

# Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth

Dapoli 415 712, Dist. Ratnagiri.

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## RESEARCH RECOMMENDATIONS 2012

### Natural Resource Management

- **Soil fertility and plant nutrient management**

1. It is recommended to undertake three sprays of 0.25% (Urea, SOP, SSP each) + 0.25% (ZnSO<sub>4</sub>, Borax, CuSO<sub>4</sub> each) + 0.01% (Sodium molybdate), first spray be given one month before flowering, second at flowering and third at nut setting time of cashew along with recommended dose of fertilizer in lateritic soil of Konkan to obtain maximum yield and to control yellow leaf spot.
2. It is recommended to apply silica containing Konkan Annapurna Briquettes (SilKAB) to rice crop for getting higher yield and net returns.

- **Irrigated crops**

1. It is recommended that, in lateritic soils of Konkan region, the ginger crop should be grown under micro-sprinkler irrigation system and irrigation should be scheduled in the range of 60 to 62 m<sup>3</sup>/ha from the month of October to December and 75 to 109 m<sup>2</sup>/ha from the month of January to March at alternate day (total water 6700 m<sup>3</sup>/ha) to get maximum production and net returns.
2. It is recommended that, in lateritic soil of Konkan region, the Banana (Cv. Grand Naine) should be grown as intercrop in Arecanut plantation for first three years, under drip irrigation system system and water should be applied @ 10-12 lit/day/plant from November to January and 15-18 lit/day/plant from February to May to get additional benefit from inter cropping.

- **Weed control**

1. It is recommended that for effective control of *Cuscuta* on lablab bean, the field be ploughed and *pendimethalin* @ 1.0 kg ha<sup>-1</sup> as pre-emergence with sand mix be applied to obtain higher yield and net returns.
2. It is recommended that onion local cultivar white be fertilized with 150 kg N + 75 kg P<sub>2</sub>O<sub>5</sub> + 25 kg K<sub>2</sub>O ha<sup>-1</sup> (based on soil testing) and for effective weed control oxyfluorfen @ 0.176 kg ha<sup>-1</sup> be applied 4 days after planting followed by one hand weeding at 50 days after planting to get higher yield and net returns under the condition North Konkan coastal zone.

- **Integrated Farming System**

1. It is recommended that for yield maximization in hybrid rice - hybrid rice cropping system, the crop be fertilized @ 150:100:150:0.8:6 kg N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O, B, Fe, Zn ha<sup>-1</sup> during Kharif and @ 150:100:150 kg N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O ha<sup>-1</sup> during rabi season under North Konkan Coastal Zone of Maharashtra.

### **Horticulture**

1. Application of recommended dose 1 kg N, 0.5 kg P<sub>2</sub>O<sub>5</sub> and 1 kg K<sub>2</sub>O per palm per year is recommended through drip irrigation in eight splits from October to May.
2. For getting higher yield and more net returns per unit area; planting of Alphonso Mango at 5 × 5 m spacing is recommended in Konkan region. These trees be pruned at the age of 12 years and there after pruning be undertaken at every 4 years.
3. Wherever Vapor Heat Treatment (VHT) is mandatory for export of mango fruits free from fruit fly, it is recommended to harvest Alphonso Mango fruit three days before scheduled VHT date in order to avoid excessive occurrence of spongy tissue due to VHT. This also insures fruit fly free fruits with reduce incidence of stem-end-rot disease without imparting fruit quality.
4. The foliar spray of monopottasium phosphate (0.5%) at fruitset and after 20 days of first spray be given for early harvesting of jackfruit by 35 days.
5. For obtaining higher net returns and maintaining soil fertility, cassava crop in Konkan region be green manured with Dhaincha crop (20 kg dhaincha seed ha<sup>-1</sup>) with application of 7.5 tones of F.Y.M., 75 Kg nitrogen, 50 Kg phosphorus, 75 Kg of potash per hectare and use of Panchagavya is recommended.
6. The sweet potato entry "*Kamal Sundari*" is recommended for cultivation in Konkan region of Maharashtra to get higher yield with better quality.
7. The variety 'LE-66' of tomato which is tolerant to bacterial wilt disease is recommended for cultivation in Konkan region during rabi season for obtaining higher yield and tolerant to bacterial wilt disease.
8. The variety 'Arka Nidhi' of Brinjal which is tolerant to bacterial wilt disease is recommended for cultivation in Konkan region during rabi season for obtaining higher yield and tolerant to bacterial wilt disease.
9. Sowing of Ridge gourd is recommended in the month of April to get more yield and net returns per unit area in North Konkan region of Maharashtra where irrigation facility is available

## **Animal and Fisheries Science**

### **• Dairy Technology**

1. It is recommended that best acceptable quality lassi can be prepared from buffalo skim milk by using 3.0 per cent ginger juice.

