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RESEARCH RECOMMENDATIONS OF 2019

Crop Varieties developed by the University:

1) Rice – BM 4 (Karjat shatabdi)

BM-4 (Karjat shatabdi) medium duration, dwaft stature, shot bold grain type, high yielding rice variety suitable for beaten rice is recommended for cultivation in konkan region.

Salient Features:

1. Dwart, medium duration variety mature within 125-130 days.
2. Short bold grain, high yielding, suitable for beaten rice.
3. Resistant to rice stem borer, bacterial blight and fungal blast.
4. Average grain yield 3.8.-4 t/ha.
5. Scented variety.

2) Okra:

it is recommended to release the high yielding and YVMV tolerant variety 'Konkan Bhendi' (DPLOK-11) of Okra for cultivation in Konkan region during Kharif season.

Features:

1. Suitable for Kharif season in Konkan region
2. High yielding
3. Average yield 135q/ha
4. tolerant to YVMV
5. Sustainable in high rainfall condition
6. Attractive green colour
7. Good keeping quality (3 to 4 days)
8. Crop duration – 110 to 120 days

Recommendations Based on Crop Production Technologies:

A) Natural Resource Management:

Soil Fertility and Plant Nutrition Management-

1. Foliar spraying of paclobutrazol @ 100 ppm at 30 and 50 days after emergence is recommended for obtaining maximum pod yield and monetary returns from *Kharif* cultivation of groundnut cultivar TKG Bold in lateritic soils of Konkan region.

2. Groundnut variety *Konkan Bhuratna* be sown with spacing of 30 cm x 10 cm and application of 125% RDF (31.25 kg N nd 62.5 kg P_2O_5) ha $^{-1}$ along with FYM @ 5 t ha $^{-1}$ is recommended for obtaining maximum yield and monetary returns under lateritic soils of *Konkan* region

3. It is recommended to apply FYM @ 5 t ha $^{-1}$, recommended dose of nitrogen @ 25 kg ha $^{-1}$ and phosphorus @ 50 kg ha $^{-1}$ fertilizer dose at the time of sowing and seed dressing with phosphorus solubalizing bacteria (DGRC 2) @ 25 g kg^{-1} for the maximum dry pod yield and net monetary returns in *rabi* hot weather groundnut in *Konkan* region.

4. It is recommended that under coastal saline soil of North *Konkan* region, to obtain maximum yield and highest monetary returns, spinach variety Pusa harit be cultivated with application of nitrogen @ 75 kg ha $^{-1}$ and 50 kg P_2O_5 ha $^{-1}$.

5. It is recommended that the application of 20 kg $MgSO_4$, 12.5 kg $MgSO_4$, 12.5 kg $ZnSO^4$, 10 kg Borex through soil and foliar spray of $FeSO_4$ @ 0.5% nutrients along with recommended dose of fertilizer (FYM @ 10 t + 100: 50: 100 kg N, P_2O_5) K_2O ha $^{-1}$) to get higher tuber yield and more economic returns from cassava in *Konkan* region.

B) Horticulture:

1. The spraying of calcium nitrate (1%) at peanut, marble and egg stages is recommended for higher yield in Alphonso mango planted on platue area of hard lateritic rock.
2. it is recommended to train cucumber plants on plastic rope supported by conically fixed Bamboo for higher fruit yield.

C) Animal and Fisheries Sciences:

Dairy Science

1. To meet the total milk requirement of Konkan Kanyal weaning kids it is recommended to substitute 50 per cent soyamilk with available goat milk.

Fisheries Science

1. It is Recommended to rear goldfish (20 mm size) at a density of 150 numbers/m^3 and to feed 32% pretein incorated diet at 8% body weight per day in cages installed in farm-ponds.
2. it is recommended to rear 15 fry of *Labeo rohita* (length-20-25mm) per 100 L in biofloc system with C/N ratio of 19 by using wheat flour as a carbon source for 90 days to achieve optimal growth and survival.
3. It is recommended to catch more than 327 mm (total length) vermiculated spinefoot fish (*Siganus vermiculates*) for sustainable fishery.
4. It is recommended to feed new-born Tangerine, (*Xiphophorus helleri*) with artemia nauplii for first two weeks and powdered shrimp feed (41% protein) thrice a day with interval of 4 hours for next two weeks for obtaining optimal growth and survival.
5. it is recommended to rear 30 days old Sunset Platy (Xiphophorus maculatus) with stocking density of 1 no./2.5L for 120 days for optimal growth and survival.

