C. Vaishampayan Fernandes

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2003

4 Name of the guide/Co-guide : Dr. G. D. Joshi

5 Thesis Title & Abstract : Studies on effect of fertilizers, growth, regulators, and pruning on growth, yield and quality of drumstick (Moringa oleifera Lam.) var. PKM-1.

The present investigation were carried out to study the effect of fertilizers, growth regulators and pruning on growth, yield and quality of annual Moringa (Moringa oleifera Lam.) var. PKM-1 during June 2000 to May 2001 (Main crop) and June 2001 to May 2002 (Reetoon crop) at the Horticulture nursery, College of Agriculture, Dapoli, Dist. Ratnagiri
By considering all the results obtained with present investigation, it can be inferred that fertilizer dose of 150L75:75g NPK/plant/year proved to be optimum with reference to all growth, yield and quality parameters. It is also important to note that application of excess dose of fertilizer (200:125:125 gNPK/plant/hear) is determinate for growth, yield and quality of drumstick.

Among different chemicals tried, triacontanlo was found superior followed by Biozyme (10ppm) and GA3 (20ppm) whereas pruning at height 50 cm performed excellently. It short, it can be recommended that drumstick should be fertilized with a dose of 150:75:75 g NPK/planting coupled with folira sprays (5 times) of triacontanlo (5 ppm) or Biozyme (10ppm) or GA3 (20ppm) and pruning the plant at 50 cm height which proved to be the best package for excellent yield performance of drumstick with quality fruits.

169 Name of the candidate : Miss. Jyoti Vinayak V. Jadhav
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co-guide : Dr. S. A. Ranpise
5 Thesis Title & Abstract : Studies on effect of cutting on leaf yield, quality of leaves processing and seed yield of Indian spinach (Bita vulgaris L.)

Finally it could be concluded that the maximum vegetative growth i.e. plant height, no. of leaves, length of petiole and leaf area per plant was obtained with treatment control cutting (C0) in value (V2) Pusa Jyoti. While maximum green yield was obtained from three cutting treatment in variety Pusa Jyoti as compared with variety All green. In case of quality parameters, maximum moisture percentage and vitamin ‘C’ content was recorded by variety Pusa Jyoti at third cutting than variety all green. In case of processing of palak concluded that all palak products were acceptable with acceptable average score.
Name of the candidate  : Mr. G. D. Joshi

Degree for which the thesis/project report submitted : M. Sc. (Agri.)

Year of submission : 2003

Name of the guide/Co-guide : Dr. G. D. Joshi

Thesis Title & Abstract : Effect of corm size and date of planting on growth, flower spikes, corm and cormel yield in gladiolus (Gladiolus gradiflorus L.)

A research project was conducted at the research cum experiment farm department of Horticulture, College of Agriculture, Dapoli, Dist. Ratnagiri.

Vegetative and reproductive phase of gladiolus was highly correlated with corm size used in planting. Large sized corms i.e. above 5.0 cm diameters attain luxuriant vegetative growth in terms of plant height in of leaves leaf length of leaf breadth leaf area of leaf index helped in early initiation of spikes large size showed early flowering also spike yield increased.

Planting at 15\textsuperscript{th} October was superior interaction of corm size above 5 cm diameter and planting 15\textsuperscript{th} October was found superior a net production is (Rs. 13,34,101/ha as well as more Benefit : cost ratio (1:81).

Vase life of spikes extended to 5% sucrose which is in preservative.

Name of the candidate  : Ujwal Ajabrao Raut

Degree for which the thesis/project report submitted : M. Sc. (Agri.)

Year of submission : 2005

Name of the guide/Co-guide : Dr. G. D. Joshi

Thesis Title & Abstract : Studies on Molecular Markers to test Genetic variability amongst Cashew

In consonance with the aims & objectives of the present studies on molecular marker to test
genetic variability amongst cashew, varieties, was carried out at Department of Horticulture, Dr. B. S. Konkan Krishi Vidyapeeth, Dapoli & Biotechnology center, Molecular Biology Laboratory Dr. B. S. Konkan Krishi Vidyapeeth, Dapoli Vengurle during the year 2002-05.

The range from 0.51-0.94 indicating large polymorphism at DNA level. The average similarity coefficient about 0.72. It absence due to inter varietal crossing of cashew genotype of hybrid with some common parental line.

In present investigation studying the genetic variability of cashew hybrids the primer showed the level of polymorphism detected in the present study is quite high using PCR approach. Thus, RAPD primer use full for evaluating genetic variability because they are easier to detect than non-PCR based marker.

172 Name of the candidate : Shri. Kiran Pandharinath Dhanawate
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2007
4 Name of the guide/Co guide : Dr. V. N. Kore,


A field experiment regarding ‘studies on growth, yield & quality of bitter gourd (Momordica charantia L.) Cultivars under Konkan condition was conducted during kharif season of the year 1999-2000. The experiment was laid out in randomized block design with ten treatment and three replications.

From the results obtained it can be concluded that the cultivars MC – 84, Prethi, Konkan Tara, PBIG-I. Hirkani and DVBTG -1 were relatively good in their growth and tillering habit and produced yield of 78.66, 66.18, 54.92, 51 & 53.18 quintals per ha respectively.

By considering these Konkan Tara was found to be the best cultivar and could be recommended for
The present research project was an attempt to study the physicochemical composition, methods of juice extraction, preparation and evaluation of unfermented beverages of jamun and karonda fruits. The beverages were also analysed for the changes in chemical composition as well as organoleptic quality during storage of 6 months. Among the different extraction methods employed, the water blanching + hand crushing method of juice extraction recorded the highest (42.00, 40.90 per cent) juice recovery in jamun and karonda, respectively. The chemical analysis with respect to T.S.S., reducing sugar, total sugar, titratable acidity and pH of different beverages of jamun and karonda was carried out during storage. The various juice extraction methods had pronounced effect on the chemical composition of beverages of jamun and karonda fruits during storage. The highest T.S.S., reducing sugar, total sugar and titratable acidity in jamun juice and jamun R.T.S. (excluding T.S.S.) was recorded in the juice extraction method without blanching whereas the water blanching and hand crushing method of juice extraction exhibited maximum T.S.S. in jamun R.T.S. and squash. The highest T.S.S., reducing sugar, total sugar and titratable acidity was observed in karonda juice, R.T.S. and squash, wherein juice was extracted by hydraulic press. The treatment i.e. juice extraction without blanching + juice and 75 °B sugar syrup in the proportion of 1 : 5 recorded the highest T.S.S. in jamun syrup, whereas the osmotic method recorded the highest T.S.S., reducing sugar, total sugar and pH in the karonda syrup. As regards the organoleptic
evaluation, the different beverages such as juice, RTS, squash and syrup were organoleptically acceptable throughout the storage period of 6 months. Among the various methods of juice extraction, the treatment, steam blanching for jamun juice, RTS and squash and the hydraulic press extraction method for karonda juice, RTS and squash were found to be better with respect to the organoleptic qualities, respectively. The osmotic method of syrup preparation was found to be superior among the various treatments under study with respect to sensory qualities such as colour and flavour of both jamun and karonda syrup.

174 Name of the candidate : Miss. Ruta Ramesh Sali

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2007

4 Name of the guide/Co guide : Dr. V.N. Kore

5 Thesis Title & Abstract : Performance of some gladiolus varieties under North Konkan agro-climatic conditions

The present investigation was undertaken to evaluate the performance of some gladiolus varieties under North Konkan agro-climatic conditions at the Tansa Farm, ASPEE Agricultural Research and Development Foundation, Tal. Wada, Dist. Thane during the year 2006-2007. The experiment was laid out in Randomized Block Design with ten treatments and three replications. The treatments were ten gladiolus varieties viz. Jester, Red Ginger, White Prosperity, Summer Sunshine, Apollos, American Beauty, Thumbelina, Red Beauty, Candyman and Puppy Tears. Additionally, study on vase life of ten varieties of gladiolus was carried with different preservative solutions to find out the best preservative solution. This experiment was laid out in Factorial Randomized Block Design with two factors and three replications. The two factors were (I) above mentioned ten gladiolus varieties and (II) Preservative solutions viz. Sucrose (5%), Sucrose (7.5%), 8-HQC (200 ppm), 8-HQC (300 ppm), AgNO3 (2000 ppm), AgNO3 (3000 ppm) and control
(distilled water).

