

# Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth

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## RESEARCH RECOMMENDATIONS OF 2022

### Crop Varieties developed by the University:

#### Vari - KONKAN SATWIK

KONKAN SATWIK a high yielding variety of Vari is recommended for release in Konkan region of Maharashtra.



#### Salient features:

- 1) 118 days to maturity
- 2) **Average grain yield : 19.24 q/ha**
- 3) **Non-lodging**
- 4) Protein content (g/100g) : **8.47**
- 5) Calcium content( mg/100g): **16.5**
- 6) Iron content (mg/100g) : **8.32**

#### Recommendations Based on Crop Production Technologies:

##### A) Natural Resource Management:

1. It is recommended to apply 80:40:100 N: P<sub>2</sub>O<sub>5</sub>K<sub>2</sub>O kg and FYM @ 15t ha<sup>-1</sup> for obtaining maximum profit, yield and quality of yam bean as well as for maintaining soil properties of lateritic soils of Konkan region
2. It is recommended to spray water soluble fertilizer 19:19:19 -2% at flushing, flowering and fruit set stage for getting the higher yield in cashew along with recommended dose of fertilizer.
3. For getting higher yield and net returns from Sapota var. Kalipatti, it is recommended to apply following fertilizer dose in North Konkan region of Maharashtra.

Sr. No.	Qty (%NPK)	Stages	Application time (month)
<b>80% dose of RDF (3:3:3 kg NPK/tree)</b>			
1	20-40-32	Vegetative flush	June
2	20-0-16	Fruit set	September

3	20-40-16	Fruit pea stage	November
4	20-0-16	Fruit growth	February
<b>Remaining 20% RDF</b>			
5	15 kg Vermicompost + Azotobacter 100g and PSB 100 g per tree		June
&	Micronutrients spray ( $\text{ZnSO}_4$ -0.6%, $\text{FeSO}_4$ -0.4%, $\text{MnSO}_4$ -0.2%, $\text{CuSO}_4$ -0.2%, Borax-0.2%)		October

#### Irrigated crops :

- It is recommended to grow groundnut in Konkan during Rabi –Summer season under paddy straw mulch and be irrigated daily through drip irrigation with total irrigation depth of 371 ha mm and fertigated with 100% RDF (25kg N and 50 kg  $\text{P}_2\text{O}_5$  ha<sup>-1</sup>) through water soluble fertilizers in five equal splits of six days interval to get maximum yield and more economic returns and water saving.

DAS	Source of Fertilizer	Splits	Quantity of Fertilizers (Kg/ha)
6	1)12:61:0	16:39	22.98
	2) Urea	6:59	
12	3)12:61:0	16:39	22.98
	4) Urea	6:59	
18	5) 12:61:0	16:39	22.98
	6) Urea	6:59	
24	7) 12:61:0	16:39	22.98
	8) Urea	6:59	
30	9) 12:61:0	16:39	22.98
	10) Urea	6:59	

#### Weed Management:-

- Spraying of pre emergence herbicide Oxadiargyl 80% WP @ 100 g a.i. ha<sup>-1</sup> at 2-3 DAS *fb* Metasulfuron-methyl+chorimuron-ethyl@4 g 1.1 ha<sup>-1</sup> at 25 DAS or Oxadiargyl 80% WP @ 100 g a.i ha<sup>-1</sup> *fb* 1 HW at 30 DAS in direct seeded rice during *kharif* season for effective control of weeds and for obtaining higher yield and net returns under Konkan region is recommended.

#### Integrated Farming System:-

- In North Konkan region of Maharashtra, fodder maize+berseem inter-cropping in 2:1 ration is recommended for obtaining higher proteinous yield of fodder and net returns.
- It is recommended to grow dibbled rice-sweet corn-green gram cropping system on raised bed or flat bed with silver-black polythene mulch (30 micron) to obtain higher yield and economic benefit by using practices given in following table.