D) Basic Sciences

Post Harvest Management

1. Process for instant Soup Mixes from leafy Vegetables using Amaranthus 6 %, Arrowroot Starch 43 % and other Spices 23% is recommended. The instant soup mixes can be stored in good condition in Aluminium Laminated Pouch us to 90 days. (Other Spices cumin 0.66, coriander 0.66, black pepper 1.06, chilli 5, salt 7.33, onion 2, garlic 1.33, citric acid 0.33 and carrot 4.66%).

2. The process for tenderizing and preserving *Chevon* up to 6 days by using *Betel* leaf extract in the proportion of 1:1 for 30 min at 10-15^{0}C temperature is recommended.

3. It is recommended to prepare the carrot *pedha* by using carrot pulp and sugar in 1:1 proportion, with 67.5 % milk powder. 5% corn flour and 5 % hydrogenated vegetable oil based on the sugar used with the storage life of 15 days at ambient conditions.

4. It is recommended to prepare the custard apple-sweet potato pulp in 80:20, 48% sugar, 2% milk powder, 1% corn flour and 1 % hydrogenated vegetable oil.

5. It is recommended that the unopened flower buds of Arabian jasmine (*Mogra*) per treated with 4 % boric acid solution and packed in 200 gauge polyethylene bags could be stored at 13 ± 1^0 C temperature for a period of 72 hours.

6. It is recommended to prepare most acceptable quality colostrums cake having shelf life of 8 days at ambient temperature and 24 days at refrigeration temperature by admixing of colostral milk and normal milk in the proportion of 3:1 and by addition of Alphonso mango pulp @ 20% of colostrums cake mix.

E) Plant Protection

1. For effective and economical management of slow decline disease along with maximum dry berry yield of black pepper, soil application of *Pochonia chlamydosporia* @ 2kg/vine (1.05kg *P. chlamydosporial*/50kg Fym), followed by soil drenching with *P. Fluorescens* @ 2% (drench 3 l/vine) around plant roots, twice during May-June and August- September is recommended.
2. For reducing the severity of stem rot (*Sclerotium rolfsii*) and collar rot (*Aspergillus niger*) of groundnut with significant increase in yield, seed treatment with *Pseudomonas Fluorescens* strain 2 @ 25 g kg^{-1} seed is recommended.

F) Agricultural Engineering –

Agril Processing Engineering-(Farm Structure and EOS)

1. it is recommended to grow cauliflower with inline drip (4 lph and 50 cm spacing) on lateritic soils of Konkan region with 0.8 ETc irrigation level (21.36 cm) coupled with silver mulching for getting maximum returns.
2. Dr. B.S.K.K.V. dapoli developed vertical and triangular type hydroponic unit vermiculite (50 %) + cocopeat (25%) + vermicompost (25%) media is recommended for growing home fresh vegetables.

G) Social Sciences:

Agril. Economics-

It is recommended to revive the cashew industires with state policy on the basis of the National Company Law Tribunal (NCLT) as well as to provide a place in the regulated market for the development of Konkan Cashew brand. To stabilize the prices of raw cashew nuts and cashews kernel a national policy to impose additional import duty to control the imported raw cashew.

Extension Education

1. It is recommended that awareness building programme about soil testing facility, its need and importance must be taken up by the extension agencies. Large scale demonstrations should be recognized on use of Integrated Nutrient Management on the basis of soil health card reports.
2. It is recommended that by looking to the utility of the mobile apps namely Alphonso Mango, Agricultural Engineering, ornamental Fishries, Rice, Post Harvest Management, Cashew, Plant Protection and Vanashree developed by Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli the Department of Agriculture should make propaganda and extension of these apps.

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