

Root cellar for storage of vegetable in cold arid region of Ladakh

Introduction:

A root cellar is a structure, usually underground or partially underground, used for storage of vegetables, fruits, nuts, or other foods. A wide variety of foods can be stored for weeks to months, depending on the crop and conditions. Root cellars are for keeping food supplies at controlled temperatures and steady humidity. Many crops keep longest just above freezing (0–2 °C) and at high humidity (90–95%), but the optimal temperature and humidity ranges vary by crop, and various crops keep well at temperatures further above near-freezing but below room temperature, which is usually (18–21 °C) . A few crops keep better in low humidity. Root cellars keep food from freezing during the winter and keep food cool during the summer to prevent the spoiling and rotting of the roots, for example, potatoes, onions, garlic, carrots, etc. These are placed in the root cellar in the autumn after harvesting.

Traditional methods for storage of vegetables in cold arid region of Ladakh, India

Vegetable finds important place in the Ladakhi menu. In Kargil area under vegetable crop is 666 hector, production of vegetable including Potato is 86580.0 quintal (Statistical Handbook , District Kargil). Due to sub-zero temperature during winter months, vegetable cultivation is possible only from April to October, and harvesting is done from July to October. Storage of vegetables produced during the summer season is must for its consumption during winter months. The region remains isolated from rest parts of the country from November to May every year due to heavy snowfall. Getting fresh vegetables from outside the region is beyond the reach of the people due to high air cargo charges of Rs 130/kg (Zulfkar Ali). Therefore, the only means of getting vegetables during winter months is by storing the locally produced surplus vegetables for off-season consumption. Vegetables stored for the winter months form a major source of income for vegetable growers. Local experienced farmers mostly use Sadong/Bangba (local Root Celler) for vegetable storage for winter season.

Meeting the fresh vegetable requirement of the local population, the army and the visiting tourists in the remote mountainous Ladakh region is a formidable challenge. Seasonal shortfall and low dietary options prompt to micronutrient deficiencies, a phenomenon that has been described as 'hidden hunger' (Tsering Stobdan*)

Sadong/Bangba:

A cone shaped pit locally known as Bangba is constructed at ground level in a well drained location. The size of the pit varies from 150-180 cm depth, 90-120 cm surface diameter and 150-180 cm basal diameter . The pit is made in October ending soon

after crop harvesting. Vegetables like potato, carrot, radish and turnip free from cuts, cracks, bruises, or other insect or mechanical injury are placed A cone shaped pit locally known as Bangba is constructed at ground level in a well drained location. The size of the pit varies from 150-180 cm depth, 90-120 cm surface diameter and 150-180 cm basal diameter . The pit is made in October ending soon after crop harvesting. Vegetables like potato, carrot, radish and turnip free from cuts, cracks, bruises, or other insect or mechanical injury are placed in the pit and covered with jute bag.



Drawbacks of traditional Root Cellar:

Traditional root cellars face several limitations. They are often small and have limited storage capacity. Due to their size, conventional cellars cannot accommodate all the surplus root vegetables. Several cellars need to be dug—one for each type of root vegetable. Additionally, each year requires a new excavation to prepare a new root cellar. The soil covering these cellars freezes during winters, making digging in winter a tedious task. Once dug, all the root vegetables need to be removed from the cellar to get rid from digging of frozen soil.

References

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