

## **Proceedings of T & V monthly Workshop conducted at Regional Agricultural Research Station, Tirupati on 7.11.2015**

### **Review of crop and climatic situations of Chittoor district**

The monthly T&V workshop was conducted at Regional Agricultural Research Station, Tirupati on 07.11.2015. Dr T.Giridhara Krishna, Associate Director of Research presided over the meeting, while Sri V.S.Benerjee, ADA, Valmikipuram represents Joint Director of Agriculture, Chittoor. Sri M.John Victor, Assistant Cane Commissioner, Chittoor district also participated in the workshop. ADR, RARS, Tirupati reviewed the agriculture situation with inputs from ADAs of different sub divisions in Chittoor district.

### **Crop condition**

Actual cropped area in the Chittoor district during Kharif is 184474 ha. Normal area under Groundnut crop during *kharif* season was 136375 ha. Normal area under total crops for rabi season in Chittoor district is 56886 ha and actual area covered by total crops during rabi season as on 3-11-2015 is 6484 ha. Paddy crop is in tillering to harvesting stage in western mandals, Jowar is flowering to grain formation stage for fodder, redgram is flowering state, blackgram and greengram is in pod maturation to harvesting state and maize in cob formation to harvesting state. Sugar cane is in formative stage. In other areas land preparation is going on for rabi sowings.

Dr.T.Giridhara Krishna, Associate Director of Research, Tirupati has welcomed the Director of Research and Director of Extension, ANGRAU and other participants later he invited the ADAs to present the seasonal conditions and crop condition of different divisions. He reviewed the seasonal conditions and area covered under different crops, pest and disease situation in the district. He also requested the department officials to give details of varieties of respective crops grown in their divisions.

The Assistant Directors of Agriculture from eleven divisions of Chittoor district presented the seasonal conditions, crop conditions and pest problems in their respective divisions. Department Officers majorly brought forward the crop cultivation constraints like to suggest alternate crop to paddy during rabi season under tank commands, time of sowing of different pulse crops, ratoon management in sugarcane, pest management and Yellow leaf disease management in sugarcane. The scientists have also interacted on the constraints raised by the ADA`s of eleven divisions officials and discussed about pest management in red gram.

JDA representative Sri. V.S.Benerjee, ADA (R) Vayalpadu presented the district agricultural scenario. Dr.G.Krishna Reddy, PS (Agro) explained about the rabi groundnut cultivation practices, time for Gingelly crop sowing and sunflower cultivation. Dr.L.Prashanthi, PS (Breeding) explained about pulse crops for rabi season. Dr.A.Rama Krishna Rao, SS (Ento) presented the control measures of various pests in the standing crops. Dr.M.Subba Rao, PS (Millets) & Head, ARS, Perumallapalli explained about rice, ragi, maize and millets cultivation aspects in rabi season. Dr.C.Ramana, PS (Farm Mechanisation) explained about preparatory cultivation and sugarcane ratoon management machinery usage. Dr.Hemant Kumar, ARS, Perumallapalli explained about Ratoon management practices like gap filling, stubble shaving, off barring, earthing, fertilizer application, avoiding trash burning have to be followed immediately after harvesting plant crop to obtain good yields in ratoon crops and Dr.Reddikumar explained about disease management in Groundnut and Rice.

