



# Farmer Centric Innovation in Fruit Crops at Jain Irrigation

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Jain Irrigation Systems Ltd, Jalgaon, MH, India



# Comprehensive Technology Development for Small Holders

- Quality Planting Material
- Best Possible Technology Application
- Hi-tech Technology Development
- Precision Crop Management
- Extension services and hand holding



# **JAIN TISSUE CULTURE BANANA**



✓ **DISEASE FREE PLANTS**

✓ **FASTER GROWTH**

✓ **HIGHER YIELDS**

✓ **EXPORT QUALITY**

# Jain Tissue Culture Banana

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# Banana Revolution

- Use of sucker planting material.
- Imbalance nutrient management.
- Tendency to over irrigate.
- Irregular trashing n De suckering.
- Heat stress in summer.
- Chilling and Cold stress in winter.
- Severe wind damage to leaves.
- Premature harvesting of fruits.
- 120 million plants / year

## Jain Tissue Culture **BANANA**



- Authentic
- Selected from known, closely monitored, diseased free mother block
- Adapted to various agro climatic conditions, different geometries
- Free from CMV, BBTv, BSV, BBMrV, Sigatoka, Fusarium, Erwinia, Ralstonia, Nematode, Weevils, Stem borer
- Grown in Pathogen free, Bio-fortified, Crop specific Soilless media
- Propagated in specially designed root protective pots & biodegradable cups
- Strong & well developed root system

 **Jain™  
Tissue-Culture**

**Better Yield. Greater Profits**

# Variation in Size and Quality of Sucker



# Plants with Well Developed Leaves and Root Ball



# Precise Irrigation and Nutrition Management



# Unique Approaches to Handle Specific Situations



# Unique Approaches to Handle Specific Situations

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# Unique Approaches to Handle Specific Situations



# Expert Guidance



# केले की मास्टरक्लास

By K.B Patil



मुनाफे की फसल एपिसोड-4



# Export Enabled Production



# Endless Success Stories of Jain TC Banana



Farmer Name: Shri. Rajendra G.Patil, Village-Kanapur, Tal.-Khakanar,  
Dist.-Barhanpur (MP), Mobile No.: 9399479419, 8435752999

# UHDP Mango Cultivation

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 **Jain<sup>®</sup>  
Graftling**

Better Yield-Greater Profits.<sup>™</sup>





Traditional Mango Orchard

# UHDP Mango Orchard

# Advantages of UHDP mango cultivation

	<b>Traditional</b>	<b>MDP</b>	<b>UHDP</b>
<b>Plant Density/Acre</b>	40	200	674/500
<b>Gestation Period (years)</b>	7-9 Yr	6-7 Yr	3-4 Yr
<b>Age to reach full potential</b>	12-15 Yr	7-8 Yr	4-5 Yr
<b>Yield potential</b>	Medium	High	Very High
<b>Orchard management activities</b>			
<b>Pruning</b>	Very difficult	Manageable	Easy
<b>Spray operation</b>	Difficult	Manageable	Easy
<b>Spray efficiency</b>	Very poor	Fairly Good	Good
<b>Harvest</b>	Very difficult	Difficult	Very easy
<b>Fruit care</b>	Impossible	Very difficult	Easy

# ESSENTIAL COMPONENTS OF MANGO UHDP



>500 plants per acre and rectangular planting



Training of young trees



Precise irrigation and nutrient management



Pruning of trees after harvest



Application of paclobutrazol



# OPTIMUM SOIL & WATER QUALITY

<b>Soil quality</b>			
<b>Parameter</b>	<b>Good</b>	<b>Average</b>	<b>Unfit</b>
pH	6.5-7.0	6.0-7.5	<5.5/>7.8
EC (mS/cm)	<0.10	0.10-0.30	>.30
Organic carbon	>0.75	0.25-0.50	<0.10
Exchangeable Sodium ppm	<100	100-200	>200
Exchangeable Calcium ppm	500-1000	1000-2000	>2000
<b>Water Quality</b>			
pH	6.5-7.5	7.5-8.0	>8.0
EC (mS/cm)	<0.50	0.5-1.5	>1.5
Suspended Solids (mg/lit)	<50	50-100	>100
TDS (mg/lit)	<500	500-2000	>2000
SAR	<10	'10-26	>26



## QUALITY PLANTS



# IRRIGATION GUIDELINES

Month	Evaporation, mm	Liter/Day/Plant Udumalpet (T.N.)			
		1st yr	2nd Yr	3rd yr	4th yr onwards
Jan	4.60	0.63	2.53	5.69	10.12
Feb	5.90	0.80	3.21	7.21	12.82
March	7.29	1.00	4.00	8.99	15.98
April	6.69	0.89	3.55	7.99	14.21
May	7.54	0.94	3.76	8.45	15.03
June	7.45	1.01	4.05	9.12	16.21
July	7.47	1.03	4.11	9.24	16.43
Aug	7.84	1.09	4.35	9.78	17.39
Sept	7.78	0.96	3.84	8.64	15.35
Oct	4.74	0.55	2.21	4.97	8.83
Nov	3.84	0.59	2.35	5.28	9.39
Dec	3.90	0.58	2.33	5.25	9.33
Avg.	6.02	0.93	3.73	8.39	14.92

# NUTRITION GUIDELINES

Age	Quantity (kg/dose/acre) for 4 x 2 m , 500 pl/acre					
	Month	Number of Doses	Urea	MAP	MOP	MgSO <sub>4</sub>
1yr	July-Sept	12	1.5	0.5	0.8	0
	Jan-May	20	1.6	0.5	0.9	0
2 yr	July-Sept	12	2.4	1.2	2.4	0.278
	Jan-May	20	1.5	0.7	1.5	0.167
3 yr	15 June-Aug	12	3.9	2.4	3.5	0.555
	Sept	4	3.5	2.1	3.1	0
	Jan-May	20	1.7	1.0	1.5	0.333
4 yr on-wards	15 June-Aug	12	6.6	3.4	4.7	0.833
	Sept	4	6.0	3.1	4.2	0
	Jan-March	12	4.6	2.4	3.3	0.833

MAP- Mono Ammonium Phosphate (12:61:00)

An orchard scene showing rows of trees with many yellow protective bags hanging from the branches. A person is visible in the background working among the trees. The ground is dry and dusty. A teal banner with white text is overlaid in the center.