Sr. No.	Particulars	Raised bed	Flat bed
1	Bed size	Top breadth 1.0 m, length as per requirement and height 8-10 cm.	Breadth 4.60m. and length as per requirement.
2	Spreading of	Spread single strip of silver-black	Seal the four strip of

	polythene mulch	polythene mulch on the bed	silver-black polythene mulch together and spread it on the bed.
3	Spacing	Rice: 20 x 15 cm. Sweet corn: 40 x 30 cm. Green gram: 20 x 15 cm.	
4	Fertilizer dose	Rice: 100:50:50 NPK kg/ha Sweet corn: 200:60:60 NPK kg/ha Green gram: 25:50:0 NPK kg/ha	

8. It is recommended that, to use 1:3 row proportion for obtaining higher net returns and B:C ratio under Mustard+Cowpea intercropping system during *rabi-hot* weather season of North Konkan region.

#### **Forestry and Agroforestry:-**

9. Among the identified and evaluated manga clones from Western Ghats under lateritic conditions, 10 CPC's among them are recommended to have better culm diameter for scaffoldings and strips purpose. Hence they are recommended as mother plants for clonal propagation.
10. Manga, Mesh and bhor bet bamboo can be used to produce masala incense stick

#### **B) Horticulture:**

1. **Bush Pepper:** In Konkan region, the propagation of bush pepper by cuttings is recommended in first fortnight of June and March.
2. **Brinjal:-** It is recommended to cultivate oval type brinjal variety BB 54 for stuffing purpose with higher fruit yield and net returns in *Rabi* season under North Konkan region of Maharashtra.

#### **C) Animal and Fisheries Sciences:**

##### **Diary Sciences**

1. It is recommended to prepare most acceptable quality milk pudding having shelf life of 15 days at refrigeration temperature, by incorporation of gelatin and fresh sapota fruit pulp@2 and 20%, respectively of unsweetened condensed milk and addition of sugar@8% of original milk on w/w/ basis.

##### **Fisheries Sciences**

2. Indigenous traditional knowledge of fishers of coastal districts of Maharashtra indicated direct influence of climate on fisheries through changes in current patterns, wind patterns, lunar cycle, seasons, water temperature and cloud conditions. Thus given the immense utility of fishers Indigenous Traditional Knowledge on climate, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli on the basis of scientific assessment recommends to increase the spread and propagation of this knowledge to new generations of fishers and also to protect and conserve the traditional knowledge.
3. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli recommends stocking L. Vannamei seed of 12-day-old in the culture pond to increase the total shrimp production by one per cent per hectare and further suggest improving the survival rate by one per cent will increase the total shrimp production by 13.13 kg per ha.
4. A study of fishing harbors and fish landing centers along the Konkan coast revealed that for quality fish handling, it is recommended to create basic facilities such as

electricity and fresh water supply, boat repairing yard, net mending hall, icer manufacturing plant at fishing harbors and fish landing centers as per the research of Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli university.

5. It is recommended to prepare the dried product, '*Mulyache kaple*' from *Meretrix casta* (*Lalya* mule) with incorporation of 2% turmeric powder and stored in LDPE bag have shelf life of 210 days at room temperature.
6. It is recommended to use technology developed by Dr. B.S.Konkan Krishi Vidyapeeth for the preparation of Fish Frankie masala stuffing from the Tilapia fish with the shelf life of 20 days at refrigerated temperature (0 to 4<sup>0</sup>C).

#### **D) Post Harvest Management**

1. As per the process developed by DBSKKV, it is recommended to prepare instant broiler chicken paya (shank) soup mix using shank broth (66.29%), monosodium glutamate (0.5%), citric acid (0.11%) and corn flour (10%) with shelf life of 90 days which could be reconstituted using 10 gram powder in 100 ml hot water.
2. Alibag White Onion cultivated in Alibag having 180 storage capacity in the form of 'Veni', highest Quercetin, lowest sulphur and pyruvic acid (sweet taste) is recommended for table purpose.
3. Agarbatti coating material (masala) made up of with bamboo charcoal (10%), bamboo dust (75%) and jigat powder (15%) is recommended for zero waste utilization in raw bamboo stick industries.
4. It is recommended to prepare ripe Alphonso mango pulp powder by addition of 0.5% foaming agent, dried at 50<sup>0</sup>C by foam mat drying, stored at room temperature in glass bottles upto 150 days in good condition.

#### **E) Plant Protection:**

1. For cost-effective management of branch dying disease of mango the application of Bordeaux paste (10%) or Cow dung slurry 80% on infected portion after removing disease bark is recommended.
2. For cost-effective management of *Pyrrosia lanceolata* epiphyte manually removing or application of Paraquat dichloride 24% SL@0.15% with the help of colouring roller or copper sulphate @1% or sodium chloride@6% is recommended.
3. Soap nuts rind @ 1 kg mixed with 100 litre of water for 3 days and apply sieved solution twice at monthly intervals on coconut leaves is recommended for the eco-friendly management of rugose spiraling whitefly infesting coconut.