## 1. List of Officers and Scientists who participated T&amp;V monthly workshop

S.No	HEAD QUARTER	DESIGNATION	NAME
<b>DEPARTEMENT</b>			
1.	Chittoor	JDA Representative	Sri. V.S.Benerjee, ADA (R), Vayalpadu
2.	Chittoor	Assistant Cane Commissioner	Sri.M.John Victor
3.	Madanapalli	ADA (R)	Sri.K.V.Bhaskar Reddy
4.	Srikalahasti	ADA (R)	Sri.S.Raju
5.	Satyavedu	ADA (R)	Sri. D.Mallikarjunaiah
6.	Tirupati	ADA (R)	Sri.V.Raghu veera Prasad
7.	Palamaneru	AO (Tech)	Smt. M.Raqueeba
8.	Punganur	AO (Tech)	Sri.C.V.Karunakara Reddy
9.	Puttur	ADA (R)	Smt.Sowbhagya Lakshmi
10	Chittoor	AO (Technical)	Sri.G.Khadar Basha
11	Vayalpadu	ADA (R)	Sri. V.S.Benerjee
<b>RARS, TIRUPATI</b>			
12	RARS, Tirupati	ADR	Dr. T.Giridhara Krishna
13	RARS, Tirupati	Principal Scientist (Agro.)	Dr. G.Krishna Reddy
14	RARS, Tirupati	Principal Scientist (Breeding)	Dr.L.Prashanthi
15	RARS, Tirupati	Principal Scientist (Engg.)	Dr.C.Ramana
16	RARS, Tirupati	Scientist (Breeding)	Dr. E Venkataramana
17	RARS, Tirupati	Senior Scientist (Breeding)	Dr.K.John
18	RARS, Tirupati	Senior Scientist (Path)	Dr.M.Reddi Kumar
19	RARS, Tirupati	Senior Scientist (SS)	Dr. K. V.Nagamadhuri
20	RARS, Tirupati	Senior Scientist (Ento)	Dr.A.R.K.Rao
21	RARS, Tirupati	Scientist (Physiology)	Dr.P.Latha
22	RARS, Tirupati	Scientist (SS)	Dr.P.V.R.M.Redy
23	RARS, Tirupati	Scientist (Breeding)	Dr.A.Srividya
24	RARS, Tirupati	Scientist (Agro)	Sri.P.Maheswara Reddy
25	RARS, Tirupati	Scientist (Breeding)	Dr.V L N Reddy
26	RARS, Tirupati	Scientist (Breeding)	Dr.Y.Amaravathi
27	RARS, Tirupati	Scientist (Extn)	Dr. Kadiri Mohan
28	RARS, Tirupati	Senior Scientist (Physiology)	Sri.A.R.Nirmal Kumar
<b>ARS, Perumallapalli</b>			
29	ARS, Perumallapalli	Principal Scientist (Millets)	Dr.M.Subba Rao
30	ARS, Perumallapalli	Principal Scientist (Breeding)	Dr.M.Hemant Kumar
31	ARS, Perumallapalli	Scientist (Agro)	Dr.N.V.Sarala
32	ARS, Perumallapalli	Scientist (Soil Sci)	Dr.B.Vajantha
33	ARS, Perumallapalli	Scientist (Breeding)	Dr.K.R.Tagore
<b>DAATTC, Chittoor</b>			
34	DAATTC, CTR	Coordinator	Sri.S.Rajashekar Naidu
<b>KVK, Kalikiri</b>			

S.No	HEAD QUARTER	DESIGNATION	NAME
35	KVK Kalikiri	Programme Coordinator i/c & SMS (Extn)	Dr.P.B.H.Reddy

**2. List of constraints and issues discussed/messages developed**

- Groundnut varieties suitable for rabi season
- Pest management in redgram during flowering stage
- Yellow leaf disease in sugarcane
- Alternate crops to rice to cultivate in tank command areas
- ratoon crop management in sugarcane.
- Alternate crops to groundnut in rabi season
- Time of sowing for Gingelly and Sunflower crops

**3. Lesson plan and visuals developed**

- Rice, Groundnut & pulses management practices for rabi cultivation suggested.

**4. Any other information on the workshop, coordinators want to bring to the notice to the Director of Extension, ANGRAU and Commissioner of Agriculture, Govt. of AP**

**5. Remarks-**

## IMPACT POINTS

### **RICE**

The rice crop sown in late *kharif* season in Chittoor district is in tillering stage. In some parts of the district main field preparations are going and nurseries are growing. Need based plant protection measures may be taken up to control pest and diseases. The production recommendations for the month of November, 2015 for rice crop is given below:

#### **Nursery Management**

- Seed treatment with Carbendazim @2g/kg seed as dry seed treatment or soak seed in solution of Carbendazim @1g/l water before raising nursery.
- Apply 2 kg Nitrogen (one kg before seeding and one kg after 12-14 days of sowing), 1 kg phosphorus, 1 kg potash as basal application.
- After 10 days of sowing apply Carbofuran 3G granule @160 g/cent area of nursery or Monocrotophos @1.6 ml/l or Chlorpyrifos @ 2.0 ml/l. Before 7 days of transplanting apply 160 grams of Carbofuran granules mixed with sand for every one cents of nursery.

