

TECHNICAL RECOMMENDATIONS INCLUDED IN POP DURING RABI -2013-14

Agro climatic zone- wise 70 technical recommendations were included in package of practices. Their description is given as under:-

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

1. Mustard varieties Pusa mustard – 27, Pusa mustard – 26, NRCHB – 101, RGN - 145
2. Wheat varieties Raj Molya Rodhak -1, HD – 2967, KRL – 210, KRL – 213, Raj - 4120, Raj – 4079, Raj – 6560
3. Onion variety RO -252, RO – 59, Akola Safed, Bhima Raj
4. Sowing of castor at 120 cm row and 90 cm plant spacing & application of 20 kg potash per hectare
5. Under drip irrigation system, application of 1/3 nitrogen as basal & remaining 2/3 nitrogen in four splits at 30,70,90 & 110 DAS in castor
6. Foliar spray of Pyraclostrobin 13.3% + Epiconazole 5% @ 137.25 g a.i. per hectare (or commercial product @ 1.5 g /liter of water) was found effective to manage blight & powdery mildew in cumin.

Zone I-b Irrigated North Western Plain (ATC Srikarapur, Ganganagar/ Hanumangarh)

1. Recommendation of Wheat variety WH-1105,DPW 621-50 and HD-3086(Provisional).
2. Recommendation of seed treatment with Imidacloprid 600 FS @ 2.5g/KG seed followed by drenching with Imidacloprid 17.8 SL @ 500 ml/ha against termite.
3. Recommendation of foliar spray of propiconazole 25 EC 0.1% or tebuconazole 25 EC@0.1% or trifloxystrobin 25 % + tebuconazole 50 % @ 0.08 % on appearance of disease symptoms.
4. Recommendation of mustard varieties RGN-298 (Rainfed) & RGN-303 (Irrigated & rain-fed).
5. Recommendation of IDM of Alternaria blight and Stem rot ,ST with carbendazim 50 WP @ 2g/kg followed by 2 foliar spray of carbendazim 12 % +Mancozeb 63 % mixture.
6. Recommendation of Insect pest management schedule for various pests of kinnow .

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

1. Fertilizer equation for targeted yield of Onion :-

- A. Nitrogen Fertilizer =1.83 targeted yield – 1.49 available in soil – 0.98 available in FYM.
- B. Phosphorus Fertilizer =1.14 targeted yield – 3.44 available in soil – 1.85 available in FYM.
- C. Potash Fertilizer = 2.44 targeted yield – 1.10 available in soil – 1.38 available in FYM. (Yield in Q/Ha. NP & K from soil are in Kg./Ha, NPK From FYM are in Kg).

2. Fertilizer equation for targeted yield of Fenugreek :-

- A. Nitrogen Fertilizer =11.44 targeted yield – 0.91 available in soil – 1.14 available in FYM.
- B. Phosphorus Fertilizer =11.22 targeted yield – 3.23 available in soil – 3.23 available in FYM.
- C. Potash Fertilizer = 14.46 targeted yield – 0.56 available in soil – 1.54 available in FYM.

Yield in Q/Ha. NP & K from soil are in Kg./Ha, NPK From FYM are in Kg.

3. In Oat six irrigations recommended.

4. Month wise daily water requirement/Litre/Plant recommended in Mosambi (Citrus)

Month	I Year	II Year	III Year	IV Year	V Year	VI Year	VII Year	VIII Year
January	2.83	5.75	7.16	7.79	8.44	10.44	11.43	14.70
February	4.43	8.13	10.12	11.01	11.94	14.77	16.17	23.01
March	7.36	14.94	18.59	20.23	21.93	27.13	29.71	38.19
April	11.18	21.97	27.35	29.76	32.26	39.91	43.70	58.06
May	14.61	29.67	36.93	40.18	43.56	53.89	59.00	75.86
June	14.37	28.25	35.16	38.26	41.48	51.31	56.18	74.64
July	10.94	22.21	27.64	30.08	32.61	40.34	44.17	56.79
August	9.21	18.70	23.28	25.33	27.46	33.97	37.19	47.82
September	8.45	16.61	20.67	22.49	24.38	30.17	33.03	43.88
October	7.22	14.66	18.25	19.86	21.53	26.63	29.16	37.49
November	4.50	8.84	11.01	11.97	12.98	16.06	17.58	23.36
December	3.13	6.37	7.92	8.62	9.35	11.56	12.66	16.28
Av. Water	8.19	16.34	20.34	22.13	23.99	29.68	32.50	42.51

