



PROJECT REPORT

Project Report: 1 Acre Hydroponic Farm Cultivation of Rare Chilli method for cultivating crops in controlled environments. This project report outlines the cultivation of Mainly Rare CHILLI CROP on a 1-acre hydroponic farm. RARE CHILLI are a rare vegetable rich in essential nutrients and are mainly used in Spice.

2. Objectives:

- To establish a 1-acre hydroponic farm for rare chilli cultivation.
- To optimize growing conditions for maximum yield and quality.
- To minimize water usage and nutrient wastage through the hydroponic system.
- To assess the economic viability of hydroponic rare chilli cultivation.

3. Methodology:

a. Site Selection and Preparation:

- Selection of a suitable location with ample sunlight and access to water.
- Preparation of the land by leveling and installation of necessary infrastructure like greenhouse structures.

b. Hydroponic System Setup:

- Installation of Grow beg or dutch bucket hydroponic systems.
- Setup of reservoirs for nutrient solution preparation and circulation pumps for nutrient delivery.

c. Cultivar Selection and Seedling Propagation:

- Selection of bell pepper cultivars suitable for hydroponic cultivation and market demand.
- Seedling propagation using appropriate growing media like rockwool cubes or oasis cubes.

d. Crop Management:

- Monitoring and maintenance of optimal environmental conditions including temperature, humidity, and pH levels.
- Regular inspection for pests and diseases and implementation of appropriate control measures.
- Pruning, trellising, and other cultural practices to optimize plant growth and fruit production.

e. Nutrient Management:

- Preparation and maintenance of nutrient solutions with essential macro and micronutrients.
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- Monitoring nutrient levels and adjusting concentrations as per plant requirements.



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Expected Outcomes - Economic Analysis:

- Initial investment in infrastructure, equipment, and operational costs.
- Revenue generation through the sale of chilli .
- Calculation of operational expenses including labor, utilities, and maintenance.
- Determination of profitability and return on investment over the project duration.

1 ACRE AUTOMATED VINE CROP HYDROPONIC FARM PROJECT REPORT.

S.No	Particulars	Units	Unit Cost	Total
1.	Temperature Controlled Polyhouse with Automation	4000(SQM)	1625	INR 6,500,000
2.	Automated Hydroponic GROW BEG VINE crop setup Installation	15000	N/A	INR 7,000,000
Total amount : ONE CRORE THIRTY FIVE LAKHS ONLY				INR 13,500,000

Project Design - Vine plants (**Variety of CHILLI**, Bell pepper, Tomato, Cucumbertc)

Project Size - 4000 sqmtr (1Acre) Plant Capacity - 15,000

Project Description :Grow Bag system for Climber / Vine plants



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Crop Type	No. of Plants	Production in Kg per cycle	Production Cycles/yr	Production in Kg/yr	Estimated Avg selling price in (INR)	Avg sales per yrin Lacs
Variety of chilly	20000	3	2.	120,000	125	15,000,000
Cucumber	12000	4	3	1,44,000	85	12,240,000
Cherry Tomato	16000	3	1.2	57,600	180	10,368,000
Capsicum (Bell Pepper)	16000	5	1.3	1,04,000	120	12,480,000

Total operation cost- 320,000/mo (Approx)

Manpower – 120,000 - 6 ground staff & 1 Supervisor

Electricity – 126,000 - Avg 700 unit power consumption per day @6rs unit rate

Seed & Media – 20,000

Nutrition / Fertilizer – 44,000

Other - Maintenance & Misc – 10,000

***Power meter requirement – 40KW**



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APPROX REVENUE EXPECTATION ACCORDING TO APPROX CHILLI CROP PRODUCTION & ANNUAL EXPENDITURE.

Sr.no	Crop type	No. of plants	Production in kg per cycle/per plants	Producti on cycle per year	Production in kg per year	Est. Avg selling price in (INR)	Avg sales per year in lacs
1	Variety of chilli	20000	2	2.5	120000	125	INR 15,000,000
Approx Annual expenses							INR 3,90,0000
MORTALITY 7%							+ INR 984375
TOTAL APPROX EXPENSES ANNUALY							INR 4,884,375
APPROX ANNUAL PROFIT							INR 13,587,300
<p>Conclusion: Hydroponic cultivation of variety of CHILLI on a 1-acre farm presents a promising opportunity for sustainable agriculture with potential economic benefits. By leveraging controlled environment agriculture techniques, this project aims to demonstrate the feasibility and viability of hydroponic farming for high-value vegetable crops like Rare Chilly.</p>							



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