#### **Fertilizer Management**

- Based on the stage of the crop, apply second or third dose of fertilizer.
- Drain out the field before N top dressing and irrigate the field after 2 days only
- Use coated or modified urea materials like neem coated urea, sulphur coated urea, and gypsum coated urea as basal where top dressing is not possible due to excess water

#### **Pest and Diseases Management**

##### ***Brown Plant Hopper: IPM Practices to control BPH***

- While transplanting, form the alley ways with 25-30cm distance for every 2m. distance
- Application of Carbofuran 3G granules@10kg/acre, if not applied in nursery
- Judicious application of Nitrogen fertilizers
- Intermittent drying of the fields
- Spray Monocrotophos@ 2.2ml+ DDVP 1 ml/l or Etofenprox@ 2ml/l or Buprofezin @ 1.5ml/ or Dinotefuran 20%SG @ 0.4g/l.

##### ***Leaf folder management***

- Judicious application of Nitrogen fertilizers
- Spray Quinalphos @2ml/l or Cartap Hydrochloride 50SP @ 2g/l or Flubendiamide 0.2ml/l

##### ***Stem borer management***

- Clipping leaf tips while transplanting to destroy egg mass
- Monitor the incidence through Pheromone traps @ 4/acre
- Application of Carbofuran 3G granules@ 10kg/acre or cartap hydrochloride 4G @ 8kg/acre, if not applied in nursery
- Spray Chlorpyrifos @2.5ml/l or Cartap Hydrochloride 50SP @ 2g/l

## Groundnut

Groundnut crop sown in the month of July and August first week in the district was harvested and land preparation is underway in many mandals in the district for cultivation of *rabi* groundnut.

### Varieties for *rabi* cultivation

- Groundnut varieties, Dharani, Narayani, Abhaya, Kadiri 6, TAG 24, Greeshma, Rohini and Bheema (bold) are recommended for *rabi* cultivation. Dharani variety is better than other varieties in respect to yield tolerance to moisture stress, Water use efficiency, shelling out-turn, tolerance to soil borne diseases and groundnut bud necrosis virus.

### Land Preparation

- Land preparation need to done with primary tillage implements for better production and usage of seed-cum-ferti drill is recommended for sowing to reduce sowing cost.

### Time of sowing

- Optimum time of sowing is from November 15<sup>th</sup> to December 15<sup>th</sup> for *rabi* Groundnut cultivation.

### Seed treatment

- Seed rate of 75-80 kg kernals per acre is recommended for *rabi* sowing. Seed treatment with Tebuconazole @1g/kg seed or Mancozeb @3g/kg seed or Carbendazim @2g/kg seed is recommended. To control Groundnut bud necrosis virus seed treatment with Imidacloprid @2 ml /kg seed is recommended. In areas where stem and root rot is endemic seed treatment with *Trichoderma vidire* @ 4 gr/kg of seed is recommended.

### Pest Management

#### Thrips

- Optimum plant population: Maintain optimum seed rate to have 44 plants / m<sup>2</sup>
- Seed Treatment: Seed treatment with Imidacloprid 600FS @ 2ml + 4ml water per kg seed and shade dry for 30 min, then treat seed with Mancozeb @3g/kg seed.
- Border crop: Border crop with jowar/bajra (4 rows)
- Spraying systemic insecticides before 20 DAS: Spray monocrotophos@1.6ml/l water or Imidacloprid @ 0.3ml/l water before 20DAS.
- Maintain the crop without weeds particularly *Parthenium*

#### *Spodoptera litura*

- Monitor the incidence by using pheromone traps @ 4/acre
- Collection and destruction of egg mass and early instar larvae
- NSKE 5% at egg and 1<sup>st</sup> instar larval stage
- Spray NPV @ 100 LE/acre when the larvae are in second instar stage
- When defoliation exceeds 20-25% Spray Chlorpyrifos @ 2.5ml/l, or Thiodicarb 1g/l or Novaluron 1ml/l or Chlorfenapyr 2ml/l or Emamectin Benzoate @ 0.2g/l.