### **• Marine Fisheries**

1. It is recommended to reduce the fishing pressure on White fish, *Lactarius lactarius* to get exploitation ratio 0.5 than the present exploitation ratio (E:0.61) for getting sustainable catch. In case of Indian Mackerel *Rastrelliger kanagurta*, exploitation ratio of (E:0.51) is observed to be optimum and needs to be maintained to get sustainable catch from Ratnagiri coast.
2. It is recommended to use Hand Operated Squid Jigging Machine 'Konkan Squid developed by Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli having a 5 to 10 fathoms squid jigging line and light arrangement to catch squids by jigging operation in near shore waters (5-10 fathoms) from small motorized/ non-motorized fishing boats, to supplement the income of the fishermen, during the seven months of the year from August to February.

### **• Inland Fisheries**

1. The water pH between 6.5 and 7.5, total hardness between 75 and 85 ppm is recommended for spawning and fry rearing of Red Jewel Cichlids (*Hemichromis bimaculatus*).
2. It is recommended to use the mud crab feed pellets (size 2, 4 and 6 mm) formulated by Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth and comprising of the locally available ingredients such as fish meal (20%), shrimp head meal (13%), *Acetes* meal (15%), *Squilla* meal (21%), *Sargassum* meal (25%) and wheat gluten (5%) having 42 per cent protein and 8 per cent fat for achieving better growth and survival of mud crab, *Scylla serrata*.

## **Plant Protection**

### **• Plant disease management**

1. For effective management of post harvest fruit rot of Alphonso mango, fruit dip treatment in 50<sup>0</sup> C hot water solution of Potassium Metabisulphite (0.05%) for 10 minutes is recommended.
2. For management of downy mildew disease of cucumber in kharif season under Konkan conditions it is recommended to trail the crop on ground using *Glyricidia* mulch coupled with first spray of metalaxyl + mancozeb @ 0.2% (20 g./10 litre) at the time of initiation of flowering followed by two sprays of copper oxychloride @ 0.2% (20 g./10 litre) at an interval of 15 days.

3. For effective management of Koleroga of arecanut, application of 111 Urea – Sulphala briquettes amended with Fosetyl AL 0.3% (3 g./10 litre) or 76 Konkan Annapurna briquettes amended with Fosetyl AL 0.3% (3 g./10 litre), per tree in last week of May followed by two more applications at an interval of one month by digging 15-20 cm deep holes with applicator at a distance of 1 meter away from the tree trunk is recommended.

- **Pest Management**

1. For the management of chilli thrips spray of Azadirachtin 10000 ppm @ 3ml/lit at 7 days interval alone or alternate spray of 10 per cent cow urine and azadirachtin 10000 ppm @ 3 ml/lit at 7 days interval is recommended. The first spray should be given at 15 days after transplanting and subsequent spray should be given application at 7 days interval up to 3.5 months.
2. For the management of sweet potato weevil, planting of sweet potato and marigold in the proportion of 2:1 rows is recommended.

- **Agril. Engineering**

- **Soil and Water Conservation Engineering**

1. An average effective life of continuous contour trenches of 0.6 m x 0.3m cross section at 4 m HI, is 9 years in non arable land having 15-20 % slope in South Konkan Region.

