

## **TECHNICAL RECOMMENDATIONS INCLUDED IN POP DURING Kharif 2013**

Agro climatic zone- wise total 51 technical recommendations were included in package of practices, description is given as under :-

### **Zone I-a Arid western plain. (ATC Rampura, Jodhpur)**

1. Variety RGC –1038 of cluster bean found suitable for cultivation.
2. Pearl millet hybrids RHB – 173, RHB – 177, MPMH -17 , HHB -197, GHB -744 found suitable for cultivation in zone-Ia.
3. Pearl millet seed were primed with salicylic acid 100 ppm ( 4 hours) followed by foliar spray of 100 ppm salicylic acid at grain formation stage proved significant effect on grain yield under rainfed condition.
4. Application of treatment comprising with 15 kg N/ha + 15 kg K<sub>2</sub>O/ha + planting at 60 cm + compaction through four kg rubber wheel and two dust mulching found effective to enhancing water use efficiency in pearl millet.
5. Seed treatment with streptomycin (200 ppm for 3 hrs dip) + foliar spray of either copper oxy- chloride (0.3%) or streptomycin (0.02%) or copper oxy- chloride (0.15%) in association with streptomycin (0.01%) were found effective to manage bacterial blight of cluster bean.
6. Seed treatment with carboxin 37.5 % + TMTD 37.5 % (3 g/kg) or carbendazim 50 WP (2 g/kg) and soil application of *T.viride* (2.5 kg/ha) and two foliar spray of carbendazim 50 WP (0.1%) was effective to manage root & collar rot disease of ground nut.
7. Soil application of ZnSO<sub>4</sub> @ 20 kg/ha + FeSO<sub>4</sub> @ 25 kg/ha & super imposed with one foliar spray of ZnSO<sub>4</sub> @ 0.5% and FeSO<sub>4</sub> @ 0.5% was found most effective to manage macrofomina stem & root rot (6.74%) and phyllody (4.63%) incidence in sesamum ( on the basis of availability of Zn & Fe in soil)
8. Seed treatment with imidacloprid 70 WS @ 7.5 g/ kg seed + foliar spray of imidacloprid 17.8 SL @ 0.25 ml/l or lambda-cyhalothrin @ 1.0 ml/l was effective to manage sesamum phyllody incidence.
9. Seed treatment with imidacloprid 70 WS @ 5 g/kg seed or entomo-fungus, *Beauveria bassiana* or *Metarrhizium anisopliae* @ 10 g/kg seed and soil application of *B. bassiana* or *M. anisopliae* @ 10 kg/ha cultured in 125 kg FYM effective to manage termite in ground nut.

### **Zone I-b Irrigated North Western Plain (ATC Srikanpur, Ganganagar/Hanumangarh)**

1. Recommendation of Deshi cotton new variety RG-542.
2. Recommendation of Crop geometry 67.5x90 cm.
3. Recommendation of management of collar-rot by drenching of Propiconazole or [Hexaconazole@1.5ml/ lit. of water\(200 ml/bigha with irrigation](#)

### **Zone I-c Hyper arid partial irrigated zone. (ATC Loonkaransar)**

1. Inclusion of recommendation of foliar spray of streptocycline 1 gm/Kg seed (SS) + Blitox 0.2% + Mancozeb .3% (mix these two fungicide before one and half hour for the spray) for the control of bacterial leaf blight in cluster bean.
2. Deletion of fluchloralin from the PoP book.
3. Addition of list of common name of weeds found in the areas of agro climatic zone I-c.
4. Addition of package of practices of fodder crops (Cowpea, Hybrid Napier grass and guina grass.)
5. Deletion of insecticide salt monocrotophos from PoP of vegetables.