## Fruit Care



**UHDP Var. ALPHONSO**



**UHDP Var. TOTAPURI**

A man and a woman sitting in a mango orchard. The man is wearing a light yellow shirt and the woman is wearing a pink sari. They are surrounded by green mangoes hanging from the trees.

I am G.Venkatramana Reddy.  
We are from Sadu Taluka,Chittoor Dist

**Name of Farmer:** Mr. G.V. Reddy, **Village :** Sadu, **Dist:** Chittoor, **State :** Andhra Pradesh



Name of Farmer: Chennareddy: Village : Jangalapalli Dist: Chittoor, State : Andhra Pradesh

# Precision Farming CASHEW With Jain Tech

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**High Density 4x2m  
Flowering in <2 yrs**



# CANOPY MANAGEMENT

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## High Yield from 2nd Year

Particular	Conventional	UHDP
Yield (Kg/ac) at 5th Year	282	1300
Expected income (@Rs80/kg)	22560	104000



# Jain Sweet Orange



 **Jain<sup>®</sup>**  
**Graftling**  
Better Yield-Greater Profits.<sup>™</sup>



# What is Jain Sweet Orange

- Globally renowned varieties
- Long shelf life
- Very high yield potential
- High juice content
- Fruits having no or few seeds
- Five varieties suitable for early, mid and late maturity
- Suitable for all three (Mrug, Hast & Ambia) Bahar



# Hi-Tech Nursery Production System

- Indexed mother plants
- Scion sticks produced in controlled green houses
- Special grafting techniques
- Plants are produced in special root-trainer cups
- Grafted on known & tested rootstock
- Virus tested plants



# Cultivation System

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# High yield

Particular	Conventional	HDP
Approximate plant spacing (meter)	6 x 6	4 x 3
Number of plants/acre	111	333
Time to bear commercial yield	4-5 yrs.	3-4 yrs
Years to reach full potential yield	6-7 yrs	5-6 yrs
Commercial orchard life	Up to 25	Up to 15-20 yrs
<b>Expected yield at mature age per Acre</b>		
Yield (ton/ acre)	4-5 ton	10-12 ton
Estimated annual income in Rs./acre (Price Rs.18/kg)	Up to 1 Lacs	Up to 2.25 Lacs
Estimated cultivation expense in Rs./acre	Up to 40000	Up to 80000
Estimated annual profit in Rs./acre	Up to 60000	Up to 145000

## Farmers response



# Jain Tissue Culture Pomegranate

 **Jain<sup>®</sup>  
Tissue-Culture**  
Better Yield-Greater Profits.<sup>®</sup>

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BOOK YOUR PLANTS TODAY !

Jain Tissue Culture  
**Pomegranate**



# Efficient Production System

- BBD free plants
- High production capacity
- True to the type plants
- > 5 million plants per year



# Pomegranate Plantation System



# Engagement with Growers



# High Quality Production



# Prosperous Farmer



# Guava

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# Hi-Tech Plant Factory



# Supporting Research

## Ornamental fruit culture: A new age farming technology for aestheticity and nutritional security in urban ecosystem

Theme: Precision Horticulture and New Age Farming Technologies

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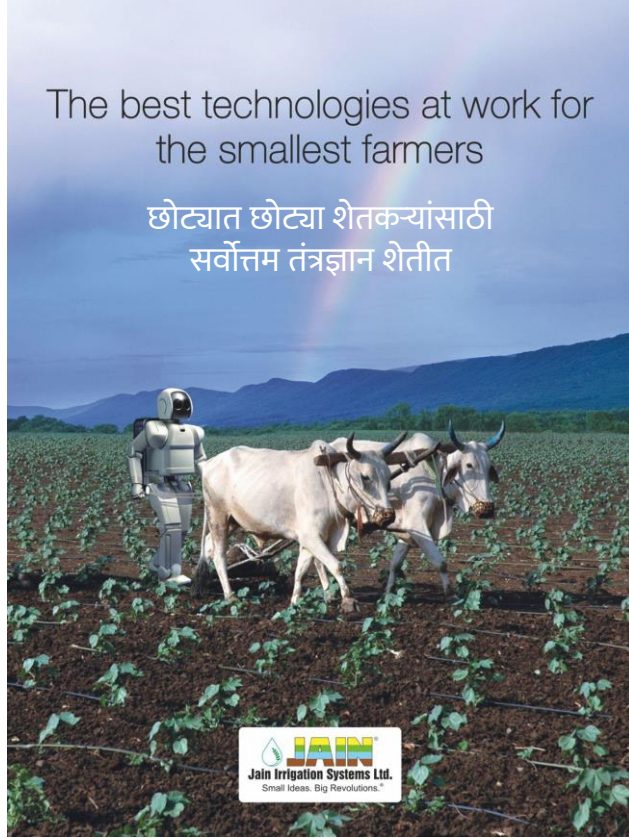


**UNIQUE EXTENSION  
APPROACH**



The best technologies at work for  
the smallest farmers

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सर्वोत्तम तंत्रज्ञान शेतीत



THANK YOU



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