10 DEHYDRATED KIWI PRODUCTION UNIT

DEHYDRATED KIWI PRODUCTION

1. INTRODUCTION

Kiwi cultivation holds tremendous potential in Uttarakhand, a state known for its diverse agro-climatic conditions that provide the ideal environment for growing exotic fruits like kiwi. The state's temperate climate, with cool winters, moderate rainfall, and fertile soils, creates the perfect backdrop for kiwi farming. The government of Uttarakhand has also been promoting horticulture and agri-business through various schemes, including subsidies and incentives, encouraging young entrepreneurs to venture into innovative farming and processing businesses. Kiwi, a high-value fruit with increasing demand in domestic and international markets, provides an excellent opportunity for agricultural diversification. The production of dehydrated kiwi adds another dimension to the profitability of kiwi farming, as it allows farmers to extend the shelf life of their produce and tap into a growing market for dried fruits.

2. KIWI FARMING IN UTTARAKHAND

Kiwi, scientifically known as Actinidia deliciosa, is a temperate fruit that thrives in moderate temperatures (around 12-20°C) and is well-suited for hilly areas like Uttarakhand. The state's soil and climate conditions favour kiwi cultivation, particularly in regions like Nainital, Almora, and Pithoragarh, which offer favourable micro-climates for kiwi farming.

Varieties of Kiwi Suitable for Uttarakhand:

1. Hayward Kiwi: The most common variety grown in India, known for its large size, sweet taste, and fuzzy skin.

2. Baby Kiwi: Also known as Arctic Kiwi, it is a small, smooth-skinned variety that does not require peeling.

3. Hardy Kiwi: Adapted for cooler climates, this variety can thrive at higher altitudes and lower temperatures, making it well-suited to the colder regions of Uttarakhand.

3. DESIRED QUALIFICATIONS FOR PROMOTER

To succeed in kiwi farming and dehydration, a promoter should ideally possess knowledge and skills in horticulture, agriculture, or food processing. Specific qualifications may include:

1. A background in agriculture, food science, or a related field.
2. Practical experience in horticulture, especially fruit cultivation and post-harvest management.

3. Training in food processing, specifically in dehydration technologies.
4. Business management skills for running a processing facility.
5. Knowledge of local market trends and export requirements for dried fruits.

Additionally, a commitment to sustainable farming practices and the willingness to keep updated on advancements in fruit processing technologies will be beneficial.

4. BUSINESS OUTLOOK AND TRENDS

The global demand for dried fruits, including dehydrated kiwi, has steadily risen due to the growing health-conscious consumer base and an increasing preference for natural, preservative-free snacks. Dehydrated kiwi is a high-value product with a long shelf life, making it an attractive business proposition.

In Uttarakhand, the outlook for kiwi farming is promising due to the following factors:

1. Climate and Soil: Ideal conditions for growing kiwi.
2. Government Support: The government's horticulture schemes, processing unit subsidies, and rural development initiatives support new ventures.
3. Growing Market: The growing trend towards organic and health-oriented snacks creates a demand for dried fruits, including dehydrated kiwi.
4. Export Potential: The demand for kiwi and its dehydrated form is high in international markets, providing an export opportunity.

5. MARKET POTENTIAL AND MARKETING ISSUES

The market potential for dehydrated kiwi is expanding rapidly due to several factors:

Increasing Demand for Healthy Snacks: With the shift towards health-conscious eating, consumers opt for dried fruits as a healthy alternative to conventional snacks.

Export Potential: International demand for exotic dried fruits, mainly from Europe, the U.S., and Middle Eastern countries, presents a lucrative export market.

Domestic Growth: The Indian market for dried fruits is growing, driven by urbanization, rising disposable incomes, and increased consumer awareness of health and wellness.

Marketing issues to consider:

Quality Control: Ensuring the dehydrated kiwi maintains its flavor, color, and nutritional value during dehydration.

Storage and Packaging: Proper storage and packaging are crucial to ensure a long shelf life and prevent spoilage.

Competition: As the demand for dried fruits grows, competition from other products could be challenging.

Branding and Promotion: Building a brand in the health food sector is critical, and proper marketing strategies targeting health-conscious consumers and exporting nations will be necessary.

6. BUSINESS INPUTS

For successful kiwi farming and dehydration, the following key inputs are required:

Kiwi Seedlings/Plants: Purchase high-quality kiwi or grafted saplings from certified nurseries.

Fertile Land: Cultivation requires well-drained, loamy soil.

Irrigation System: Drip irrigation is ideal for kiwi orchards.

Dehydration Equipment: Industrial-grade food dehydrators, storage facilities, packaging equipment, and quality control machinery.

Labor: Skilled labor for cultivation, harvesting, processing, and packaging.