The results revealed that the variety ‘Red Ginger’ took significantly less days (5.67) for 50 per cent sprouting than rest of the varieties. The variety ‘Apollos’ registered significantly maximum plant height (145.00 cm) while significantly maximum number of leaves (16.9) was recorded by the variety ‘American Beauty’. The variety ‘White Prosperity’ registered significantly maximum leaf area per plant (1174.88 cm²) and leaf area index (1.96). Significantly maximum dry matter production of leaves (12.80 g) was recorded in the variety ‘Jester’ while the variety ‘Apollos’ recorded significantly maximum dry matter production of spikes (8.30 g).

The variety ‘Thumbelina’ required significantly fewer days for commencement of flowering (56.67) and 50 per cent flowering (61.00). Significantly maximum spike length was registered by the variety ‘Apollos’ (102.30 cm). The variety ‘White Prosperity’ produced maximum florets per spike (15.67) and floret size (12.56 cm). Number of florets open per day was significantly minimum (1.27) in the variety ‘Red Beauty’. Significantly maximum longevity of spike in the field (22.67 days) and vase life (14.3 days) was recorded by the variety ‘Summer Sunshine’.

The variety ‘American Beauty’ produced significantly maximum number of spikes per plant (2.8), spikes per plot (74.7) and corms per corm (2.87). The variety ‘Thumbelina’ recorded significantly maximum size of corm (7.14 cm), number of cormels (83.07), size of cormel (0.94 cm) and yield of cormels per hectare (8384.42 kg). The variety ‘Apollos’ produced the corms of significantly maximum weight (84.3 g). The variety ‘American Beauty’ recorded significantly maximum yield of corms per hectare (37832.26 kg) over all other varieties under study. The variety ‘Summer Sunshine’ produced significantly maximum weight of cormels (0.75 g).

All the varieties had attractive floret colour and structure was open faced. The varieties ‘Jester’, ‘Candyman’ and ‘Puppy Tears’ had formal and slightly sparse floret placement. However, the remaining varieties had formal and compact floret placement. The varieties ‘Red Ginger’, ‘Apollos’, ‘White Prosperity’ and ‘Red Beauty’ had plain tepal structure while the remaining varieties had slightly
ruffled tepal structure. No variety had fragrance. The highest net returns (Rs. 876518.8/ha.) was recorded by the variety ‘Red Beauty’ while highest B:C ratio was observed in the variety ‘American Beauty’ (1.82). Irrespective of the varieties, the vase life was found significantly maximum (14.37 days) in 3000pprn Silver nitrate solution and irrespective of the chemicals used, significantly maximum vase life (15.62 days) was observed in the variety ‘White Prosperity’.

From these studies it could be inferred that gladiolus varieties ‘American Beauty’‘White Prosperity’ Thumbelina’ and ‘Red Beauty’ can be grown successfully under the North Konkan agro-climatic conditions and hence can be recommended on ad-hoc basis for cultivation.

175 Name of the candidate : Miss. Sareeta Balkrishna Belanekar
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2007
4 Name of the guide/Co guide : Shri. H. R. Nadkarni
5 Thesis Title & Abstract : In vitro culture studies in Gladiolus (Gladiolus grandflorus L.)

Gladiolus, (Gladiolus grandflorus L.) is one of the most important cut flower in many parts of the world and gaining more popularity because of its beauty and vase life. It is commercially propagated by cormels or corms but clonal multiplication through asexual propagation is very slow and it takes 8-10 years to produce a clone which is large enough for commercial purpose. Hence present project entitled, “In vitro culture studies in gladiolus (Gladiolus grandijiorus L),” was carried out at ‘Plant Biotechnology Unit’ and Department of Horticulture, College of Agriculture, Dapoli. The present work was carried out mainly with the objective of standardizing the various experiments regarding selection of explants, sterilizing agents, nutrient media with different PGR’s for shoot regeneration multiplication and root regeneration etc. for establishment of gladiolus cv. White Friendship in
Out of three explants i.e. axillary buds, leaf tissues and nodal explants axillary buds showed best establishment (82.86%) and proliferation (61.43%) as compared to others. Surface sterilization of explant with treatment of dipping in 70 per cent ethyl alcohol for 5 seconds followed by 0.2 per cent HgCl2 treatment for 7 minutes gave maximum established cultures (76.67%) and maximum number of proliferating cultures also (73.33%).

Maximum establishment of axillary buds of gladiolus cv. ‘White Friendship’ was observed on MS medium supplemented with 3.0 mg/l BAP (76.66) and the number of days required for sprouting by axillary buds were significantly minimum (10.67 days) when axillary buds were inoculated on the same medium as above. Per cent proliferating cultures were maximum on MS medium supplemented with 3.0 mg/l BAP (57.50) and maximum number of axillary buds (3.33) produced on the same medium. For rooting MS medium of half strength supplemented with 1.0 mg/l IBA and 3.0 g/l A.C. gave maximum number of roots (8.75) and growth of roots in terms of length was maximum on same medium. Growth in terms of thickness was better on half strength MS medium supplemented with 1.0 mg/l NAA.

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<td>Name of the guide/Co guide</td>
<td>Prof. R. N. Nawale,</td>
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<td>5</td>
<td>Thesis Title &amp; Abstract</td>
<td>Effect of mulches and spacings on the growth, flowering, yield and quality of paprika (Capsicum annuum var. longum). An investigation was undertaken to study the effect of mulches and spacings on the growth, flowering, yield and quality of paprika (Capsicum annuum var. longum) var. KT-PL-19 at ASPEE Agricultural Research and Development Foundation, Met-Nare, Tal. Wada in Thane district. The experiment was laid out in Split plot design with two</td>
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factors viz., mulches and spacing levels. The different mulches used under the investigation were, Mo — Control (No Mulch), M1 Organic mulch, M2 — Transparent polythene mulch, M3 — Black polythene mulch and M4 — Red polythene mulch, while the spacing levels were, Si — Closer spacing (60 x 30 cm), S2 — Medium spacing (60 x 45 cm), S3 — Wider spacing (60 x 60 cm).

The results revealed that application of black polythene mulch resulted in significantly maximum plant height (83.63 cm), number of branches per plant (40.31), number of leaves per plant (212.20), leaf area (4660.00 cm²), leaf area index (1.82), stern thickness (1.38 cm) and plant spread (53.55 cm), early flowering (34.78 days), early 50 per cent flowering (41.44 days), number of flowers per plant (125.07), fruit set (41.73 per cent), early harvest (55.78 days), duration of harvest (54.22 days), number of fruits per plant (41.38), yield per plant (868.63 g), yield per hectare (31.02 tonnes), harvest index (56.62), fruit length (14.05 cm), fruit diameter (3.28 cm), fruit weight (22.44 g), TSS of fruit (7.40°Brix) and ascorbic acid content of fruit (117.75 mg/100 g). The minimum capsaicin content of fruit (0.0021 g/100 g) was noticed under the red polythene mulch. The maximum soil moisture content and minimum weed count was observed under black polythene mulch at all the stages of crop growth.

The closer spacing of 60 x 30 cm recorded the significantly maximum maximum plant height (76.92 cm) and leaf area index (1.18), early flowering (38.20 days), early 50 per cent flowering (44.27 days), minimum fruit drop (15.53 per cent), earlier harvest (58.87 days), duration of harvest (51.13 days), yield per hectare (19.19 tonnes), harvest index (51.51) and minimum weed count followed by medium spacing of 60 x 45 cm which recorded better quality of fruits than the closer spacing. The wider spacing of 60 x 60 cm recorded significantly maximum number of branches per plant (30.16), number of leaves per plant (153.90), leaf area (2894.40 cm²), stem thickness (1.19 cm), plant spread (45.99 cm), number of flowers per plant (93.65), fruit set (40.06 per cent), number of fruits per plant (30.60), yield of fruits per plant (608.35 g), fruit length (12.01 cm), fruit diameter (2.91 cm), fruit weight (19.86 g), TSS (6.74°Brix) and ascorbic acid content (111.34 mg/100 g) followed by
medium spacing of 60 x 45 cm. However the yield was significantly higher in medium spacing compared to wider spacing. Among the different interactions, the interaction of black polythene mulch and closer spacing (M3Si) recorded significantly maximum yield per hectare (35.70 tonnes) which was at par with the interaction of black polythene mulch and medium spacing (M3S2) (31.56 tonnes). The interaction of black polythene mulch and medium spacing (M3S2) recorded maximum fruit length (13.69 cm), fruit diameter (3.25 cm), fruit weight (21.98 g), TSS (7.35°Brix) and ascorbic acid content (117.72 mg/100 g) compared to the interaction of black polythene mulch and closer spacing (M3S1).