#### **F) Agricultural Engineering:**

1. It is recommended to get maximum benefit from Broccoli at spacing of 45 x 45 cm in lateritic soils of Konkan region with 0.8 Etc irrigation level (Inline drip 4LPh. 50 cm spacing) 25 micron with silver mulching and 100 percent RD of 100:60:40 NPK kg/ha.
2. DBSKKV developed PK's cost effective domestic automatic hydroponic system is recommended for inhouse as well as outhouse vegetable production in rural, urban and metro areas.
3. DBSKKV developed PK's cost effective fertigation device of 63 x 16 mm and 50 x 16 mm size are recommended for fertigation of water soluble fertilizer solutions through micro irrigation system.
4. DBSKKV developed PK's cost effective real time soil moisture based automatic irrigation system with GSM to irrigate crops to fulfill their exact water requirement.

5. It is recommended to grow Marigold (*Tagetes erecta*) crop, Variety-Kolkata (Chota Gonda) in lateritic soil of Konkan region under Inline-drip irrigation system at a spacing of 120 cm – 50 cm X 30 cm in pair row plantation and irrigation be scheduled at 0.8 ETc (total water 32 ha-cm) with silver-polyethene mulching to get maximum production and benefit.
6. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth developed bamboo houses of an area 37 sq.m, 28 sq.m and recommended for agro tourism in Konkan region.
7. Dr. BSKKV developed SPV Based Temperature Controller for solar dryer is recommended.
8. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth developed a micro weather station-“Rhutu” is recommended for air humidity and temperature data logging.

## **G) Social Sciences:**

### **Agril Extension**

1. It is recommended to give advisory by including following suggestions.
  - Detail information on each advisory should be given.
  - Tahsil wise climate information should be included in the advisory
  - Department of Agriculture, Government of Maharashtra should monitor and make sure about the availability of pesticides recommended by the University in Agro Service Centers.
2. It is recommended that
  - Government should make a policy for large scale production of briquettes and make them available at grass root level on the subsidized rate.
  - Awareness programmes regarding briquettes technology and block demonstrations on the use of briquettes should be arranged on massive scale.
  - Easy to use briquettes applicator should be developed.
3. It is recommended that new policy regarding management of wild animals should be prepared by the Government to resolve the damage caused by them in agriculture by including following points
  - Plantation of wildlife-friendly fruit trees in the forest area should be done by the forest division with people participation.
  - Subsidies/funds/assistance for electric/barbed wire/solar fencing should be provided by the Government.
  - Alternate water points for wild animals should be created in the forest.
  - Low cost mechanical tools should be developed for keeping the animals away from the field.
4. It is recommended that, Training programmes in identification of proper aged bamboo culms for propagation be organized for the farmers.
5. It is recommended that,
  - Research should be carried out to standardize the procedures of processing in cereals and pulses grown in Konkan region
  - Awareness about processing of cereals and pulses should be created by organizing different extension activities and vocational training programmes be organized for farm women.

6. It is recommended that, Modified Drum Seeder (MDS) method of planting of rice is more effective with respect to saving in labour, time and increase in yield as compared to other methods therefore, it should be promoted through different activities by the extension agencies.

### **Agril Economics**

1. In retail fruit sale about 12.56 per cent fruit wastage is observed due to more handling of fruits, which results in to 13.62 per cent reduction in income, therefore to minimize this problem as per the need of market the shops at ground floor should be provided to vendors on hiring basis in major markets of Konkan region.
2. In the cashew processing, more than 78 per cent of total investment is incurred for purchase of raw cashew nuts. The small scale cashew processors cannot afford the huge investment in purchase of raw cashew nuts; consequently their profit margin is comparatively very low due to the small scale of production. Therefore it is recommended that, the capital should be provided as per crop loan system to small scale cashew processor at 3 to 4 percent interest rate.
3. More than 73 per cent cashew grower reported a wastage of cashew apples, it is recommended that the policy regarding cashew apple processing of fenny, liquor and wine as per Goa government should be formulated for the benefit of cashew growers.

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