7. DEHYDRATION PROCESS

Dehydration Process:

1. Pre-Treatment: Wash the kiwi fruits thoroughly. Peel them and slice them into uniform pieces.

2. Blanching: Some processors opt to blanch the fruit in hot water for a few seconds before dehydrating it to preserve color and nutrients.

3. Dehydration: Use a food-grade industrial dehydrator that works through heat and airflow. The drying process can take anywhere from 6 to 18 hours, depending on the size of the slices and the moisture content of the fruit.

4. Packaging: Once dehydrated, the kiwi should be stored in air-tight containers or vacuum-sealed packaging to prevent moisture absorption.

5. Quality Control: Ensure that the dehydrated product is free from moisture, contaminants, and insects. Regular quality checks should be conducted.

8. MANPOWER REQUIREMENT

Sr. No	Particulars	No.	No of month in year	Wages/Salaries per month (Rs. In Lakhs)	Annual Expense (Rs. In Lakhs)
1	Self-employed (Owner)	1	-	-	-
2	Skilled Labor (Processing)	1	12	0.12	1.44
3	Harvesting Labor	2	3	0.08	0.48
4	General Labor (Packaging)	1	12	0.1	1.2
Total					**3.12**

9. IMPLEMENTATION SCHEDULE

Sr. No.	Activity	Time Required (in months)
1	Acquisition of premises	1
2	Construction (if applicable)	5
3	Procurement & installation of Plant & Machinery	3
4	Arrangement of Finance	1
5	Site Preparation and Orchard Establishment	18
5	Recruitment of required manpower	1
6	Total time required (some activities shall run concurrently)	20

10. COST OF PROJECT

Sr. No	Particulars	Annual Expenses (Rs. in lakhs)
1	Land	-
2	Building (Rented)	0.00
3	Plant & Machinery	0.20
4	Equipment and Furniture Exp.	0.50
5	Misc. Fixed Asset	0.02
6	Preoperative & Preliminary Exp.	0.05
7	Working Capital	1.04
Total Project Cost		**1.80**

11. MEANS OF FINANCE

Means of Finance		
Sr. No.	**Particulars**	**Annual Expenses (Rs. in lakhs)**
1	Promoter's contribution	0.72
2	Bank Finance	1.08
Total		**1.80**

12. SALES REALISATION

Sr. No	Product	Sales in Percentage	INR
1	Dehydrated Kiwi	25.0%	360000
Total		**100.00%**	**360000**

13. PROFITABILITY CALCULATION

Sr. No	Particulars	Annual Expenses (Rs. in lakhs)
A.	Sales realisation	3.60
B.	Cost of production	
i)	Raw materials	0.13
ii)	Utilities	0.13
iii)	Manpower Cost (Salaries/wages)	3.12
iv)	Administrative expenses	0.06
v)	Packaging Cost	0.05
vi)	Material Lost Cost	0.05
vii)	Selling & distribution expenses	0.06
viii)	Repairs & maintenance	0.00
ix)	Rent	0.00
x)	Interest	0.09
xi)	Misc. expenses	0.00
	Total (B)	3.69
	Gross profit/loss (A – B)	-0.09
	Less: Depreciation	0.09
C.	PBIT	-0.19
D	Income-tax	-
E	Net profit/loss	-0.19
F.	Repayment (Annual)	0.33
G	Retained surplus (E-F)	-0.52

14. BREAK-EVEN ANALYSIS

Fixed cost	
Land & Building Rent	0.00
Depriciation	0.09
Interest	0.09
Manpower	0.94
Total Fixed cost	1.13
Variable cost	
Raw materials	0.13
Utilities	0.13
ManPower	2.18
Administrative expenses	0.06
Selling & distribution expenses	0.06

Total Variable cost	2.56
Contribution margin	**29%**
Break-Even Point in Value	0.33

15. STATUTORY/GOVERNMENT APPROVALS

For a dehydrated kiwi business, the following licenses and approvals are required:

1. FSSAI License: Ensure compliance with food safety regulations.
2. Trade License: Obtain from the local municipal authority.
3. GST Registration: For the sale of goods and services.
4. MSME Registration: To avail of government subsidies and support.

16. TRAINING CENTERS AND COURSES

Entrepreneurs looking to enter kiwi farming and dehydration can pursue relevant courses at the following institutes:

1. FCI Institute of Management, Dehradun, Uttarakhand.

2. National Institute of Food Technology Entrepreneurship and Management (NIFTEM), Haryana.

Uttarakhand farmers can capitalize on the growing demand for dehydrated fruits and secure a sustainable and profitable business by cultivating kiwi and engaging in dehydration.

The Swayam portal (link: https://swayam.gov.in/) can also be accessed for enhanced learning on business commerce, accounting, production, marketing, and areas of entrepreneurship.

Entrepreneurship program that helps to run businesses successfully are also available from Institutes like the Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer

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