- **Agril. Processing Engineering**

1. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, developed process for drying of kokum rind obtained from cleaned and graded ripe kokum fruits at 65<sup>0</sup> C in tray dryer for 13 hours is recommended for making kokum rind powder.
2. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, developed process of drying of tender cashew (green cashew) using Microwave vacuum dryer at 25s on time and 30s off time of magnetron for 50 minutes or using tray dryer at 30<sup>0</sup> C for 19.25 hours and kept in glass bottle at refrigerated condition is recommended for preservation of Tender cashew (green cashew) kernels for 12 months.
3. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth developed process of drying of ripe jackfruit bulbs without seed using microwave vacuum dryer at 25s on - 30s off time of magnetron for 2.17 hours or using tray dryer at 60<sup>0</sup> C for 101 hours can be stored in good condition in polyethylene pouch up to six month is recommended for better colour, hardness and acceptability of dried jackfruit bulbs.



4. Carbonized deoiled cashewnut shell, grass and rice husk powdered in proportion of 50:25:25 with addition of 5 % Karanj oil is recommended for briquette preparation (2.25 cm diameter) on screw type extruder machine.

- **Seed Technology**

1. It is recommended to store rabi harvested groundnut pods in aluminium foil bags after drying up to 6 % moisture to maintain the seed germination for sowing during next rabi season.

**Social Sciences**

- **Agril. Extension**

1. National Horticulture Mission was successful in increasing the income of the beneficiaries (56.35%), employment (52.94%), land use (62.34%). However, in order to make the National Horticulture Mission more effective it is recommended to supply quality grafts in time and adequate quantity, cost norms should be upgraded regularly and training should be given to the beneficiaries immediately after their selection under National Horticulture Mission.
2. There is a need of educating the rice growers in respect of recommended cultivation practices in respect of rice variety Karjat-3
3. Mango growers should be informed about the ill effect of excessive use of synthetic pyrethroids and imidacloprid through different extension programme.

- **Agril. Economics**

1. Adoption of rice technologies released by the University by the farmers was 52.44 per cent resulted into yield gap to the extent of 49.06 per cent. Motivating of farmers for adoption of technologies to the fullest extent for maximizing returns from rice is necessary.
2. The producers of mango should arrange for direct sale of mangoes by opening sale counters in city areas, through co-operative association or group marketing for higher price realization.

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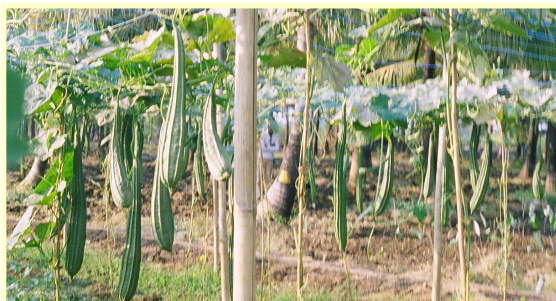
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## **सामाजिक शास्त्रे**

### **• कृषि विस्तार**

१. राष्ट्रीय फलोत्पादन अभियानामुळे लाभार्थीचे उत्पन्न (५६.३५ टक्के), रोजगार (५२.९४ टक्के), जमिन वापर (६२.३४ टक्के) यात वाढ झाल्याचे दिसून आले. तथापि, राष्ट्रीय फलोत्पादन अभियान अधिक प्रभावी होण्याकरीता चांगल्या प्रतिची कलमे/रोपे यांची वेळेवर व अधिक प्रमाणात उपलब्धता, दरवर्षी खर्चाचे निकष सुधारणे आणि लाभार्थीची राष्ट्रीय फलोत्पादन अभियानामध्ये निवड झाल्यानंतर प्रशिक्षण देण्यात यावे अशी शिफारस करण्यात येते.
२. भाताच्या कर्जत-३ या जातीच्या उत्पादनातील तफावत, बियाणे व खतांची शिफारसीत मात्रा न वापरल्यामुळे दिसून आली. या जातीच्या उत्पादनातील तफावत कमी करण्यासाठी भात उत्पादक शेतकऱ्यांना लागवडीच्या शिफारस केलेल्या पध्दतीचे प्रशिक्षण देणे गरजेचे आहे.
३. विस्तार यंत्रणांची विविध विस्तार कार्यक्रमांद्वारे सिंथेटिक पायरेथ्रॉइड व इमिडॅक्लोरोप्रीड यासारख्या औषधांच्या अतिवापरामुळे होणाऱ्या दुष्परीणामांची माहिती आंबा बागायतदारांना करून देण्याची शिफारस करण्यात येते.