

## **AICRP on Integrated Farming System**

### **1. Name of Center: SIRUGUPPA**

### **2. Mandates of the centre:**

- To undertake basic and strategic research in integrated farming system on production technologies for improving productivity and resource use efficiencies.
- To develop efficient, economically viable and environmentally sustainable integrated farming system models for different farming situations.
- Development of need based cropping sequences for the area

### **3. Sanctioned and filled staff position with dates of appointment**

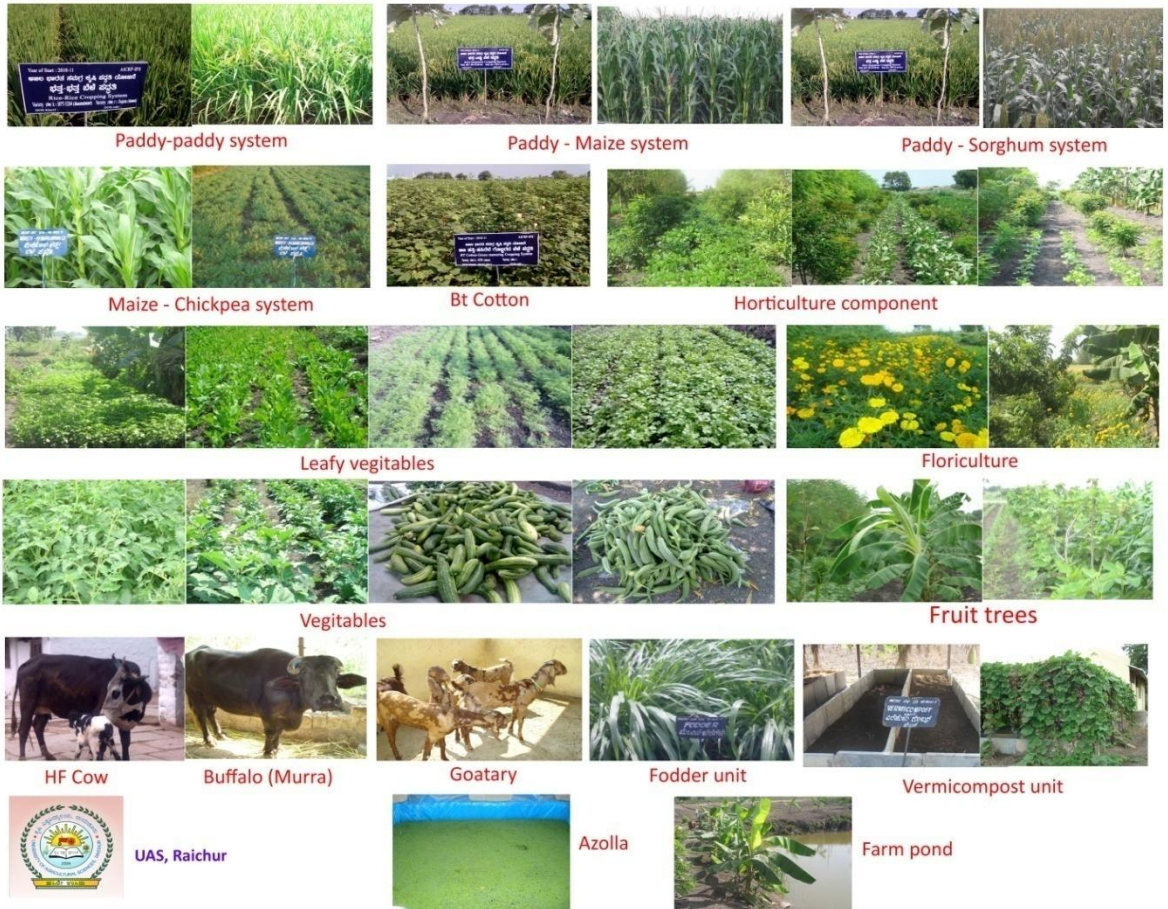
<b>Sl. No.</b>	<b>Position</b>	<b>No.</b>	<b>Name with period</b>
1	Chief Agronomist (Rs. 144200-218200+14)	<b>1</b>	Dr. Basavanneppa M.A. 24.10.2008 to till date
2	Junior Soil Scientist (68900-205500+11)	<b>1</b>	Dr. Ashok Kumar Gaddi 06.10.2009 To till date
3.	Junior Economist (68900-205500+11)		Dr. Prabhuling Tevari 16.1.2010 To till date
4	Technical Assistant (37900-70850)	<b>1</b>	Mr. Irappa Yenkanavar 07-01-2010 To till date