## PULSES

### IMPACT POINTS:

#### REDGRAM:

- Spacing recommended in rabi season is 45-90 cm x 10 cm based on soil type and irrigation facilities.
- Apply 2 tonnes of farm yard manure per acre, 16 kg of Nitrogen, 20 kg of phosphorus per acre.
- Pod borers (*Maruca*, *Helicoverpa* and podfly): Apply insecticides for the control of *Maruca* otherwise severe damage will result in complete flower drop. At flowering stage (for *Maruca*, *Helicoverpa*) spray Chlorpyrifos @ 2.5ml+ DDVP @ 1ml/l or Thiodicarb 1g/l. At pod formation stage (podfly) spray Monocrotophos @ 1.6ml + DDVP 1 ml/l.

#### Blackgram:

- Black gram variety LBG 752 (80-85 days duration) tolerant to YMV and PU 31 suitable for late sowings during rabi season.
- Remove YMV affected plants at early stage and spray neem oil against sucking insects pest at 20 Days after sowing.

#### Green Gram

- Green gram can be sown up to November month end.

## Finger Millet

### Management practice's of late *Kharif* finger millet.

- For late *Kharif* crop, if is vegetative stage apply urea 12 kg per acre has to be applied as top dressing.
- If blast is noticed spraying with Carbendazim @ 1gm/l of water is recommended as climate is congenial for occurrence of blast disease..
- Seed treatment with Carbendazim @ 2g/kg seed (or) Mancozeb @ 3g/kg seed is recommended to avoid the diseases in seedling stages.

### Management practices for *Rabi* finger millet

- Sowing time for rabi : November and December
- Varieties recommended for rabi : Godavari, Saphagriri, Bharathi, Vakala and Hima
- Seed treatment with Carbendazim @ 2g/kg seed (or) Mancozeb @ 3 g/kg seed is recommended to avoid the diseases in seedling stages.

## Gingelly

- Recommended time of sowing Gingelly is from 2<sup>nd</sup> week and 3<sup>rd</sup> week of January. If the crop is sown before that crop will be damaged by Phyllody disease.

## Sunflower

- Recommended time of sowing sunflower for rabi cultivation is from November to December month end.

## **Sugarcane**

### **Land preparation**

- To conserve moisture subsoiling before cane planting and preparing seed bed is recommended.

### **Harvest management in Sugacane:**

- Harvest only matured cane. The optimum harvesting age normally from 10-12 months depending upon the variety.
- Early varieties reach peak maturity at around 10<sup>th</sup> month. Hence first harvest early varieties to avoid pith formation in the cane.
- Harvesting of cane should be done at ground level, as the lower portion of cane is rich in sucrose compared to the top portion.
- Use clean knives for cane cutting.
- While harvesting cutting canes in to small bits should be avoided because greater the number of bits more will be the cut area of the cane being exposed to attack of bacteria and fungi thus leading cane deterioration.
- Keep the harvested cane under shade covering with trash and sprinkle water also reduces staling cane loses.
- Avoid cutting of water shoots, trash and twining weeds.
- Harvest the cane of flowering variety within 8-10 weeks after flowering of cane.

### **Ratoon Management equipment**

- Use of ratoon manager after shredding the leaves and spreading instead of burning is recommended after harvest of main sugar cane crop

### **Yellow leaf disease management**

- Yellow leaf disease is caused by virus and transmitted by aphids. As on today there are no resistant varieties available for Yellow leaf disease. Use of healthy seed material for planting, removal of virus infected plants and spraying Dimethoate @ 2ml/l or Acephate @ 1 g/l is recommended.

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