### **Zone – II-a Internal Drainage Dry zone (ATC Abusar, Jhunjhunu)**

1. Fifronil 0.3 % G 12 kg mixed with 4 kg seed/ha at the time of sowing or seed treatment with Imidacloprid 200SL @ 3ml/kg seed + post sowing application of 300 ml/ha or mixed cropping pearl millet + cluster bean or pearl millet + moong for control of termite in pearl millet.
2. Seed soaking with 200ppm streptocycline for 2-3 hours followed by one spray of streptocycline 200ppm was recommended for management of bacterial blight in cluster bean.
3. The seed treatment with imadacloprid 1ml/kg seed + spray with imadacloprid 200ml/ha was found more effective and economic for management of yellow mosaic virus in mungbean.

### **Zone – II-b Transitional plain of Luni basin (ATC Sumerpur, Pali)**

- 1- Foliar spray of **Acephate-75 SP @ 500gm.per hectare** is effective for different sucking pest control in moong bean.

## **Zone III-a Semi arid eastern plains (ATC Tabiji, Ajmer)**

### **Groundnut:**

1. Weeding was found to be critical for Groundnut production. Results of an experiment over three years indicated that non use of recommended dose of fertilizers, plant protection measures and weed management reduced yield to the tune of 68.49%, while non use of weed management alone reduced pod yield by 48.26%.
2. Application of gypsum @ 400kg/ha produced higher pod yield of bold seeded (HPS) groundnut under high yielding conditions.
3. Drip irrigation system proved most effective and recorded higher yield and as compared to surface irrigation method. 0.8 ETC with drip irrigation system produced significantly higher pod yield over surface irrigation. Regular sowing (30 cm apart) with one lateral between three rows layout system proved most effective in increasing crop productivity.

### **Mung bean:**

1. Seed treatment with carbendazim @ 2g/kg seed and foliar application (two sprays) of propiconazole at 0.1% effectively controls the blight diseases in mungbean.
2. When mungbean seed was stored in storage bags treated with Emamectin benzoate and Deltamethrin, bruchid incidence was not observed upto 9 months of storage under ambient conditions and even the seed germination level was above MSCS in comparison to other storage practices.
3. Seed soaking with 2% carbosulfan 25 EC (8 ml/kg seed) is effective in controlling nematode infestation in mungbean.

### **Cluster bean:**

1. For the management of bacterial leaf blight/ root rot complex the following package has been tested to be effective in controlling the diseases and higher seed yield.

Soil amendment with 2.5 kg *Trichoderma harzianum* in 100 kg FYM/ha fifteen days before sowing should be done. Seed soaking with Streptocycline 500 ppm for 1 ½ hours should done and the treated seed should be air dried in shade. Then the seed should be treated with carbendazim @ 2g/kg seed. When bacterial leaf blight is seen in the field, spray of copper hydroxide @0.2% should be done which should be repeated at 15 days interval.

### **Cowpea:**

1. Application of poultry manure @2.5 t/ha + ½ RD of NPK in vegetable cowpea has given maximum vegetable pod yield and gross returns.

### **Zone III-b Flood Prone Eastern Plain (ATC Malikpur, Bharatpur)**

1. Spray of Atazine @500gm a.i/ha. on 20-25 DAS to control weeds in standing crop of pearl millet has been included in POP.
2. Seed treatment with metalaxyl @ 6gm per kg. seed and to spray of mancozeb @ 0.2% has been included in POP for control of stem rot in sesame.

### **Zone IV-a Sub-humid southern plains (ATC Chittorgarh)**

#### **Maize:**

1. Maize variety Pratap QPM- 1 a medium maturity hybrid for timely sown conditions included in POP for zone IV A & IV B
2. Sweet corn variety Sugar-75 for timely sown conditions along with optimum dose of 90 kg N and 40 kg P<sub>2</sub>O<sub>4</sub> per hectare.
3. Seed Priming with KH<sub>2</sub>PO<sub>4</sub> (Potassium di hydro phosphate) @ 1% for 8 hrs for early germination of maize in rainfed areas.
4. Blanket recommendation of ZnSO<sub>4</sub> for kharif maize subject to verification & confirmation through trials by University.(IV B)
5. Seed treatment with Methomyl 40 SP at 1% W/W for management of cyst nematode (*Heterodera zaeae*) in maize.