5. Fertilizer recommendations per day/weekly in Mosambi

Stage	Fertilizer Table (Per Day/Weekly)	Basal (Kg./Plant)		Fertigation (Kg./Plant)	
		FYM	SSP	Urea	MOP
I Year	Mid December FYM SSP Full dose, January - MOP Half dose April & June - Urea Six split doses & MOP in two split doses in July & August				
II Year	As Above	20	0.25	0.125	0.05
III Year	As Above	30	0.5	0.250	0.10
IV Year	As Above	45	0.75	0.375	0.20
V Year & Next Years	As Above	60	1	0.500	0.30

6. Foliar Sprays of 0.6% Zinc and Iron 0.37% recommended in Mosambi at following stage.

1. Before flowering.
2. Setting of fruits
3. Third spray 40 days after IInd spray.

7. Water requirement schedule for Cabbage under drip system

Stage	No. of Days	Water Req. Lt./Sqm.	Water Req. Per plant Lt.	Type of Drip system	Time for Drip operation
Initial	30 Days	74.10	15.00	4 Litre/Hour	15 Minute
Crop stability Stage	35 Days	77.81	15.75		14 Minute
Middle Stage	50 Days	145.24	29.40		18 Minute
Maturity	30 Days	142.03	28.75		29 Minute

8. Water requirement schedule for Tomato under drip system

Stage	No. of Days	Water Req. Lt./Sqm.	Water Req. Per plant Lt.	Type of Drip System	Time for Drip operation
Initial	35 Days	37.01	7.49	4 Litre/Hour	7 Minute
Crop stability Stage	45 Days	83.54	16.91		12 Minute
Middle Stage	45 Days	246.29	49.86		33 Minute
Maturity	25 Days	179.93	36.42		44 Minute

9. Water requirement schedule for Brinjal under drip system

Stage	No. of Days	Water Req. Lt./Sqm.	Type of Drip System	Time for Drip operation
Initial	45 Days	55.12	4 Litre/Hour	7 Minute
Crop stability Stage	60 Days	150.84		15 Minute
Middle Stage	45 Days	335.45		45 Minute
Maturity	215 Days	1361.83		38 Minute

10. Water requirement schedule for Cumin under drip system

Stage	No. of Days	Water Req. Lt./Sqm.	Type of Drip System	Time for Drip operation
Initial	20 Days	37.33	4 Litre/Hour	11 Minute
Crop stability Stage	30 Days	55.24		11 Minute
Middle Stage	40 Days	107.66		16 Minute
Maturity	15 Days	52.55		21 Minute

11. Water requirement schedule for Garlic under drip system

Stage	No. of Days	Water Req. Lt./Sqm.	Type of Drip System	Time for Drip operation
Initial	30 Days	43.428	4 Litre/Hour	8 Minute
Crop stability Stage	50 Days	60.678		7 Minute
Middle Stage	40 Days	139.062		21 Minute
Maturity	30 Days	162.855		32 Minute

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

1. Optimum seed rate of wheat observed 120kg/ha, gave higher grain and fodder yield than 100 kg/ha.
2. Optimum seed rate of barley observed 120 kg/ha, gave higher grain and fodder yield in comparison to 100 kg/ha.
3. Optimum dose of fertilizer in onion crop is observed as 100kg N, 50 kg P and 50kg K to increase the productivity.

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

A. Following varieties to be included in POP-

1. MUSTARD: Pusa mustard 27, Pusa mustard 26, NRCHB-101, RGN-145.
 2. WHEAT :Raj molya rodhak-1, HD-2967, KRL-213
 3. GRAM : GNG-1488, RSG-896, GNG-1958, RSG-974
 4. ONION : RO-252, RO-59, Akola safed, Bhima raj.
- B. Sowing of castor at 120 cm. row and 90 cm. plant spacing and application Of 20kg. potash /ha.(to be included in Kharif POP.).
- C. Under drip irrigation system application of 1/3 Nitrogen as basal and Remaining 2/3 nitrogen in four splits at 30,70,90 and 110 days in castor (to Be Included in Kharif POP.)
- D. Pre emergence application of Pendimethalin @600 gm. a.i./ha. For weed control in gram crop.
- E. Pre emergence application of Clodinafop Propargyl 15% Metsulfuron 1% WP @55-60gm.a.i./ha. At 35 days for weed control in wheat crop.
- F. Foliar spray of Pyraclostrobin 13.3 % +Epiciconozone 5% @ 137.25 gm. a.i./ha.(or commercial product @ 1.5 gm./lit. of water) was found effective to manage Blight and Powdery mildew in cumin.
- G. Planting papaya at 2.5 mt. row and 1.6 mt. plant spacing for higher yields.