The quality of produce was higher under the interaction of black polythene mulch and wider spacing (M3S3) than the interactions of black polythene mulch and medium spacing (M3S2) and black polythene mulch and closer spacing (M3Si), however the yield per hectare was significantly low. Considering higher yield and better quality of fruits, the combination of black polythene mulch and medium spacing appeared to be suitable for paprika production under agro-climatic conditions of Konkan region.

177 Name of the candidate : Mr. Amar Anandrao Teli
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2007-2008
4 Name of the guide/Co guide : Dr. (Smt.) R. S. Patil
5 Thesis Title & Abstract : Studies on blending, carbonation and storage of the fruit based beverages.

Importance of fruits and vegetables in both fresh as well as processed forms in human diet is well known. They provide essential body building elements to human. In India most of fruit and vegetable production goes waste due to post harvest losses (Anon, 2004). Therefore to avoid post harvest losses of fruits, preparation of value added products like syrup, squash, RTS and carbonated RTS have
great demand in future.

Kokum (Garcinia indica Choicy), Lime (Citrus aurantiifolia Choicy L.) and pineapple (Ananas comosus (L.) Merr) are the fruits with high production and with high medicinal and nutritional value. They are rich source of vitamins and minerals. If desirable characters of these fruits combined, it will from good beverage with high nutritional quality. Blending of fruit juice is one of the new emerging trend in processing industry and gaining popularity in soft drink consumers. Therefore keeping this view, the present investigation studies on blending, carbonation and storage of the fruit based beverages was carried out to study blending and changes in chemical composition during storage of blended beverages.

From present investigation it found that, in Kokum blended RTS beverage, the blend T2 (Kokum 1.00 + Lime 0.25 + Pineapple 0.25) found best. In Lime blended RTS, the blend T10 (Lime 1.00 + Kokum 0.50 + Pineapple 0.50) found superior among all Lime blends. In Pineapple blend RTS, the blend T11 (Pineapple 1.00 + Lime 0.00 + Kokum 0.00) found that best combination according to organoleptic evaluation.

In blended squash of Kokum Lime and Pineapple the blend T2 (Kokum 1.00 + Lime 0.25 + Pineapple 0.25) found superior blend in Kokum blend squash in Lime blend squash the blend T10 (Lime 1.00 + Kokum 0.50 + Pineapple 0.25) found best. In pineapple blend squash, the blend T12 (Pineapple 1.00 + Lime 0.25 + Kokum 0.25) found best blend according to organoleptic score.

In blended syrups of Kokum blend, the blend T3 (Kokum 1.00 + Lime 0.25 + Pineapple 0.50) found best blend. In Lime blend syrups, the blend T9 (Lime 1.00 + Kokum 0.50 Pineapple 0.25) found superior. In Pineapple blend syrup the blend T11 (Pineapple 1.00 + Lime 0.00 + Kokum 0.00) found superior blend according to organoleptic score.

In carbonated RTS beverages of Kokum blend, the blend T1 (Kokum 1.00 + Lime 0.00 + Pineapple 0.00) found best combination. In Lime blend carbonated RTS, the blend T7 (Lime 1.00 + Kokum 0.25 + Pineapple 0.25) found best blend. In Pineapple blend carbonated RTS, the blend T1 (Pineapple 1.00 + Lime 0.00 + Kokum 0.00) found best blend among
all Pineapple blend carbonated RTS beverage.

All blended beverages of Kokum, Lime and Pineapple were acceptable during 6 month storage period. During storage TSS, pH, reducing and total sugars increased while acidity and ascorbic acid content decreased during storage. Overall sensory qualities of all blends decreased during 6 month storage.

Name of the candidate : Mr. Sandip Pandurang Yelve

Degree for which the thesis/project report submitted : M. Sc. (Agri.)

Year of submission : 2008

Name of the guide/Co-guide : Dr. P. M. Haldankar

Thesis Title & Abstract : “Studies on post flowering exogenous application of nutrients on yield and quality of banana (Musa paradisica L.) cv. Grand naine”.

The investigation entitled “Studies on post flowering exogenous application of nutrients on yield and quality of banana (Musa paradisica L.) cv. Grand naine” was undertaken in Randomized Block Design with 15 treatments viz., $T_1$ – 0.5% KNO$_3$, $T_2$ – 1.0% KNO$_3$, $T_3$ – 1.5% KNO$_3$, $T_4$ – 0.5% Urea, $T_5$ – 1.0% urea, $T_6$ – 1.5% Urea, $T_7$ – 0.5% 19:19:19, $T_8$ – 1.0% 19:19:19, $T_9$ – 1.5% 19:19:19, $T_{10}$ – 0.5% 0:52:34, $T_{11}$ – 1.0% 0:52:34, $T_{12}$ – 1.5% 0:52:34, $T_{13}$ – Bunch feeding 5g A.S. + 2.5g SOP, $T_{14}$ – Bunch feeding 2.5g A.S. + 1.25g SOP and $T_{15}$ – control (no spray).

During the present investigation it was observed that, significantly lowest days were required for harvesting of banana fruits in $T_3$ (1.5% KNO$_3$) than in control and other treatments. However, the $T_9$ (1.5% 19:19:19) showed the most delayed harvesting.

Among the different treatments under study, significantly highest magnitudes of fruit bunch length (84.62 cm) by the $T_{13}$ (Bunch feeding 5g A.S.(2.5g SOP). The control (66.63 cm) showed lowest fruit bunch length. The total weight of bunch (27.83 kg/plant) and total number of fruits per bunch (142.67) found highest by the treatment of $T_3$ (1.5% KNO$_3$) over control and other treatments at
harvesting stage. The significantly highest total number of hands per bunch (9.00) by the treatment of T2 (1.0% KNO₃) over control and other treatments. T3 (1.5% KNO₃) recorded significantly highest length (29.10 cm), breadth (4.66 cm) circumference (14.63 cm), pulp weight (175.43g), peel weight (65.97g) fruit weight (223.43g) as compared to control and other treatments at every growth stage up to harvesting. The maximum pulp to peel ratio was observed in the T₁₀ (0.5% 0:52:34) and T₁₁ (1.0%0:52:34) as compared to rest of the treatments including control. T₄ (0.5% urea) recorded highest magnitudes of moisture (88.08 per cent). T₃ (1.5% KNO₃) recorded significantly highest TSS *21.13⁰ Brix), reducing sugar (6.85 per cent), non-reducing sugar (11.24 per cent), total sugar (18.09 per cent) and shelf life (9.50 days) as compared to control and rest of the treatments. However, lowest acidity (0.21 per cent) was observed in this treatment. The pH was maximum (5.47) by the treatment T₉ (1.5% 19:19:19) as compared to rest of the treatments including control.

179 Name of the candidate : Kothari Kalpesh Punamchand

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2008

4 Name of the guide/Co guide : Dr. K. H. Pujari

5 Thesis Title & Abstract : Studies on fruit development and post harvest handling of banana (Musa paradisica L.) cv. Grand Naine

The present investigation entitled “Studies on fruit development and post harvest handling of banana (Musa paradisica L.) cv. Grand Naine” was undertaken at educational research farm and P. G. laboratory, Department of Horticulture, College of Agriculture, Dapoli. During the course of investigation, the physico-chemical changes during fruit growth and development, effect of different concentration of ethrel on ripening and effect of packaging with growth regulators on banana cv. Grand Naine were studies.
In the experiment of physico-chemical changes during fruit growth and development, the fruit samples were taken at every 15 days of interval of fruit set and analyzed for physical characteristics as well as chemical properties up to the harvest stage and ripe stage.

In the experiment of effect of different concentration of ethrel, there were five treatments with four replications and experimental design was C.R.D. The treatment details: Ethrel @ 125 ppm (T1), Ethrel @ 250 ppm (T2), Ethrel @ 500 ppm (T3), Ethrel @ 750 ppm (T4), and control (T5).

