

# **Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth**

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## **RESEARCH RECOMMENDATIONS OF 2021**

### **Crop Varieties developed by the University:**

### **Farm Equipments / Implements released:**

#### **1. Konkan Kalp Crab holder:**

It is recommended to use Konkan Kalp Crab holder developed by Dr. Balasaheb sawant Konkan Krishi Vidyapeeth for handling the live crabs.

#### **Salient features:**

1. Easy and safe handling of live crab.
2. Simple, easy and gender friendly.
3. Can be used for any type of live crab (Marine water/fresh water) with different sizes.
4. Durable.
5. Economically viable in fabrication and operation.



#### **2. Dr. BSKKV developed hand pedal operated briquetting machine:**

The Dr. BSKKV developed hand pedal operated briquetting machine is recommended for making briquettes of locally available biomass.

#### **Salient features:**

1. The briquette made by pedal operated machine has highest resistance to water penetration (86%) due to the smooth surface of the briquettes with less pore space.
2. The size of hand + pedal operated briquettes were small in size and easy to transportation.

3. The output capacity of the hand+ pedal operated machine was the highest 170 briquettes per hour (10.5 kg/h).
4. It is observed that the hand+ pedal operated briquetting machine was easy and comfortable to operate than other two machine.



## Recommendations Based on Crop Production Technologies:

### A) Natural Resource Management:

१. For better performance and yield stability under varying rainfall situation in Konkan region during *kharif* season it is recommended to cultivate rice cv. Karjat-2 and Karjat-7 by adopting recommended transplanting or early transplanting (15 days after sowing) method.

### Soil Fertility and Plant Nutrition Management-

१. Under South Konkan Coastal condition, it is recommended to grow *kharif* groundnut with application of 75% RDF (20 kg N+40 Kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup>) along with seed dressing of Bio-grow bio formulation (Pseudomonas, Bacillus and yeast) @5ml kg<sup>-1</sup> seed for higher yield and net returns.
२. It is recommended that to obtain higher yield, maximum returns and saving of 25% N fertilizer from Rice-Chickpea cropping system through integrated nutrient management apply 75% RDF (75+40+40 kg NPK ha<sup>-1</sup>)+ 25% recommended RDN through FYM (5 t ha<sup>-1</sup>) to *kharif* rice and 75% RDF (20+40+0 kg NPK ha<sup>-1</sup>)+ 25% recommended RDN through FYM (1.25 t ha<sup>-1</sup>) to *rabi* chickpea under North Konkan Coastal Zone of Maharashtra.

### Micronutrients

१. It is recommended to apply 3kg Micronutrient fortified Konkan Annapurna Briquetter (N:P:K:Cu:B:Mo,33:13:6:0:60:0.26:0.014) and 40 kg FYM per plant in the month of June for obtaining maximum yield and profit of cashew in lateritic soils of Konkan region.

2. It is recommended to fertilize Kharif rice for higher yield and net returns in South Konkan Coastal zone @ 100kg N+40 Kg P<sub>2</sub>O<sub>5</sub>+40 kg K<sub>2</sub>O + 20 Kg ZnSO<sub>4</sub> ha<sup>-1</sup> with one sprays of nano fertilizers- P + K + ZnO 0.80 ml, 0.80 ml. and 2 gm per hectare in 200 liters of water (40, 40, 10 ppm) at 15 DAT. respectively.

### Horticultural crops

1. It is recommended to grow sweet potato-sweet corn crops in sequence under lateritic soils of Konkan region with drip irrigation system and irrigation should be scheduled on alternate day at 100 % ET<sub>e</sub> (Total water applied 164.9 and 311.8 mm, respectively) and 100% RDF through water soluble fertilizers (FYM @ 10 t ha<sup>-1</sup> + 75:50:75 and 200:60:60 kg N:P<sub>2</sub>O<sub>5</sub>:K<sub>2</sub>O ha<sup>-1</sup>, respectively) for obtaining higher system production and economic returns.

### Integrated farming methods

1. In North Konkan coastal zone of Maharashtra, for obtaining higher balance green forage yield, crude protein yield and net returns throughout the year following cropping system is recommended.

<i>Kharif</i>	<i>Rabi- Summer</i>
<b>N B Hybrid + Cowpea (2:8)</b>	<b>N B Hybrid + Lucerne (2:8)</b>

2. It is recommended that among different rice establishment techniques direct seedling by drum seeder method should be followed under coastal saline soil of North Konkan region to obtained higher net profits with high B:C ratio.

### Forestry and agro-forestry

1. *Melia dubia* is recommended as a potential tree for block plantation for getting maximum yield and economically feasible for the farmers in Konkan region of Maharashtra.

## B) Horticulture

### 1. Mango

In Alphonso mango, for induction of new vegetative flush in summer, early flowering as well as early harvest during next season, two foliar applications of **Potassium nitrate** @ 1 % or **GA3 @ 100 ppm** (first spray immediately after harvest second at 15 days interval) are recommended in Konkan region.