#### **Sorghum:**

1. Application of 2.5 ton FYM + 1.25 ton Vermicompost per hectare at last loughing along with 60 kg N + 30 kg P<sub>2</sub>O<sub>5</sub> per hectare Sorghum.

#### **Soybean:**

1. Soybean variety JS-97-52 included in package & practice for zone IV B

#### **Cotton:**

1. New insecticides viz. Buprofezin, Diafenthiuron, Acetamiprid for management of sucking pests in Bt cotton (IV B).

### **Zone -V Humid south eastern plain (ATC Bundi)**

#### **Rice**

1. Pratap Sughanda 1 (RSK 1091-10-1-1) Medium height (105-120 cm) matures in 135-140 days with average yield of 45-50 q/ha. Having thin & long culinder grain. It is moderately resistance against blast, bacterial leaf blight and stem borer.
2. Application of pendimethalin @ 1.0 kg/ha. at 3-4 DAS followed by bispyribac-sodium @ 35 g/ha at 15-20 DAS was found effective against grassy and broad leaved weeds in direct seeded rice.
3. For direct rice, optimum seed rate 30 kg/ha. and 20 cm row spacing is better.

## **Soybean**

1. Pratap soya 45 (RKS-45) Medium tall, white flower, hairy plant, tawny pubescence on pods at maturity. It matures in 95-98 days with average seed yield of 25-33 q/ha. It is tolerant to stem fly, lepidopterous defoliators, girdle beetle & tobacco caterpillar insect and bacterial pustule, charcoal rot and YMV diseases.
2. Green semilooper in soybean crop can effectively control with application of spinetoram 12 SC @ 450 ml/ha. at the initiation of pest.
3. Application of sulfentrazone 48% 360 g ai/ha as pre emergence effectively controlled sedge, grassy and broad leaved weeds in soybean.

## **Urdbean**

1. Pratap Urd 1(KPU 07-08) Semi- spreading, determinate growth habit, ovate shape of terminal leaflet, hairy and long pods having 6-9 seeds/pod and bold seed size (4.5 g/100 seed). Matures in 72-78 days and gave average yield 9-10 q/ha. Moderately resistant to insects stem fly & white fly and diseases MYMV, leaf crinkle, web blight & powdery mildew and resistant to anthracnose and bacterial leaf spot.

## **Water management Soybean**

1. In soybean crop (if required), irrigation at IW/CPE 1.0 through Mini sprinkler (at 10-12 days interval ) three times irrigation of 7.5 hours (i.e. 2.5-2.5 hrs/day) and if traditional sprinkler is available application at irrigation of 4.5 hrs(i.e. 1.5-1.5 hrs/day) gave higher yield of soybean .

## **Zaid Bitter Guard**

1. Drip irrigation scheduled every 3<sup>rd</sup> day at 100 % PE with 75 % of Recommended dose of nitrogen (75 kg/ha) and potash (30 kg/ha.) given through fertigation at 9-12 days in 6 equal parts produced maximum yield of bitter guard and save water.

## **Horticulture crops Turmeric**

1. Green manuring with sunhemp before turmeric sowing, application of each PSB and Azotobacter culture @ 4 kg/100 kg FYM along with 125 % of RDF (62.5: 62.5: 125 kg N:P:K /ha.) produced higher yield and returns.
2. Application of propineb 70 WP @ 2g/lit water three sprays at 15 days interval from disease initiation found effective in controlling leaf spot disease in turmeric

## **Chilli**

1. For raising nursery of capsicum in polyhouse use of sand + soil+ vermicompost (1:1:1) or vermiculture + vermicompost (1:1) as root media in portraits was found effective in germination and growth.

## **Sapota**

1. Dipping of sapota in 1000 ppm solution of ethrel/ethophon for 1 minute and keeping in corrugated fibre boxes at room temperature was found better for ripening.

