Success Story

Title: The Economic Empowerment of Rural Tribes: Exploring the Unique Indigenous Technique of Ginger Processing

Introduction

Kalsi block is located in the Dehradun district of the Indian state of Uttarakhand. It is situated in the foothills of the Himalayas and covers an area of approximately 270 square kilometers. The primary crops grown in Kalsi block include rice, wheat, maize, and various vegetables such as tomatoes, potatoes, and cucumbers. Fruit orchards are also present, with mango, litchi, and guava being the most grown fruits. Livestock rearing is also an important part of the local economy, with dairy farming being a major activity.

How Ginger growing and processing became a boon to the tribes of Kalsi area:

Ginger processing which is unique and has changed the economy of Domat and other surrounding villages of Kalsi block of Dehradun District. Ginger is a high-value crop as ,it has a high demand in the local and international markets and is used for various purposes, such as culinary, medicinal, and cosmetic and it is a hardy crop that can be grown in a range of soil types and agro-climatic conditions, making it suitable for cultivation in the hilly areas of Kalsi block. Thirdly, ginger cultivation is a sustainable farming practice which is known for its several medicinal properties

KVK intervention

Krishi Vigyan Kendra did a survey in detail covering the whole and as a result the ginger rot problem was observed as a cause for low productivity.

Input

Management of Soft Rot or Rhizome Rot in Ginger : The farmers whose crop was suffering were made aware for cultural management of the disease which covered disease free selection of seed and soil which has well drained system,

Select disease free seed rhizomes for planting.

- Select well-drained soils for planting ginger.
- Before planting, cover the moist soil with transparent polythene sheet for about 45 – 50 days (Soil solarization).
- Follow crop rotation with non-host crops like maize, soybean or cotton for at least 2 – 3 years.

Chemical Management

To eradicate this problem the farmers were selected and intensive demonstrations were conducted. This included two sprays of (Azoxystrobin 11% + Tabuconazole 18.3%) @ 0.2% at 40 and 60 days after sowing along with, seed treatment with Dithane M 45 @ 0.2% + Bavistin @ 0.2% +Chloropyrophos @0.2%.

Output

This resulted that the seed treated with copper oxychloride 50 WP @ 0.3% before sowing. + Bavistin 75 WP (0.1%) @ 0.3 % + Azoxystrobin 11% + Tabuconazole 18.3% was found very

effective and gave higher net return i.e.135.4 qt/ha .The repeated efforts of KKVK scientists helped the ginger growing farmers in protecting their crop from the disease.

Processing of Ginger:

Besides this Ginger drying in Domat village of Kalsi block of Dehradun district is a unique process that involves the use of traditional methods.Two indigenous methods followed by the rural community of Domat village of drying ginger which makes this unique are Panjhol and Sujhol. These are unique in the sense that the product comes out after processing is unique in quality and is very much in demand. KVK intervened in processing and the scientific method of cleaning and drying methods were demonstrated to enhance the quality of the ginger and also to follow the procedure hygienically.

Punjhol and Sukhjhol methods of drying ginger are the traditional methods commonly used in the northern parts of India, including Uttarakhand. To use this method, the ginger roots are first harvested, washed, and cleaned to remove any dirt or debris.

Sukhjhol Method of Drying Ginger: According to the villagers this method is better compared to punjhol as it needs less labor.

The ginger is then pre-graded in the field for any unripe, damaged, or diseased rhizomes. Damaged bulbs are kept separately. The remaining good quality bulbs are sorted by size and overall appearance. The surface of the ginger should be clean, bright yellow-brown, and fresh looking.This is kept in mind that there should not be any wilting or sprouting. Freshly plucked ginger rhizomes are washed thoroughly in water two or three times and dried in the shade for a day. Ginger is rubbed by hands in clean water. Care is needed during cleaning to avoid breaking the bulb, which leads to decay and shrinkage

A very special rotator drying machine that has been cast by the villagers is a unique method of drying ginger. The uniqueness is that it has the capacity of drying ginger at the rate of 1qt/hour which not only saves time but is a drudgery-saving device. There are two types of machines, one which is operated manually and the other one where a motor of 2Hphas been installed to enhance the speed and capacity of drying the ginger.

The washed and graded ginger is dried in shady areas to dry up for a few days .After natural drying in sunlight the ginger is dried in a machine which they have designed by themselves. This is a unique type of machine that can be operated manually and with the help of a motor also. This is a horizontal rotary drum-shaped machine that has holes to drain the water coming out of the ginger while rotating at a fast speed.Machine-dried ginger is now dried in sunlight for some more time and now they call it "**Gilti".**This is the final product that is sold out in the market.

Punjhol Method of Drying Ginger: The Punjhol method of drying ginger is a sustainable and eco-friendly method that does not require any additional energy sources, making it a low-cost and environmentally friendly way of preserving ginger. The only difference in both methods of drying is in Sukhjhol we need not peel off the ginger prior to drying while in the case of Punjhol we need to peel off the rhizome.

Drying Ginger with the help of a Machine developed by the villagers themselves.

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Drying of Ginger (Gilti) The ginger clusters are left to dry for several days until they are completely dehydrated. The drying time may vary depending on the humidity and temperature of the area.The Punjhol method relies on air circulation, and the shaded area helps to prevent direct sunlight from reaching the ginger, which can cause discoloration and loss of flavor.

Outcome

To analyze the role of ginger processing on the economic status of the tribal community a study was conducted by the Krishi Vigyan Kendra and the results were amazing.The village comprises nearly 100 families among them 80 families has adopted this crop as a cash crop and processing ginger. Both the Punjhol and Sukhjhol methods are being followed to make the saunth"gilti". These gilties are sold in nearby mandi where they get a good price. According to them, 25000 Kg of good quality dried ginger is sold by this village @ Rs. 3000-Rs.5000/Kgs. The second and third grades are also sold @ Rs.1500/kgs to Rs 2000/kgs. The average overall earning from dried ginger is approximately 8 crores, which is a huge amount they get only from one crop and that is ginger.

The whole story of Village Domat can be analyzed in a way that the Economic empowerment of villagers through ginger processing can be a viable option to improve their income and livelihoods. Dried ginger has a high demand in the market due to its health benefits and culinary uses.

Impact

To harness the best from it the villagers can form a cooperative society or FPO. The cooperative society can pool its resources to set up a reservoir of these dried gilties and store them in warehouses. This will help them to negotiate the price with other interested agencies who can provide them with better pricing facilities. The processed ginger products can be sold in local markets or exported to other regions or countries. The villagers can also create their own brands and market the products under their brand name.

Apart from generating income, ginger processing can also create employment opportunities for the villagers. The processing plant or machine requires operators, technicians, and other support staff. By employing local people, the villagers can contribute to the economic development of their community. Thus, the economic empowerment of tribal community through ginger processing can have a positive impact on their livelihoods and the community's economy.

Farmers Cleaning the rhizomes manually

Investigation of Ginger crop by KVK Scientists

Manually operated Drying Machine

Motor operated Drying Machine

Peeling of Ginger