### 2. Mango

In Alphonso mango, for suppression of new vegetative flush after monsoon, early flowering as well as early harvest; basin exposure twice after withdrawal of rain (in last week of September and again in second week of October) is recommended. If rains extended continuously and basin exposure is not possible then two foliar applications of CCC @ 2500 ppm during September last week at 15 days interval are recommended in Konkan region.

### 3. Tuberose

Prajwal, Suvasini and Hyderabad double varieties of tuberose are recommended under Konkan agroclimatic condition to get higher yield of flowers and net returns.

### 4. Leafy Vegetable:

In coastal saline soils of North *Konkan* region, among different leafy vegetable cultivation, to obtain higher yield and high net returns cultivation of *Spinach* followed by *Radish* leafy vegetable is recommended.

## C) Animal and Fisheries Science

1. It is recommended to prepare low fat lassi having shelf life of 1 day at atmospheric temperature and 15 days at refrigeration temperature, by incorporation of curry leaf extract as flavouring agent @ 10 % of original volume of lassi on w/w basis.
2. It is recommended to prepare milk shake having shelf life of 1 day at atmospheric temperature and 5 days at refrigeration temperature, by utilizing jaggery @ 4 % and date paste @ 10% of original milk on w/w basis as flavouring agent.
3. It is recommended to prepare designed colostrum cake having shelf life of 4 days at atmospheric temperature and 12 days at refrigeration temperature, by using normal cow milk, white of egg, whey protein powder and skim milk powder in a proportion of 50: 15: 10: 25 respectively for preparing colostrum mix and blending with Alphanso mango pulp @ 15% (w/w basis) of colostrum mix.
4. It is recommended to prepare most acceptable quality Kulfi with incorporation of tender coconut flesh by using evaporated milk, cream and sugar, in proportion of 100: 12: 15 as a kulfi mix and by addition of tender coconut flesh @20 per cent of kulfi mix on w/w basis.
5. It is recommended to prepare whey beverage having shelf life of 5 days at atmospheric temperature and 15 days at refrigeration temperature, by using sugar @ 10 % and by blending with jack fruit pulp @ 15 % (w/w basis) of whey.

## D) Post Harvest Management

१. It is recommended for turmeric processors to use '**Pragati**' Variety of turmeric having higher **curcumin** and **essential oil yield**.
२. It is recommended to extract virgin coconut oil from nuts of Lakshadweep Ordinary and Pratap varieties of coconut by using the hot extraction method on home scale basis.

## E) Plant Protection

१. For Cost-effective management of anthracnose on new vegetative flush of rainy season, three sprays of Carbendazim + Mancozeb (12+63% WP) @ 2 gm per liter water of Copper oxychloride (50% WG) @2 gm per liter water at 10 days interval are recommended.
२. For cost effective management of powdery mildew disease of mango three sprays of Sulphur (55.16% SC) @ 3 gm per liter of water of Carbendazim + Mancozeb (12+63% WP) @ 2 gm per liter of water at 10 days interval are recommended.

## **Agricultural Entomology**

१. For the management of coconut rugose spiralling whitefly (RSW) adhered yellow sticky bands at 4 feet height from ground level around the palm trunk followed by three sprays of Neem oil 0.5% @ 5ml/litre of water on fronds at 15 days intervals. First spray should be given in second fortnight of October. After that apply three spray of plain water with HTP sprayer pump @ 15 days interval is recommended.
२. For chemical insecticide free management of whitefly infesting chilli crop, it is recommended to collect and destroy the crop residues by burning, plant trap crop marigold and maize at border row, use 100kg potash and 25 (२२.५ × १५) yellow color sticky trap per hectare.
३. For chemical insecticide free management of whitefly infesting bitter gourd, it is recommended to erect 25 (२२.५ × १५) yellow sticky traps per hectare, spread silver plastic mulch and one spray of NSKE 5 per cent at vegetative growth stage followed by second spray of Garlic extract 1 per cent at 15 days after first spray.
४. Application of 10 hrs. Water soaked tamarind seed (one seed), in the Crab's burrow each & then closing the burrow with mud, is recommended for eco- friendly management of Crab in Rice field.

## **F) Agriculture Engineering**

१. DBSKKV developed PK's cost effective energy free water lifting device and technology is recommended for lifting water from at 2.0 m height and to deliver it at 4.0 m high storage tank for Konkan region and high rainfall areas.
२. It is recommended to get maximum benefit from okra at spacing of 45x45 cm in lateritic soils of Konkan region with 1.0 ETc irrigation level (Inline drip 4LPh.50 cm spacing) with silver mulching and 120 percent RD of 150:112:75 NPK kg/ha.

## **G) Social Sciences**

### **Agricultural Economics**

1. It is recommended to evolve late and mid late varieties of cashew to minimize the problem of pest and disease incidence. with minimum content of CNSL oil.
२. It is recommended that potential area of about 1.08 Lakh ha be brought under cashew which will generate additional returns of Rs. 3326 Crores and save foreign exchange. The Government agencies shall motivate farmers for plantation of cashew.

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