180 Name of the candidate : Kothari Kalpesh Punamchand

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2008

4 Name of the guide/Co-guide : Dr. K.H. Pujari

5 Thesis Title & Abstract : Studies on fruit development and post harvest handling of banana (Musa paradisica L.) cv. Grand Name

The present investigation entitled “Studies on fruit development and post harvest handling of banana (Musa paradisica L.) cv. Grand Name” was undertaken at educational research farm and P.G. laboratory, Department of Horticulture, College of Agriculture, Dapoli. During the course of investigation, the physico-chemical changes during fruit growth and development, effect of different concentration of ethylene on ripening and effect of packaging with growth regulators on banana cv. Grand Name were studies. In the experiment of physico-chemical changes during fruit growth and development, the fruit samples were taken at every 15 days of interval of fruit set and analyzed for physical characteristics as well as chemical properties up to the harvest stage and ripe stage. In the experiment of effect of different concentration of ethylene, there were five treatments with four replications and experimental design was C.R.D. The treatment details: Ethylene 125 ppm (T1), Ethylene (T2), Ethylene @ 500 ppm (T3), Ethylene @ 750 ppm (T4), and control (T5).
(T4) and control (T5). In the experiment of effect of packaging with growth regulators, there were five main treatments viz. Polythene 100 gauge @ 1.5 % vent (T1), Polythene 200 gauge @ 1.5% vent (T2), Polythene 300 gauge @ 1.5% vent (T3), Polythene 400 gauge @ 1.5 % vent (T4) and Control (T5) and three sub treatments i.e. GA @ 150 ppm (S1), BA @ 50 ppm (S2) and control (S3) replicated thrice in F.R.B.D. design. For both the experiment of ethylene and packaging, the fruit were treated just after harvest and fruits were analyzed for chemical properties at harvest stage, 5th, 7th and 9th DAH.

From the results of the present investigation, revealed that, among all physico-chemical parameters studies viz, weight, volume, specific gravity, length, diameter, circumference, angularity, weight of pulp, weight of peel, ratio, moisture, T.S.S. acidity, ascorbic acid, reducing sugars and total sugars showed increasing trend upto harvest stage while in initial stage starch showed increasing upto 75 days after fruit set and thereafter is decreases upto ripe stage. In ethylene treated fruits of banana, Ethylene @ 250 (T2) showed early and uniform ripening than the other treatments and control. In the experiment of packaging with growth regulators, the polythene 200 gauge @ 1.5 % vent + GA @ 150 ppm (T2S1) treated fruits of banana could delay the ripening and increase their shelf life (10.67 days.) In both experiment of ethylene and packaging, during storage, T.S.S. pH, reducing and total sugars were increase till the end of storage period while moisture, acidity and ascorbic acid decreased continuously from begining of storage period.

181 Name of the candidate : Mr. Ashwin Arun Shelar
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2008
4 Name of the guide/Co guide : Dr. K. H. Pujari
5 Thesis Title & Abstract : Effect of plant bioregulators on fruit retention, yield and quality of fruits in Alphonso mango. Studies on the effect of plant bioregulators on
fruit retention, yield and quality of fruits in Alphonso mango was carried out at Department of Horticulture, College of Agriculture, Dapoli. (M.S.) in randomized block design with three replications and twelve treatments which comprises three levels of cytokinin and enzymes, CPPU, 1 per cent of water soluble fertilizers with each level of CPPU, water spray and control and were applied at three different stages of fruit growth (Pea, marble and egg stage). The maximum fruit retention at harvest was observed in trees which were sprayed with 3 per cent CPPU + 1 per cent WSF at pea + marble + egg stage followed by 2 per cent cytokinins and enzymes at pea + marble + egg stage which were significantly superior over rest treatments. However, numerically maximum yield of mango 100.57 kg/tree and 2.02 fruits/m³ was observed in treatment of foliar spray of 2 per cent cytokinins and enzymes at pea + marble + egg stage. The highest TSS was observed in foliar sprays of 1 per cent CPPU + 1 per cent WSF at pea + marble + egg stage and lowest acidity recorded foliar sprays of 1 per cent cytokinins and enzymes at three stages of fruit growth. The maximum ascorbic β carotene is registered in treatment of water sprays at three stage of fruit growth. Reducing sugar is found maximum in fruit of trees which received foliar spray of 1 per cent WSF at pea + marble + egg stage and in case of non-reducing sugar fruits who received foliar sprays of 2 per cent cytokinins and enzymes at three stage of fruit growth registered maximum percentage. No incidence of spongy tissue is observed in treatment of foliar spays of 3 per cent CPPU.

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<th>Dingankar Dhanashri Mohan</th>
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<td>5 Thesis Title &amp; Abstract</td>
<td>Effect of irrigation and fertilizer levels on growth, yield and quality of gerbera <em>(Gerbera jamesonii Bolus)</em></td>
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The present investigation was undertaken to study the effect of irrigation, fertilizers, and varieties on growth, yield, and quality of gerbera at the Department of Farm Structure, College of Agricultural Engineering and Technology, Dapoli. During the year 2007-2008. The experiment was laid out in a split plot design. The levels of irrigation and fertilizers were 0.4 PE (I₃, 0.6 PE (I₄), 0.8 PE (I₇) and 80% RD (F₁), 100% RD (F₂), 120% RD (F₃) respectively. The varieties with which the trial was conducted were Goliath (V₁), Savannah (V₂), and Dana Ellan (V₃). The observations were recorded from 90 DAP onwards.

The results of the present investigation revealed that the highest level of irrigation (I₃: 0.8 PE) gave significantly maximum pant height (33.97 cm), number of leaves (42.30), plant spread (62.31 cm), flower diameter (9.78 cm), stalk diameter (0.72 cm), vase life (10.06 days), number of flowers per plant (37.11), number of flowers per m² (218.98). The highest stalk length was recorded in I₃ during April, May, October, November, and December.

Among the fertilizer levels F₁ recorded significantly average maximum plant height (34.39), number of leaves (41.77), plant spread (62.33 cm), flower diameter (9.78), stalk diameter (0.72 cm), stalk length (57.28 cm), number of flowers per plant (36.30), number of flowers per m² (209.35).

The variety Savannah (V₂) recorded significantly average maximum plant height (34.98 cm), number of leaves (41.19), plant spread (63.87 cm), stalk length (58.03), number of flower per plant (36.37), number of flowers per m² (224.50). The variety Goliath recorded maximum flower diameter (9.54 cm), stalk diameter (0.73 cm). The maximum vase life was recorded in Dana Ellan (9.66 days). In general, the interaction effect of irrigation x fertilizer x variety was non-significant for vegetative and quality parameters but significant for number of flowers/ m². The maximum yield was recorded at I₁ F₃ V₃ (239.45/ m²). The minimum yield was recorded at I₁ F₃ V₃ (162.33/ m²).

Fertilizer use efficiency was significantly maximum at I₃ (0.231), F₁ (0.243) and V₂ (0.237). Among interactions, I₃ F₁ (0.263), I₃ V₂ (0.268), and F₁ V₂ (0.248), recorded significantly maximum FUE. Water use efficiency was significant maximum at I₁
(0.181), (0.385), V₂ (0.416) and I₁ V₂ (0.55), F₃ V₂ (0.44).

WUE and FUE were not significantly influenced by interaction irrigation x fertilizer x variety.

The highest net profit (Rs. 135755/-) and highest benefit cost ratio was obtained at T₂₀ (I₃ F₁ V₂).

The water requirement of gerbera at I₃ (0.8 PE) was 127.74 lit/plant/year. Fertilizer requirement of gerbera at F₁ was 178.5 + 472.5 + 210.00 g of NPK/m²/year.

From these studies it could be inferred that variety savannas gave maximum yield profit and high B : C ratio when irrigated at 0.8 PE and 80% recommended dose of fertilizers was applied.

183 Name of the candidate : Mr. Pardip Rajan Aundhakar

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2008

4 Name of the guide/Co guide : Dr. A. D. Rangwala


An investigation was undertaken to study the effect of nitrogen, (100, 200, 300 kg/ha) and potassium (150, 300 kg/ha) on growth, flowering, yield and quality of heliconia cv. Golden Torch. The experiment was conducted in as shade house under Hands on Training floriculture and Landscape Gardening project at faculty area, College of Agriculture, Dapoli, Dist: Ratnagiri (M.S.) during the year 2007-2008. The results revealed that nitrogen @ 300 kg/has (N₃) gave significantly maximum plant height (90.40 cm), plant spread (82.13 cm), no. of leaves per plant (7.83), leaf area (462.51 cm) leaf area index (0.27), no. of suckers per plant (5.33), fresh weight of plant (194.78 g), dry weight of plant (42.49 g), earliest flowering (158.67 days), 50 per cent flowering (279.67 days), length of flower stalk (101.80 cm), length of rachis (19.05 cm), yield per plot (42.49
flower), yield per hectare 988516.20 spikes), no. of flowers/stalk (3.63), fresh weight of spike (115.31 g), dry weight of spike (13.72 g), keeping quality of spike (39.50 days) and vase life (13.03 days) while maximum available nitrogen (341.96 kg/ha) potassium (286.34 kg/ha), and maximum uptake of nitrogen (160.17 kg/ha) and potassium (124.37 kg/ha) was registered with highest levels of nitrogen (N₃ 300 kg N/ha), while interaction between N and K was found to be non significant.

