

NOTABLE ACHIEVEMENTS OF RESEARCH STATION

S.No	Description		
1	Name of the Research station	:	AGRICULTURAL RESEARCH STATION, UTUKUR, KADAPA
2	Year of establishment	:	Rice Research Station : 1962 Betelvine Research Station : 1967 Agricultural Research Station : 1980
3	Mandate crops	:	Rice, Groundnut & Sesamum
4	Notable achievements		
a	UTR-181, long duration rice variety of 150-155 days duration is under I year minikit testing during 2020-21.	:	Field photograph of UTR-181 

ANGRAU TECHNOLOGIES

			CROP PRODUCTION
1.	NAME OF THE TECHNOLOGY		Response of rice to nitrogen during <i>kharif</i> season in kadapa
2	DESCRIPTION OF THE TECHNOLOGY	:	Rice yield was increased by 24% with 200 kg N ha ⁻¹ nitrogen application along with 60 and 40 kg P and K ha ⁻¹ compared to recommended nitrogen application of 80 kg N ha ⁻¹ during <i>kharif</i> season in kadapa region
3.	APPLICATION/USE	:	With little investment on nitrogen, increase in rice yield was observed.
4.	UNIT COST OF OPERATION	:	Rs. 1550/ha
5.	STATUS OF COMMERCIALIZATION	:	NO
	ADDRESSES OF LICENSEES OR MANUFACTURER	:	--
6.	CONTACT ADDRESS FOR FURTHER DETAILS	:	Agricultural Research Station Utukur, Kadapa-516003

			CROP PRODUCTION
1.	NAME OF THE TECHNOLOGY	:	Response of <i>rabi</i> groundnut to crop geometry in kadapa region
2	DESCRIPTION OF THE TECHNOLOGY	:	Groundnut crop is responding to higher seed rate with narrow spacing of 15 cm x 8 cm during <i>rabi</i> season under irrigated conditions.
3.	APPLICATION/USE	:	Cultivating crop at narrow spacing of 15 cm x 8 cm, by increasing seed rate by 80% there is an increase of yield by 19 % in rabi groundnut compared to recommended seed rate of 180 kg ha ⁻¹ with 22.5 cm x 10cm spacing.
4.	UNIT COST OF OPERATION	:	Rs.14,000/ha
5.	STATUS OF COMMERCIALIZATION	:	NO
	ADDRESSES OF LICENSEES OR MANUFACTURER	:	--
6.	CONTACT ADDRESS FOR FURTHER DETAILS	:	Agricultural Research Station Utukur, Kadapa-516003

			CROP PROTECTION
1.	NAME OF THE TECHNOLOGY	:	Management of root grub, <i>Holotrichia reynaudi</i> in groundnut
2.	DESCRIPTION OF THE TECHNOLOGY	:	Seed treatment with imidacloprid 600FS @ 2.0ml + 2.0ml water per kg groundnut seed was found to be effective with low cumulative plant mortality of 3.26% caused by root grub , <i>Holotrichia reynaudi</i> , with highest C:B ratio of 1:1.61
3.	APPLICATION/USE	:	Root grub incidence in groundnut was very low up to 25 days after sowing due to imidacloprid 600FS seed treatment
4.	UNIT COST OF OPERATION	:	Additional cost of Rs. 900/- per ha had given profit up to Rs. 6000/- per ha with this technology
5.	STATUS OF COMMERCIALIZATION	:	NO
	ADDRESSES OF LICENSEES OR MANUFACTURER		--
6.	CONTACT ADDRESS FOR FURTHER DETAILS	:	Agricultural Research Station Utukur, Kadapa-516003