### **Technologies developed**

1. When the inputs are adequate, Jowar-Wheat-Jowar sequence produced highest total grain production. The productivity ranged from 7.43(in 1984-86) to 9.93 t/ha(in 1990-91).
2. The maximum net return was obtained with Green gram-relay Hybrid cotton – Sunflower (Rs.18,662/ha/yr) followed by Jowar - Bengalgram - Jowar sequence(Rs.14,257/ha/yr). The highest build up of nitrogen was in Jowar-Bengalgram-Jowar (283.1 kg/ha) sequence followed by Redgram-Jowar sequence(260.4kgN/ha).

3. In another crop sequence, when inputs are adequate, Hybrid maize-Bengalgram sequence gave maximum net return of Rs.16,251/ha/yr. This was followed by Sunflower- Bengalgram (Rs.13,075/ha/yr) and Maize-Wheat sequence(Rs.12583/ha/yr)
4. In Rice based crop sequences Rice-Rice sequence gave maximum net return of Rs.14,385/ha/yr; followed by Rice- Mustard, Rice-Sunflower, Rice-Bengalgram, Rice-Wheat, and Rice-Maize sequence, which gave net return of Rs.13958, Rs.13895, Rs.12814, Rs.12172, and Rs.10245/ha/yr, respectively.
5. For localization (Kharif-irrigated:rabi-rainfed) area, Hybrid Maize-Bengalgram sequence was best(4498kg/ha/yr and grain production per day was 21.1kg). This was followed by Maize- Wheat and Maize-Safflower.
6. For localization (Kharif-rainfed rabi-irrigated) area, Sunflower-Wheat sequence produced highest total grain yield(2302kg/ha) and grain yield per day(12.4kg).This was followed by Sunflower-Bengalgram and Sunflower- Safflower sequence. Sunflower-Bengalgram sequence gave highest net return of Rs.11,685/ha/yr and benefit cost ratio of Rs.4.80:1.
7. In paddy, significant increase in grain yield was obtained up to 150-75-75 kg N-P2O5-K2O/ha compared to 120-60-60 kg N-P2O5-K2O/ha.
8. Application of 75% RDF through chemical fertilizers supplemented with 25% RDF through cowdung slurry/paddy straw/ Glyricidia/Sesbania produced on par grain yield compared to 100% RDF through chemical fertilizers. Among the Sesbania species, *S. aculeata* was more efficient compared *S.rostrata*.
9. Hybrid Jowar as well as Hybrid maize, respond well to 120 kg N/ha and 80kg P2O5/ha but only marginally to potassium.
10. In case of Wheat after Jowar/Maize increase in grain yield was obtained upto 120 N kg/ha and 40kg P2O5/ha. Marginal increase in gain yield was obtained due to application of potassium.
11. Maximum grain yield of Wheat in Jowar-Wheat sequence was obtained with five irrigations viz., at sowing, crown root initiation, late tillering, flowering and dough stage.
12. In Sunflower, sowing in early January and a fertilizer dose of 60-80-60 N P K were found to give higher yields.
13. Paddy followed by ridgegourd/okra/guar are the best cropping systems for TBP area
14. Integrated farming system model under irrigated condition for Zone-3 on 1 ha area

## Integrated Farming System Model (Irrigated 1ha) at ARS, Siruguppa



### 15. Nutrient management in maize-bengalgram sequence

## Nutrient management in maize - bengalgram system

ಮಕ್ಕಳು - ಕಡಲೆ ಬೆಳೆ ಪದ್ಧತಿಯಲ್ಲಿ ಪೋಷಕಾಂಶಗಳ ನಿರ್ವಹಣೆ



188 : 75 : 37.5 NPK kg/ha



150 : 75 : 37.5 NPK kg/ha



UAS, Raichur



ARS, Siruguppa