Similarly, application of potassium @ 300 kg K₂O/ha significantly improved plant height (82.08 cm), plant spread (76.78 cm), leaves production per plant (7.67), leaf area (416.71 cm²), leaf area index (0.25) suckers production per plant (5.07), fresh weight (176.96 g) and dry weight of plant (36.14 g). Further early flowering (163.33 day), 50 per cent (287.67 days), length of spike (96.46 cm), length of rachis (18.06 cm), yield per plot (37.58 spike), yield per hectare (782499.49 spike), no. of flowers/spike (3.51), fresh weight of spike (108.85 gm), dry weight of spike (12.87 g). However, maximum duration of flowering was observed with K₁ (100 kg K₂O/ka)

Further, significantly maximum keeping quality (38.06 day) and maximum vase life (10.72 days), the highest available potassium (404.39 kg/ha) and with respect to nitrogen level (371.84). The uptake on N and K were increased significantly due to application of higher dose of N (300 kg N ha⁻¹) and K (300 kg K₂O ha⁻¹). Commencement of flowering, yield / plot, yield per ha, were found non significant.

Therefore application of 300 kg N and 300 kg K + basal dose 100 kg P₂O₅ + 50t/ha FYM is suggested for increasing the flower yield and improve the flower quality of heliconia cv. Golden Torch under Konkan region on ad-hoc basis.

184 Name of the candidate : Ms. Utpala Umesh Ahire
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2009
4 Name of the guide/Co guide : Dr. P.M. Haldankar
Effect of desapping and disinfectants on the shelf life and quality of mango (Mangifera indica. L) Cv. Aiphonso under cold storage condition.

The investigation entitled “Effect of desapping and disinfectants on the shelf life and quality of mango (Mangifera indica. L) Cv. Aiphonso under cold storage condition” was undertaken in the Department of Horticulture, College of Agriculture, Dapoli during 2008-09. The Factorial randomized block design with 15 treatment viz., S1D1-Control, S1D2-0 cm Stalk length; Carbendazim 1%, S1D3-0 cm Stalk length; 50 ppm NaOC12, S1D4 —0 cm Stalk length; 100 ppm NaOC12, S1D5-0 cm Stalk length; 150 ppm NaOC12, S2D1-1cm Stalk length, 52D2-1cm Stalk length; Carbendazim 1%, S2D3-1cm Stalk length; 50 ppm NaOC12, S2D4-1cm Stalk length; 100 ppm NaOC12, S2D5-1cm Stalk length; 150 ppm NaOC12, S3D1-5 cm Stalk length, S3D2-5 cm Stalk length; Carbendazim 1%, S3D3-5 cm Stalk length; 50 ppm NaOC12, S3D4-5 cm Stalk length; 100 ppm NaOC12, S3D5-5 cm Stalk length; 150 ppm NaOC12.

The significantly lowest per cent of spoilage was recorded in 52D3 (10.8 % in SER and 23.5 % AN) than in control and other treatments. The treatment 53D1 (19.1 % SER and 44.6 % AN) showed highest per cent of spoilage, where as 52D3 reported delay in ripening by 30 % of unripe fruits at the end of shelf life while S 1D3 recorded less number of unripe fruits. The least PLW was recorded in S2D3 (6.16 %), while highest PLW was recorded in S1D1 (7.94 %).

Desapping and disinfectants did not show any incidence of spongy tissues at any concentration and stalk length, but higher concentrations of sodium hypochlorite (100 and 150 ppm) induced jelly seed. S1D1 (Control) recorded highest TSS (19.10 °Brix) whereas S3D4 recorded highest reducing Sugar (5.91 %), non-reducing sugar (10.01 %) and total sugar (15.92 %) as compared to control and the rest of the treatments.

The lowest acidity was recorded in treatment S1D2 and S2D3 (0.26 % each). The lowest ascorbic acid was recorded in S2D1 (45.89 mg/bOg). The pH was maximum in S2D4 (6.30) as compared to rest of the treatment including control. Stalk length at 1 cm along with disinfectants sodium hypochlorite at 50 ppm results in increasing the shelf life and quality.
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<td>Dr. Smt. R.S. Patil</td>
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<td>5</td>
<td>Thesis Title &amp; Abstract : Effect of foliar application of nutrients on fruit size, yield and quality of sapota and some aspects of processing</td>
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Studies on the effect of foliar application of nutrients on fruit size, yield and quality of sapota and some aspects of processing cv Kalipatti” was carried out at ASPEE (Agricultural Research and Development Foundation farm, Tal.Wada, Dist. Thane (M.S.) in factorial randomized block design with three replication and eleven treatments which comprises three levels of concentration of foliar grade fertilizer and time interval with extra treatments i.e. water spray and control were applied at initial fruit set. As per processing aspect is concerned it was carried out at completly randomized block design with six treatments and three replications during preparation of sapota powder and sapota candy. The result of present study indicated that, the treatment (C3T1) application of 1.5 percent concentration of foliar grade fertilizer at 30 days interval increases the yield (fruits/tree), length of fruit (cm), diameter of fruit (cm) and number of seeds. The maximum weight of fruit (g) was recorded in the treatment (C1) when tree receiving 0.5 percent concentration of foliar grade fertilizer. As per the quality parameter is concerned, the maximum TSS in sapota fruit was recorded in the treatment (C3T1) when tree receiving 1.5 percent concentration of foliar grade fertilizer at 30 days interval, where as maximum reducing and total sugar percentage was recorded in the treatment (C1T1) with the application of 0.5 percent concentration of foliar grade fertilizer at 30 days interval. The maximum non reducing sugar percentage was recorded in the treatment (C1T3) 1.0 percent concentration of foliar grade fertilizer at 90
days interval.

As per processing is concerned, the products prepared from sapota fruit i.e. sapota candy and sapota powder were organoleptically acceptable and can be stored well at ambient temperature up to 3 month storage period. When sapota candy was prepared from mature fruit, the treatment T4(O.05% ascorbic acid+500ppm KMS) showed maximum organoleptic score after three month storage period, and it also showed maximum total sugar percentage after storage. The treatment T2(0.4% citric acid+500ppm KMS) was the best treatment in respect of TSS.

When sapota powder was prepared from ripe fruit, the treatment T3(oven drying at 55°C with sulphuring) was the best treatment in respect of TSS, total sugar percentage and the product prepared from these treatment shows maximum organoleptic score after three month storage period.

186 Name of the candidate : Miss. Lalge Tejaswini Bhalchandra

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2010

4 Name of the guide/Co-guide : Dr. A. D. Rangwala


An investigation was undertaken to study the effect of nitrogen, (100, 200, 300 Kg/ha) and potassium (150, 300 Kg/ha) on growth, flowering, yield and quality of heliconia cv. Golden Torch. The experiment was conducted in shade house on the established plantation during second year crop (ratoon) under Floriculture and Landscape Gardening project, College of Agriculture, Dapoli, Dist. Ratnagiri (M.S.) during the year 2008-09. The results revealed that nitrogen © 300 Kg/ha (N3) gave significantly highest plant height (229.80 cm), number of leaves per plant (6.06), leaf area (667.88 cm2), leaf area index (0.41), number of suckers per plant (8.64), fresh weight of plant (301.68 g), dry
weight of plant (38.32 g), earliest flowering (186.16 days), 50 per cent flowering (261.66 days), length spike (217.62 cm), length of rachis (20.11 cm), yield per plot (82.86 spikes), yield per hectare (184970.32 spikes), No. of flowers/spike (4.95), fresh weight of spike (180.26 g), dry weight of spike (25.93 g), keeping quality of spike (40.67 days) and vase life (13.94 days). However significantly maximum duration (165.0 days) of flowering was observed with Ni (100 Kg N/ha). Further, maximum available nitrogen (277.95 Kg/ha), potassium (256.61 Kg/ha), and maximum uptake of nitrogen (139.53 Kg/ha) and potassium (104.52 Kg/ha) were found with highest level of nitrogen (N3 300 Kg/ha). All the interactions between N and K were found to be non significant for different characters under investigation. Similarly, application of potassium @ 300 Kg K20/ha significantly improved plant height (220.95 cm), leaves production per plant (5.33), leaf area (623.48 cm2), leaf area index (0.39), suckers production per plant (7.78), fresh weight (282.07 g) and dry weight of plant (35.64 g). Further, early flowering (198.00 day), 50 per cent flowering (283.66 days), length of spike (209.21 cm), length of rachis (19.60 cm), yield per plot (70.07 spike), yield per hectare (156398.86 spike), number of flowers/spike (4.68), fresh weight of spike (174.88 gm), dry weight of spike (23.58 g), maximum keeping quality (37.96 day) and maximum vase life (12.70 days) and highest available potassium (331.53 Kg/ha). However, maximum duration of flowering was observed with Ki (100 Kg K20/ha). The uptake of N and K were increased significantly due to application of higher dose of N (300 Kg/ha) and K20 (300Kg/ha). Commencement of flowering, yield/plot, yield per ha, were found non significant.