			CROP PROTECTION
1.	NAME OF THE TECHNOLOGY	:	Management of sucking pests in black gram with novel insecticide
2.	DESCRIPTION OF THE TECHNOLOGY	:	Seed treatment with Imidacloprid 600FS @ 5ml per kg seed and spraying of Spinetoram 12% SC @0.6 ml/l water at 25 and 45 days after sowing had effectively reduced thrips and whitefly population, recorded highest yield(1458 kg/ha) with highest CB ratio (1:2.69)
3.	APPLICATION/USE	:	Thrips , white fly population were effectively reduced with low cost of cultivation
4.	UNIT COST OF OPERATION	:	Additional cost of Rs. 2400/- per ha had given profit up to Rs. 8000/- per ha with this technology
5.	STATUS OF COMMERCIALIZATION	:	NO
	ADDRESSES OF LICENSEES OR MANUFACTURER		--
6.	CONTACT ADDRESS FOR FURTHER DETAILS	:	Agricultural Research Station Utukur, Kadapa-516003

			CROP PROTECTION
1.	NAME OF THE TECHNOLOGY	:	Management of collar rot disease in Groundnut
2.	DESCRIPTION OF THE TECHNOLOGY	:	Seed treatment with tebuconazole @ 1.0 g/kg seed + soil application of FYM enriched with <i>Trichoderma</i> @ 200Kg/Ac at 10 DAS + soil Drenching with hexaconazole @ 2.0 ml/l @ 20 DAS proved effective in reducing the collar rot incidence and in increasing the pod yields (1731 kg/ha) of groundnut with highest CB ratio (1: 1.35)
3.	APPLICATION/USE	:	Treatments imposed effectively reduced the collar rot incidence with low input cost
4.	UNIT COST OF OPERATION	:	Additional cost of Rs.1800/ha had given the profit up to Rs. 7,000 /ha by following the technology
5.	STATUS OF COMMERCIALIZATION	:	NO
	ADDRESSES OF LICENSEES OR MANUFACTURER		--
6.	CONTACT ADDRESS FOR FURTHER DETAILS	:	Agricultural Research Station Utukur, Kadapa-516003

			CROP PROTECTION
1.	NAME OF THE TECHNOLOGY	:	Management of viral Diseases in Blackgram
2.	DESCRIPTION OF THE TECHNOLOGY	:	Seed treatment with imidacloprid 600 FS@ 5 ml/kg+ four border rows of maize/jowar+ removal of virus infected plants + installation of yellow sticky traps@ 4 /acre+ spraying of Difenthiuron @ 1.25 g/l at 30 & 45 DAS found effective for YMV and bud necrosis with lowest percent disease incidence with highest seed yields (1510 kg/ha) and C:Bratio (1:2.39)
3.	APPLICATION/USE	:	By following the technology, YMV and Bud Necrosis diseases wereeffectively managed with low cost inputs
4.	UNIT COST OF OPERATION	:	Additional cost of Rs.2,200/ha had given the profit up to Rs.8,500/ha by following the technology
5.	STATUS OF COMMERCIALIZATION	:	NO
	ADDRESSES OF LICENSEES OR MANUFACTURER		--
6.	CONTACT ADDRESS FOR FURTHER DETAILS	:	Agricultural Research Station Utukur, Kadapa-516003