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

1. In wheat , use of Carfentrazone at 20 g /ha or Metsulfuran @ 4 g /ha + 0.2% surfactant at post emergence treatment has given significantly higher yield over control and least weed dry weight.
2. Use of clonidfop 15 %+ Metsulfuran 1 % wp @ 52 g ai/ha post emergent spray (30-35 DAS) for weed Management in Wheat.
3. Cabbage – wheat rotation was found to be most effective in controlling the cereal cyst nematode (*Heterodera avenae*).
4. Two rowed barley variety RD 2849 has been identified for release in NEPZ. This has high malt content.
5. In barley use of neem gold at 10 ml/kg seed as a seed treatment was effective in control of cereal cyst nematode.
6. A new Kabuli gram variety CSJK-54 is recommended for release.
7. In Taramira a new variety RTM -1355 is recommended for release.
8. In lentil application of thiourea 500 ppm at pre flowering stage and at pods initiation is recommended for higher seed yield.
9. In Brocoli drip irrigation every alternate day with 100 % PE has given highest yield.
10. Carrot + Ajwain intercropping has given highest pooled mean and vegetable equivalent of carrot.
11. Application of Triadimifon @ 0.25 % foliar spray was found effective in the control of powdery mildew in vegetable pea.

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

1. Spray of Metasulfuron methyl @ 4gm a.i.@ha on 30-35 days after sowing to control broad leaves weed in standing crop of barley has been included in POP.
2. Seed treatment with Trichoderma @ 6gm /kg seed along with soil application of Trichoderma @ 2.5Kg/ha mixing with 50 Kg. FYM or Vermi compost for the management of wilt in Gram has been included in POP

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

1. Durum Wheat variety HI – 8713,HI-8663 for irrigated condition.
2. Post-emergence spray of Total (Sulfosulfuron +Metsulfuron),Atlantis (Mesosulfuron+Iodosulfuron) and Vesta (Clodinafop + Metsulfuron)at 30-35 DAS for effective weed control in wheat crop.

Zone - IV - B

- 1- Durum Wheat variety HI – 8713,HI-8663 for irrigated condition.
- 2- Gram variety GNG-1581 and RSG- 1488 included in package.
- 3- Inclusion of Rabi Maize Variety Pratap QPM-1.

Zone -V Humid south eastern plain (ATC Bundi)

- 1. Linseed:- Pratap Alsi-2** A high yielding variety (20-22 q/ha) for irrigated conditions matures in 128-135 days and has blue flower, bold seeds with brown colour and high oil content (42 %). Moderately resistance to bud fly and alternate blight, rust, wilt and powdery mildew.
2. Application of 50 % phosphorus (20 kg P₂O₅/ha) + 5 t FYM/ha + PSB to urdbean and 75 % phosphorus (22.5 kg P₂O₅/ha) + PSB to linseed recorded higher linseed equivalent yield in urdbean- linseed crop sequence.
3. Linseed crop using 30 kg seed rate/ha and fertilized with 40 kg N and 20 kg P₂O₅ /ha recorded higher seed yield under rainfed conditions.
- 4. Potato:- Kufri Surya** A high yielding (28-30 t/ha), medium duration (90-105 days) variety having medium to large size tubers, white in colour, oval shaped, fleet eyes, creamy flesh with good keeping quality. Moderately resistant to late blight and heat tolerant also.
- 5. Wheat:-**Application of Metsulfuron + Carfentrazone (Readymix) + 0.2 % NIS @ 25 g ai/ha sprayed at 30-35 DAS effectively controlled broad leaved weeds and gave more grain yield.
6. Foliar spray of KCl 0.2 % or CaCl₂ 0.1% at post anthesis stage effectively overcome the heat stress and produced higher grain yield.
7. In wheat crop irrigation through mini sprinkler scheduled at IW/CPE ratio of 1.0 (12-15 days interval), each irrigation of approximately 8 hrs (in three equal splits with 15-20 minutes break) and application of 25 % (30 kg/ha) of recommended dose of nitrogen (120 kg/ha) as basal and 75 % N (90 kg/ha) as fertigation produced maximum grain yield and saved water.
8. **Lentil :-**Foliar spray of thiourea 500 ppm (0.5 g/lire water) at pod initiation (65 DAS) was found effective for higher seed yield
9. **Sugarcane:-**Application of sulphur (40 kg/ha) and zinc (5 kg/ha) along with recommended dose of NPK (200+60+40 kg/ha) in main sugarcane crop was found beneficial to get more number of millable canes and cane yield.
10. Priming of one cane node in the slurry of cattle dung, cattle urine and water in 1:2:5 ratio for 15 minutes was found effective for higher germination, more number of tillers and cane yield.