From economics point of view N3K2 was found beneficial as compared to rest of the treatments. The highest cost benefit ratio 4.06 were obtained with N3K2. In the vase life study significantly maximum vase life (23.34 days) of heliconia cv. Golden Torch was found with holding solution containing Sucrose (2.5%) + AgNO3 (100ppm). Based on above results, application of 300 Kg N and 300 Kg K20 + basal dose 100 Kg P205 + 1 Kg/plant FYM found better for increasing the flower yield and improve the flower quality and Sucrose (2.5%) + AgNO3 (100ppm)
increases vase life of heliconia cv. Golden Torch under shade house on adhoc basis.

187 Name of the candidate : Ms. Kalpana Kisan Sangale
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2010
4 Name of the guide/Co guide : Dr. P.C. Haldavnekar
5 Thesis Title & Abstract : Standardization of pretreatment and drying method for white onion (Allium cepa L.)

In Konkan region of Maharashtra, white onion is grown during rabi season after harvesting of paddy in some of the pockets of Raigad district. It is now commercial rabi season crop of the farmer fetching better price in the market as a salad crop. However, for value addition of white onion, the present investigation entitled Standardization of pretreatment and drying method for white onion (Allium cepa L.) was, therefore, undertaken with some specific treatments like pretreating the white onion slices by 2 per cent alum solution (T1), 2 per cent salt solution (T2), 0.25 per cent KMS solution (T3), 0.1 per cent KMS+2 per cent CaCl2 solution (T4) and control (T5) followed by 3 different drying methods viz, sun drying (M1), oven drying (M2) and solar drying (M3). Pretreated and dried white onion slices were stored in 400 guage polyethylene bag and stored for 6 months for further study.

Effect of pretreatments, drying methods and their interactions on nutritional quality of dried white onion for 6 months of storage period at 3 months interval was studied. Observations on the quality parameters such as TSS, acidity, ascorbic acid, Sugars (reducing, non reducing and total), protein, ash and rehydration ratio were recorded. The study revealed that, there was change in these quality parameters with respect to pretreatments, drying methods and their interactions. All the quality parameters decreased during storage except reducing and total sugars.

With regards to drying methods solar drying noticed better results for the retention of reducing and non
reducing sugars, protein and also showed better rehydration ratio and overall acceptability while considering colour, flavour and texture. It could be concluded that pretreatment T4 (0.1%KMS+2%CaCl2) was found better regarding retention of T.S.S., non reducing sugars, total sugars and ascorbic acid. Further oven dried samples showed better retention of T.S.S. and ash, while solar dried showed better retention of total sugars, ascorbic acid and protein. The sensory score was comparatively more in T3 (0.25%KMS) and T4 (0.1%KMS+2%CaCl2) pretreated and solar dried samples. With regards to interaction effects 0.25 per cent KMS pretreated samples followed by solar drying showed better results in most of the chemical parameters including sensory score. Thus, the pretreatment of 0.25 per cent KMS and combination of 0.1 per cent KMS+2 per cent CaCl2 followed by solar drying are found to be suitable for dehydration of white onion.

188 Name of the candidate : Mr. Brifen Luis Fernandes
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2010
4 Name of the guide/Co guide : Dr. G.D. Joshi
5 Thesis Title & Abstract : Effect of variety and pH on quality of cashew apple (Anacardium occidentale L.) wine.

An investigation was undertaken with an objective to evaluate different cashewnut varieties for quality attributes for wine making, to carry out fermentation study and to study effect of variety and pH on quality of wine. The study was carried out at the Department of Horticulture, college of Agriculture, Dapoli, during the year 2009-10. The experiment was laid out in FCRD with five cashewnut varieties viz., Vengurla 1, Vengurla 4, Vengurla 6, Vengurla 7 and Vengurla 8 and three pH levels viz., 3, 3.5 and 4 with two replications. The juice extracted from fully ripe cashew apple of above mentioned varieties. Observations on
chemical composition of juice for different parameters under study shown significant varietal difference. The juice contained 7 to 14 TSS (°B), 57 to 10.37 total sugar (%), 3.04 to 9.61 reducing sugar (%), 0.07 to 0.32 acidity (%), 3.96 to 4.45 pH, 90.24 to 199.08 ascorbic acid (mg/100ml), 0.121 to 0.151 tannin (%) and 0.262 to 0.490 protein (%). The juice of each variety was adjusted to 24 TSS (°B) and different pH levels (3, 3.5 and 4) and was supplemented with DAHP @ lg/l and KMS 50ppm. Must prepared was analysed chemically. The must contained 21.99 to 23 total sugar (%), 16.42 to 20.05 reducing sugar (%), 0.15 to 1.31 acidity (%), 77.20 to 199.92 ascorbic acid (mg/100ml), 0.103 to 0.140 tannin (%) and 0.315 to 0.5 protein(%). Then must were inoculated with 60 mm old culture of Saccharon’ii’ces cerevisiae var. Bayanus No. 8906 @ 0.30g/lt. The fermentation was carried out at room temperature. During fermentation TSS, acidity, pH and yeast count were studied on alternated days. The wines obtained were evaluated for chemical composition and organoleptic properties. These wines contained 7.2 to 9.2 TSS (°B), 0.54 to 2.88 total sugar (%), 0.48 to 2.56 reducing sugar (%), 0.39 to 1.45 acidity (%), 2.87 to 3.93 pH, 24.08 to 96.04 ascorbic acid (mg/1Oml). 0.075 to 0.145 tannin (%), 0.085 to 0.285 protein (%) and 8.90 to 12.16 alcohol (%). The scores (out of 20) for organoleptic properties of wine ranged from 13 to 17 for colour and appearance, 10 to 15 for body, 10 to 16 for aroma, 7 to 15 for taste, 7 to 14 for astringency, 8 to 15 for overall acceptability and 10 to 15 for overall quality. On the basis of sensory properties it may be concluded that Vengurla 6 variety gave better quality wine followed by Vengurla 1 and Vengurla 4, whereas wines from Vengurla 7 and Vengurla 8 scored very low. Among the pH levels, 3.5 pH shown better results. From the results obtained in the present investigation, it may be concluded that the Vengurla 6, Vengurla 1, Vengurla 4 and the pH level 3.5 are most suitable for cashew apple wine.
Survey for selection and evaluation of few elite types of jackfruit (Artocarpus heterophyllus Lam) in Dapoli Tahasil

A survey was carried out at Department of Horticulture, College of Agriculture, Dapoli, during the year 2008-2009 to identify the elite tree of jackfruits of firm flesh and soft flesh types. The trees were selected from farmer’s field by collecting the information of elite tree types from farmers, sarpanch and fruit dealers from Dapoli Tahasil. Some elite types were selected from the Rukhi block of CES, Wakaali.

The representative fruits samples were collected at mature stage for study. Fruits were analyzed for physical, chemical and sensory properties. Yield of tree and percent fruits harvested before monsoon was also recorded as monsoon rains ruin the quality of jackfruit.

Distribution of both the types of jackfruits in low, medium and high classes on the basis of TSS, Acidity, percent total sugars, Organoleptic score, Recovery percentage. Average weight of bulbs with seed, average weight of bulb revealed that in case of soft flesh jackfruit SEL-B-24 as found to be superior followed by SEL-B-8, SEL-B-14 and SEL-B-II. SEL-B-14 and SEL-B-24 were found to be good promising types due to its marketable characters such as more TSS, more average fruit weight and more number of bulbs per fruit which are important in processing point of view. The latex oozing from these types was low. Remaining selections showed medium performance during the study.