S.NO	Category of Technology	Crop Production
i	Name of the Technology	Effect of Zinc and Boron on yield of irrigated sunflower
ii	Description of Technology (attach relevant photo if any)	 Application of solubor @ 10 kg ha⁻¹ (1807 kg ha⁻¹) and application of 25 & 50 kg ha⁻¹ Zinc Sulphate (1533 & 1651 kg ha⁻¹) recorded significantly higher yields over control (1355 kg ha⁻¹). This clearly brought out the synergistic effect of Zinc and Boron in improving the yield as well as quality in irrigated sunflower.
Iii	Application /Use	<i>Application of 10 kg solubor and 25 kg ZnSO₄ ha⁻¹ is optimum to improve the yields besides quality in Irrigated Sunflower.</i>
Iv	Unit cost of operation	Rs 750/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S. NO	Category of Technology	Crop Production
i	Name of the Technology	Studies on the Boron levels and groundnut varietal behaviour in Alfisols
ii	Description of Technology (attach relevant photo if any)	 Application of solubor @ 10 kg ha⁻¹ recorded significantly higher yield (1797 kg ha⁻¹) and among varieties Harithandhra recorded higher pod yield, however the pod yield of K6 and Narayani are at par.
Iii	Application /Use	Application of 10 kg solubor has its profound influence in increasing pod yield irrespective of varieties.
Iv	Unit cost of operation	Rs 500/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S. NO	Category of Technology	Crop Production
i	Name of the Technology	Network Experimentation on Revisiting of Fertilizer recommendations for groundnut crop in Andhra Pradesh
ii	Description of Technology (attach relevant photo if any)	 Pooled analysis of three years data clearly brought out the efficacy of fertilizers application based on STCR equation in conjunction with organic manures (61 – 00 – 60 NPK ha⁻¹) recorded pod yield of 30.89 q ha⁻¹. This was at par with application of fertilizers (45 – 40 – 63 NPK ha⁻¹).
iii	Application /Use	<i>To achieve 30 q ha⁻¹ of groundnut pod yield in rabi application of 45 – 40 – 63 NPK ha⁻¹ is optimum.</i>
iv	Unit cost of operation	Rs 5000/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S.NO	Category of Technology	Crop Production
i	Name of the Technology	Studies on the potassium requirement of redgram in Alfisols
ii	Description of Technology (attach relevant photo if any)	 Application of 50 kg P_2O_5 and 60 kg K_2O ha^{-1} holds good for improving the qualitative and quantitative parameters.
iii	Application /Use	For rainfed redgram, application of 50 kg P_2O_5 and 60 kg K_2O ha^{-1} holds good for improving the qualitative and quantitative parameters. (First report on nutritional requirement of potassium in redgram)
iv	Unit cost of operation	Rs 4,500/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S. NO	Category of Technology	Crop Production
i	Name of the Technology	Evaluation of potassium mobilization from waste mica by potassium solubilizing strain on the growth, yield and quality of red gram and maize
ii	Description of Technology (attach relevant photo if any)	 Pooled yield of kharif maize recorded 4795 and 4640 kg ha⁻¹ in 10 and 20 t ha⁻¹ of waste mica applied treatments and among microbes Amaravathi strain recorded highest yield. In the residual crop Pooled yield clearly brought the efficacy of both Amaravathi and Bacillus sp were recorded at par yield. In redgram, 10 and 20 t ha⁻¹ of waste mica recorded higher seed yield 1468 and 1323 kg ha⁻¹ respectively and among microbes Bacillus mucilaginosus recorded 1358 kg ha⁻¹.
iii	Application /Use	The nutrient requirements of maize and redgram can be met from mica waste and by using biofertilizers comprising Amaravathi and Bacillus sp (First report on mica waste)
iv	Unit cost of operation	Rs 640/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S NO	Category of Technology	Crop Production
i	Name of the Technology	Network Experimentation on Revisiting of Fertilizer recommendations for paddy crop in Andhra Pradesh
