Recommended Technologies - 2018

Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli hosted the Joint Agricultural Research Committee (JOINT AGRESCO) in the month of May 2018. Crop varieties, Specific recommendations on research work along with implement released are as under,

Variety Released

1. *Kharif* Sorghum : Parbhani Shakti (PVK 1009)

Biofortified *Kharif* sorghum variety Parbhani Shakti (PVK 1009) recorded higher grain yield over PKV 809, PVK 801 and AKSV 181 and fodder yield over PVK 801. It has higher iron (42 mg/kg) and zinc (25 mg/kg) contents and also found moderately tolerant to grain mold, shoot fly and stem borer. The biofortified *Kharif* sorghum variety Parbhani Shakti (PVK 1009) is recommended for its release in *Kharif* sorghum growing areas of Maharashtra.

2. Cotton : PA-740

Desi cotton variety PA 740 recorded 21.41 and 19.30 per cents higher seed cotton yield than check PA 402 and PA 08, respectively. It had superior fibre properties with tolerance to sucking pests, bacterial blight, alternaria and grey mildew. This variety is recommended for medium soil of Marathwada region.

3. Tamarind : Shiwai

The genotype Shiwai is having highest length of fruit (20.43 cm), weight of pulp (494.07g), yield kg per plant (843.33) and TSS (41.6%), acidity (31.2%) and breadth of fruit (3.13 cm) as compared to other well known genotypes hence, it is recommended for release for cultivation in Maharashtra State.

Implements Released

1. VNMKV developed Single Bullock operated Planter is recommended for sowing.
2. VNMKV developed Three tyne hoe with furrow opener is recommended for intercultivation in BBF sowing.
3. VNMKV developed tractor operated five row (BBF) raised bed planter cum sprayer is recommended for sowing and spraying.
4. VNMKV developed Bullock drawn solar operated sprayer is recommended for spraying of weedicide/pesticide.

Research Recommendations : Crop Production and other Technologies

Agronomy

1. For maximizing the Pearl millet yield under late sown situations, sowing of pearl millet on 25th July + 5 days application FYM@ 5.0 t/ha + RDF (60:30:30 NPK kg/ha) + NPK foliar spray (19:19:19 Grade) @ 0.5% (50g / 10 lit of water) at 20-25 days after sowing is recommended for Marathwada region.
2. The scheduling of irrigation at 75 mm CPE (February 15 days, March 10 days, April 7 days interval) through flood irrigation method is recommended for getting maximum yield and monetary return for summer pearl millet in Marathwada region.
3. Foliar application of FeSO4@0.75% (75g/10 lit of water) at 25-30 days after sowing is recommended for higher yield and monetary return in *Kharif* pearl millet for Marathwada region.

Varieties Released

Kharif Sorghum - Parbhani Shakti (PVK 1009)

Desi Cotton PA-740

Tamarind : Shiwai

Implements Released

Single Bullock Operated Planter

Three Tyne Hoe with Furrow Opener

Five Row BBF Planter cum Sprayer

Bullock Drawn Solar Operated Sprayer

4. In pre seasonal Bt. Cotton, for lowest para wilt seedling population, highest seed cotton yield and economical benefits, sowing of crop after 20 May under Flood irrigation and after 30 May under drip irrigation (with reduction of temperature below 39^0C) is recommended for Marathwada region.
5. For highest seed cotton yield and higher economic returns of hirsutum cotton under high density planting system, de-topping at 75 days after sowing or 90 days after sowing or spraying of Mepiquate Chloride 5% AS @ 250 ppm (25 ml/10 lit. water) at 75 days after sowing is recommended.
6. For highest cotton equivalent yield, gross monetary returns, net monetary returns and weed control efficiency in cotton + soybean (1:1) intercropping system, pre-emergence application of Oxyflourfen 23.5% EC @ 0.1 kg/ha a.i. followed by hoeing at 6 weeks after sowing is recommended.
7. Application of cetyl alcohol @ 20 mg/sq. m. at an interval of 10 days is recommended for control of water loss due to evaporation up to 50 per cent from farm pond.
8. In medium to deep black cotton soils of Marathwada region to manage/minimize reddening of irrigated Bt cotton and to obtain higher seed cotton yield and net monetary returns per hectare, it is recommended to apply RDF 125 % through fertigation (100: 50 : 50 NPK kg/ha) along with two sprays of micronutrients grade – II mixture @ 0.5 % + potassium schoenite @ 1.0% at 55 and 70 DAS, respectively or to apply 75:37.5: 37.5 NPK kg/ha through soil application and application of 75:37.5:37.5 NPK kg /ha through fertigation.

Plant Protection

9. For management of pod borer complex of pigeonpea and getting higher yield with monetary returns, first spray of chlorantraniliprole 18.5 SC 3 ml/10 lit of water at 50 % flowering stage and second spray of flubendiamide 39.35 SC 2 ml/10 lit of water at pod development stage are recommended.
10. For management of pigeonpea pod fly, it is recommended to fix 1 maggot/20 pods or 5% pod damage or 2% seed damage from randomly selected pods as Economic Threshold Level.
11. For Management of downy mildew of pearl millet, seed treatment of bio-agent *Psudomnas fluoresces* (MYS-14) @ 8g/kg seed is recommended.

Soil Science

12. It is recommended that cattle of Parbhani district of Marathwada region need to be supplemented with copper, manganese and zinc by formulating area specific mineral mixture using highly bio-available mineral salt to meet the nutrient deficiency of Zn, Cu and Mn which were found deficient in soil, fodder and serum of this region.
13. Seed treatment of liquid zinc solubilizer *Pseudomonas striata* @ 100 ml/10 kg seed + application of $ZnSO_4$ 30 kg ha-1 is recommended to soybean along with recommended dose of fertilizers (30:60:30 NPK kg ha-1) for enhancement of soybean seed yield, monetary return and improvement in soil properties.

Food Technology

14. A carbonated fruit beverage containing 0.5 per cent paneerdoda concentrated extract and 0.3 per cent sucralose is recommended as a health drink for diabetic patient.
15. For preparation of nutritional and nutraceutical capsules, the powder of leaves, flower, and pods of drumstick is recommended.
16. Incorporation of 0.2 per cent guar gum is recommended for improvement of spreadability of Soybean butter.

Technologies Recommended

Nutrient Management in Pearl Millet

Irrigation Management in Cotton

Irrigation Management in Cotton

High Density Cotton Planting

Cotton + Soybean Intercropping (1:1)

Loose Housing Cattle Barn

Technologies Recommended

Kesar Mango Leather

Turmeric Candy

Standardization of Paneer Doda Concentrate Based Carbonated Beverage

Nutritional Capsules from Drumstick

Application of Cetyl Alcohol for Reducing Evaporation Losses form Farm Pond