While in firm flesh jackfruit SEL-K-28, was found to be superior followed by SLL-K-13. SEL-K-25. SEL-K-28 was found to be superior to other types due to its attractive colour of bulbs, more edible part per fruit, and average size of fruit. The bulbs of this selection were low in acidity and were higher in percent sugar content. Due to these characters it was more acceptable to panel of experts for organoleptic evaluation.

A significant positive correlation between fruit
weight and other fruit characters such as Fruit length, fruit girth, weight of bulbs, and weight of seeds was observed in both the types of jackfruits. The work was undertaken as a survey work and results were based on one fruiting season. Hence are suggestive and not conclusive. Therefore, it will be essential to have comparative uniformity trials, before recommendation of any superior selection.

190 Name of the candidate : Ms. Mrinal Pradip More

2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)

3 Year of submission : 2010

4 Name of the guide/Co guide : Dr. C. D. Pawar

5 Thesis Title & Abstract : “Effect of T.S.S. and pH levels on quality of karonda (Carissa carandas L.) wine”

An investigation entitled “Effect of T.S.S. and pH levels on quality of karonda (Carissa carandas L.) wine” was carried out during the period 2009-10. For this study juice was extracted from ripe karonda fruits and analysed for chemical composition. The juice contained T.S.S., reducing sugars, total sugars, titratable acidity, pH, ascorbic acid, tannins and proteins as 16.5 °B, 5.72 per cent, 7.80 per cent, 0.63 per cent, 2.93, 8.10 mg/l 100 ml, 0.14 per cent and 0.36 per cent, respectively. From this juice, must was prepared by adjusting different levels of T.S.S. (20, 25, 30, 35 and 40 °B) and pH (3.0, 3.5 and 4.0) and analysed for chemical composition.

The prepared must was used for preparation of wine by fermentation with yeast culture. During fermentation the T.S.S., was found to be decreased and titratable acidity was increased. The pH increased in the pH levels P1 and P2 and decreased in pH level P3 at the end of fermentation. The yeast count increased rapidly up to the third day and later on it showed decreasing trend.

The prepared wine was analysed for chemical composition and sensory characteristics. From this study it was observed that standard quality wine can be prepared from ripe karonda fruit juice by adjusting the T.S.S. of must to 25 °B with 3.0 and 3.5 pH or by adjusting the T.S.S. of must of to 30 °B with
3.0, 3.5 and 4.0 pH. Among the treatments T2P2 (T.S.S. 25 °B and pH 3.5) was found to be the best followed by T3P2 (T.S.S. 30 °B and pH 3.5). For commercialization of wine further detailed studies are required as suggested in summary and conclusion.

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<td>Prof. R. N. Nawale</td>
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<td>Thesis Title &amp; Abstract</td>
<td>“Standardization of in vitro propagation of pineapple [Ancmas comosus (L.) Merr]”</td>
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Pineapple is one of the important tropical fruit getting commercial significance. It is self-incompatible, showing gametophytic incompatibility. It is self-sterile and fruit development is parthenocarpic. Therefore, it is not propagated by sexual method. Pineapple fruit cultivation, production and multiplication is entirely dependent upon vegetative means i.e. crowns, suckers and slips. The availability of suckers, slips and crowns on large scale as planting material and poor suckering habit of the commercial varieties like ‘Kew’ are the major problems in the pineapple planting and production. Hence, mass multiplication of propagation material is vital to bring new area under the pineapple cultivation. Micropropagation is an important tool in the acceleration of their introduction and the plants produced through tissue culture are true to type, uniform in growth, fruiting, quality and are free from diseases. Hence, micropropagation studies in Kew variety of pineapple were attempted to release standard protocol for in vitro clonal multiplication. Among the various parts tried as explants vegetative slips apical section showed better results. Surface sterilization with 0.1 per cent HgCh for 10 minutes, followed by 0.2 per cent Ridomil 15 minutes, reduced contamination rate considerably. MS medium was found better when supplemented with 1.5 ppm BAP
+ 0.5 ppm NAA and 2.0 ppm BAP + 0.25 NAA resulted in 80.53 per cent shoot establishment, and 7.10 numbers of shoots induction occurred. MS medium with 2 ppm IBA and MS medium with 1.5 ppm IBA + 0.5 ppm NAA resulted in 92.66 per cent rooting and 5.61 numbers of roots induction occurred. Among the different growth media, Soil + Sand + Vermicompost gave the maximum survival percentage with better plant vigour resulted as a suitable medium for hardening. With use of this protocol, disease free planting material of uniform size and age can be produced from small number of explants and varieties with desired qualities can be easily multiplied in required quantity and made available to the farming community. In vitro propagation of pineapple lays a firm foundation for its improvement involving biotechnological approaches.

192 Name of the candidate : Ms. Sharmishtha Prabhakar Shinde
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2010
4 Name of the guide/Co guide : Prof. H. R. Nadkarni

The investigation entitled, Studies on micropropagation technique for clonal multiplication of banana (Musa paradisica L.) Cv.Konkan Safed Veichi.” was undertaken in Completely Randomized Block Design with 3 replications. This experiment was carried out so as to optimize the culture media, sterilization procedure, culture conditions, shoot multiplication rate and to develop a strategy for large scale clonal propagation of banana Cv. Konkan Safed Veichi through shoot tip culture. During the present investigation it was observed that, among the different surface sterilizing treatments, the use of 0.1 % HgCl2 for 10 minutes was found to be optimum for surface sterilization as
contamination free and survivability of uncontaminated cultures obtained were 85.55 and 61.64 per cent, respectively. Differences among the different culture media combination studied showed that the maximum shoot multiplication rate was observed in the MS + 8 mg/l TDZ + 2 mg/l IAA + 150 mg/l Ads with highest 11.7 shoots per culture. Konkan Safed Velchi showed better response to root initiation in media supplemented with IBA as compared to NAA. The average number of roots was the highest in MS + 1 mg/l IBA, produced 8.05 roots per culture, while root induction occurred within 9-15 days. There was a wide range of variation for survival in pot culture. Highest survival per cent (60 %) was observed in potting mixture i.e. soil: sand: vermiculite (1:1:1).

193 Name of the candidate : Miss. Snehal Dronaji Mane
2 Degree for which the thesis/project report submitted : M. Sc. (Agri.)
3 Year of submission : 2010
4 Name of the guide/Co guide : Dr. P.C. Mali
5 Thesis Title & Abstract : ‘Studies on drying and utilization of Alu (Meyna laxiflora) fruit’.

An investigation was undertaken on ‘Studies on drying and utilization of Alu (Meyna laxiflora) fruit. The experiment was conducted at Department of Horticulture, College of Agriculture, Dapoli, Dist. Ratnagiri (M.S.) during the year 2009-10. Raw and ripe alu fruits was taken for physical and chemical analysis of mature green and ripe alii fruits.

The raw and ripe alii fruit pieces were dried by applying various salt concentrations treatments from 1 to 5 percent by using sun and oven drying methods. All the drying parameters such as drying rate, drying ratio, percent loss of moisture after 12 hrs, weight of fruit pieces after 12 hrs in raw and ripe alu fruit were evaluated. Among all the treatments the control showed best results. All the fruit pieces were stored for 6 months and sensory evaluation of the stored dried pieces were analysed immediately after preparation and after 2, 4 and 6 months of...
The pickle prepared from raw fruits, sun and oven dried pieces of all the treatments were stored for 6 months. The chemical analysis VIZ, T.S.S and acidity and sensory evaluation of the pickle was done immediately after preparation and after 2, 4 and 6 months of storage. During 6 months of storage the results showed that the T.S.S. and acidity of pickle slight increased during storage and organoleptic score increases up to 4 months of storage.