ii	Description of Technology (attach relevant photo if any)	 Application of 180 – 90 – 64 NPK ha⁻¹ (12.5 kg ZnSo₄ ha⁻¹) recorded highest grain yield of 70.45 q ha⁻¹ which is comparable with fertilizers application based on STCR equation in conjunction with organic manures. Besides this, fertilizer application STCR Equation was not included any phosphorus nutrition thereby reduced cost of cultivation.
iii	Application /Use	The nutrient requirements of paddy can be met from 180 – 90 – 64 NPK ha ⁻¹ (12.5 kg ZnSo ₄ ha ⁻¹)
iv	Unit cost of operation	Rs 8850/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S. NO	Category of Technology	Crop Production
i	Name of the Technology	Zinc Ferti-Fortification for Pearl millet
ii	Description of Technology (attach relevant photo if any)	 The efficacy of zinc fertilization through soil and foliar application on grain yield of bajra recorded 3889 and 3820 kg ha⁻¹. Besides this, <i>Highest fortification of zinc ie 36.33 mg kg⁻¹ was observed in the treatment receiving both soil and foliar application of ZnSO₄@ 0.2%.</i>
iii	Application /Use	<i>Zinc is very essential element in the human health. Hence, to improve the human health naturally use of fortified grains one of the best option. Further fortification is a function of the cultivar (or) the variety but not the nutrient applied through soil or by foliar nutrition.</i>
iv	Unit cost of operation	Rs 500/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S. NO	Category of Technology	Crop Production
i	Name of the Technology	Soil Test Crop Response Technology (STCR)
ii	Description of Technology (attach relevant photo if any)	Fertilizer Adjustment Equation for Groundnut: $F N = 3.69 T - 0.36 SN$ $F P_2O_5 = 1.32 T - 0.71 SP$ $F K_2O = 2.54 T - 0.12 SK$
iii	Application /Use	➤ <i>To obtain desired targeted yield of groundnut</i> ➤ <i>To economize the nutrient application</i> ➤ <i>For precise, quantitative adjustment of fertilizer doses based on soil test values</i>
iv	Unit cost of operation	Rs 1000/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S NO	Category of Technology	Crop Production
i	Name of the Technology	Soil Test Crop Response Technology
ii	Description of Technology (attach relevant photo if any)	Fertilizer Adjustment Equation for Sunflower: $F N = 11.81 T - 1.13 SN - 1.54 VC N$ $F P_2O_5 = 4.04 T - 1.80 SP - 1.20 VC P$ $F K_2O = 2.23 T - 0.17 SK - 0.19 VC K$
iii	Application /Use	➤ <i>To obtain desired targeted yield of sunflower</i> ➤ <i>To economize the nutrient application</i> ➤ <i>For precise, quantitative adjustment of fertilizer doses based on soil test values</i>
iv	Unit cost of operation	Rs 2,000/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S NO	Category of Technology	Crop Production
i	Name of the Technology	Soil Test Crop Response Technology
ii	Description of Technology (attach relevant photo if any)	Fertilizer Adjustment Equation for Cotton: $F N = 8.15 T - 0.57 SN - 0.39 VC N$ $F P_2O_5 = 2.95 T - 2.80 SP - 1.28 VC P$ $F K_2O = 5.92 T - 0.66 SK - 0.77 VC K$
iii	Application /Use	➤ <i>To obtain desired targeted yield of cotton</i> ➤ <i>To economize the nutrient application</i> ➤ <i>For precise, quantitative adjustment of fertilizer doses based on soil test values</i>
iv	Unit cost of operation	Rs 6,800/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003

S NO	Category of Technology	Crop Production
i	Name of the Technology	Soil Test Crop Response Technology
ii	Description of Technology (attach relevant photo if any)	Fertilizer Adjustment Equation for Maize: $\text{FN} = 4.25 \text{ T} - 0.24 \text{ SN} - 0.25 \text{ M}$ $\text{FP}_2\text{O}_5 = 0.90 \text{ T} - 0.30 \text{ SP} - 0.22 \text{ M}$ $\text{FK}_2\text{O} = 1.41 \text{ T} - 0.05 \text{ SK} - 0.18 \text{ M}$
iii	Application /Use	➤ <i>To obtain desired targeted yield of maize</i> ➤ <i>To economize the nutrient application</i> ➤ <i>For precise, quantitative adjustment of fertilizer doses based on soil test values</i>
iv	Unit cost of operation	Rs 6,200/- per ha
v	Status of Commercialization	NO
	Addresses of Licensees or manufacturer	
vi	Contact for further details	Agricultural Research Station Utukur, Kadapa-516003