The jam and candy was prepared from fresh ripe fruits, most organoleptic acceptable treatments of sun and oven dried pieces. Initially the dried pieces were rehydrated and then jam and candy was prepared. The recipe was standardized using 680 Brix sugar, 1% acidity in jam and 700 Brix sugar in candy. A storage study of jam and candy was carried out for 6 months at ambient condition (temperature 25-30°C and 79% humidity). The chemical constituent and sensory evaluation of the stored jam and candy were analysed at 2, 4 and 6 months interval. During 6 months of storage of jam and candy showed that moisture percentage, T.S.S, sugar and pH content was slight increased during storage while the acidity, Ascorbic acid content was declined. The jam and candy prepared from fresh fruits showed higher organoleptic score than it prepared from sun and oven dried fruit pieces. It can be indicated that weight, volume, length, specific gravity, diameter, weight of fruit and seed, colour of the fruit can be considered as physical indices whereas, moisture, T.S.S., acidity, sugar, pH, and ascorbic acid could be considered as chemical indices of alu fruit (Meyna laxflora). As far as drying of fruits is concerned the fruits at mature green as well as ripe stage can be successfully sun dried as well as can be successfully dried in oven drier. The products (Pickle, Jam and Candy) prepared from raw and ripe fruits, sun and oven dried alu fruit pieces are organoleptically acceptable and can be stored well even after 6 months of storage at ambient temperature.
Variability studies in mango (Mangifera indica Linn.) for growth, flowering, yield and quality

The present investigation on “Variability studies in mango for growth, flowering, yield and quality” was carried out in the Department of Horticulture, College of Agriculture, Dapoli during 1998-2000. The result of the present investigation are summarized and conducted below.

From the present investigation it can be conducted that all the 15 cultivars under study showed remarkable variation with respect to growth, flowering, yield and quality. All the cultivars produced 3 to 4 vegetative flushes during the year. Reproductive flush was observed only once in season in almost all the varieties in December – January in Alphonso, Fernandin, Suvarnrekha, Neelum and Konkan Ruchi where two intermittent flowering flushes were recorded. Alphonso and Konkan Ruchi are acidic at harvest stage. Ratna, Mallika, Amrapalli, Sindhu, B'k Kolumban and Kesar fruits had highest TSS, Reducing sugar, total sugars and less acidity at ripe stage. Alphonso, Mallika and Konkan Ruchi had maximum shelf life (16 days) from overall chemical composition, the variety Alphonso was adjudged best with respect to sensory qualities followed by Ratna, Goamankur,
Black Kolumban Mallika and Sindhu. From the overall performance of varieties Sindhu was adjudged best genotype followed by Mallika, Amarpali, Black Kolumban and Ratna. Thus the information generated will be very useful for production of flowering, development of package of practices and for taking timely plant production measures to overcome abnormal behavior of the mango crop due to possible changes in weather parameters. The character like fruitset per panicle, fruit intension and panicle, number of humaphrodite flowers, period for panicle elongation period for first bloom and duration of flowering fruit weight, fruit volume and pulp weight indicated high estimate of hertibility genetic advance and correlation.

2 Name of the candidate : Prafulla Chandrakant Mali

2 Degree for which the thesis/project report submitted : Ph. D. (Agri.)

3 Year of submission : 2000

4 Name of the guide/Co-guide : Dr. A. G. Desai

5 Thesis Title & Abstract : Evaluation of coconut (cocos nucifera linn.) cultivars for tender nut water, storage and processing of tender nuts.

The experimental findings suggested that the cultivar ‘D x T’ followed by ‘T x D (4)’ & T x D (0)’ were found to have considerable amount of water, minerals & sugars & maximum acceptability. These cultivars were also found to have maximum values of desirable character from tender nut point of view so these cultivars should be given due to consideration for their exploitation for tender nut water in the region. The result also suggested that for obtaining adequate amount of nutrients & sugars in the coconut liquid endosperm, However, the nuts should be harvested between the seven & months maturity.

Among various cultivars studied, it can be concluded that, ‘Philippines ordinary’ among the dwarf cultivars, “Banavali Yellow Round” among the Banavali type cultivars & ‘san Ramon’ among the exotic cultivars are most suitable cultivars for tender
nut water.

For the storage of tender nuts, storage at ‘Low temperature’ was found to be the best method to prolong the shelf life & retention of quality during storage. Further, the storage under the cover of wet gunny bag is also desirable for temporary storage, which extends the shelf-life & retention of quality in local markets. For processing of tender nut water, processing of seven months matured nut are most desirable. Preparation of ‘Ice-cream’ with 50% replacement of plain milk can be more preferred though 90% replacement is possible.

Thus, the information indicated it’s possible use in selection of better genotypes for further improvement & for evolving superior genotypes for tender nut water through planned breeding programme.

3 Name of the candidate : Sunitkumar Amagounda Patil
2 Degree for which the thesis/project report submitted : Ph. D. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co guide : Dr. G. D. Joshi

The present investigation “Studies on maturity indices, integrated post harvest handling and processing of mango (Mangifera indica L.) Vcs. Alphonso, Ratna. and Kesar was undertaken in the Department of Horticulture, College of Agriculture, Dapoli, Dist- Ratnagiri (M.S.) India.

From the present investigation, it could be concluded that weight, volume, specific gravity, length and breadth of fruits can be considered as the physical indices and colour of fruit as the visual index of maturity in Alphonso, Ratna and Kesar mango varieties. While the moisture, T.S.S, starch, reducing and total sugars, acidity, pH, ascorbic acid, tannins and B-carotene can be considered as chemical indices of maturity. ‘B’ grade (250-300g fruit weight) in Alphonso and ‘A’ grade (fruit weight
more than 300g) in Ratna and Kesare were the ophmum grades as per grading in wright bar is where as on the baris of specific quality Grade ‘II’ (Sp. Gr. 1.02 – 1.04) was the common guad in all the varieties under shady.

The CFB box packaging with tissue paper as pre packing material found to be the superior package for chemical constituents, reduced PLW, reduced as well as delayed spoilage and increased shelf file were concerned.

Hydro cooling + 0.1% Bavistin treatment of mango fruits reduced the PLW and rate of spoilage with maximum shelf life during storage ripening. It also delayed the ripening with maximum retention of chemical constituents.

The products such as ripe mango RTS, ripe mango syrup, mango mawa and mango leather could be success fully prepared and stored for a period of one year with out much affecting the quality from the Alphonso, Ratna and Kesar mango fruits. The products remained palatable even after the storage of one year.

4 Name of the candidate : Rashmi sunil Patil
2 Degree for which the thesis/project report submitted : Ph. D. (Agri.)
3 Year of submission : 2003
4 Name of the guide/Co guide : Dr. G. D. Joshi
5 Thesis Title & Abstract : Studies on physico-chemical composition, storage processing and waste utilization of jackfruits (Articarpus heterophyllus Lem)

The present investigation Studies on physico-chemical composition, storage processing and waste utilization of jackfruits (Articarpus heterophyllus Lem) was undertaken in the Department of Horticulture, College of Agriculture, Dapoli during the period 2000-2002.

The experimental material, the putouts jackfruit was obtained from lineal farmer Mr. Dada Dongare, Jalgaon, Tal. Dapoli Dist. Ratnagiri and the jackfruit was obtained from the orchards of the Department of Horticulture, Dr. B. S. Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri (MH) India.
During the centre of storage behaviour under different storage condition under as well as proportion of value added product from firm flesh and soft flesh type of jackfruit and their water also their storage of ambient condition were studied. During storage the jackfruit were analyzed for different chemical constituent PLW, shelf life, ripening behaviour, and organoceptive evaluation.

From the results of the present investigation it could be the conducted that form flesh fruit was characterized with larger size than that soft flesh fruit size with respect to all the major chemical constituents the B-carotene, sugar, ascorbic acid were more in quantity in firm flesh than soft flesh fruits. The sugar, T.S.S, acidity, B-carotene, increased from maturity to ripening while P4 ascorbic acid moisture, protein destined during ripening. The fruits storage at 10 temperature storage could delay ripening, increasing self life and avid spoilage. The fruits warts could be cutinized for making jelly & pickles. The jackfruit reacts could be directory consumed after boiling & roasting. Such also utilized for preparation of sweets & cookies. Amongst the different parts of jackfruit the and curtained significantly higher protein repentance of type and stage of jackfruit.

9. Extension Activities:

a The training Programmes organized:

District level training programme arranged at Village Udhale Tal-Khed Dist-Ratnagiri on 19th March, 2013

Five Cinnamon Layers were distributed to the participating farmers free of cost.
Distribution of University Diary to the participating farmers

Guidance to the farmers on spice cultivation

Farmers Training Programme arranged at RCRS, Bhatye on 21st March, 2013

Field Visit of the farmers participated in Training Programme

Nutmeg grafts

Clove seedlings

d  Radio/TV talks delivered by the staff : 25
   members of the Department/Section

e  Farmer-Scientist Forum : 2

f  Other Extension Activities :

g  Publications :
Books

journal research papers, Full length 62
research papers published in proceedings of seminar / symposia / conference / workshop

11. Contact of the Head

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