

जौ-एक पारम्परिक पोषण अन्न –लेह और लद्दाख क्षेत्र में “मिशन-पोषण ” को बढ़ावा
Barley Cultivation: An Initiative for Pursuit of Profit in Cold Dry Land Region of Leh and Ladakh- An initiative on “Mission Poshan” under Azadi ka Amrit Mahotsav

Situation analysis: Leh-Ladakh is a cold, arid, Trans-Himalayan area of Union Territory of Ladakh with distinctive agro-climatic features. Ladakh experiences a very harsh winter environment (-30°C) due to its high altitude (10,000 to 14,000 feet). It is a region with scarce resources and a harsh environment. Due to unpredictable weather patterns and ever-declining glaciers as a result of climate warming, the cold, arid region that completely depends on glaciers for water is currently facing water shortage. Even in the summer, growing crops in such a climate is challenging, and in the winter it is nearly impossible.

Agriculture with the harvesting of glacier water of the Himalayas is the main driver of productivity in cold deserts. Due to their high compatibility for their climatic conditions and end-use requirements, farmers in this region traditionally relied mostly on subsistence agriculture based on crops like barley, wheat, and maize as main cereal grains. The primary food grain of Ladakh is **barley** which is roasted and crushed into namphay (in Ladakhi) or tsampa (in Tibetan) and consumed as staple food. Alfalfa is being grown as the primary fodder crop, with wheat straw and barley being added as supplements. Their major festival, SAKA, which marks the beginning of the agricultural season in Ladakh around April and honours the Dzo with Chhang and barley products, also highlights the significance of barley. In Religious programmes barley is used as main sacred crop and is also found in monasteries for worship.

However, farmers use landraces, which have a lower production potential but are tailored to the location and every year, barley landraces adapted to the cold deserts of the West Himalaya are preserved and maintained by the farmers.

Technology: One of the oldest grains consumed by humans, barley (*Hordeum vulgare*), is mentioned in the Rigvedas. The diverse uses of barley's grain and plant in relation to food, feed, and forage are largely responsible for its significance. This crop is frequently regarded as the sole rain-fed cereal crop in many nations throughout the world where little input and challenging conditions, such as drought, heat, and cold, are present. Therefore, given the current climate change and population pressure on the food supply, this historic crop is likely to have a new future. The barley varieties like BHS400, BHS380 (Dual purpose: food and green fodder), BHS352 (hullless) developed by ICAR-IARI Regional Station, Shimla for Northern Hill Zone can help in gaining increased barley productivity in Leh and Kargil of Ladakh.

Input: The awareness and technical knowhow on varieties and scientific cultivation of barley were imparted to the Leh farmers in association with the Sher-E-Kashmir University of Agriculture Sciences and Technology of Kashmir, High Mountain Arid Agriculture Research Institute, Leh. Displayed of value-added products and farmers were encouraged to go for processing the barley for preparing products like puffed barley, barley water and Sattu for

upliftment of the livelihood status of the farming community especially self help groups. ICAR-IARI regional Station, Shimla along with, scientists from High Mountain Arid Agriculture Research Institute, Stakna, Leh, inculcate knowledge and skill through conducting awareness, training and emphasized on scientific practices which are most suitable for the region. On farm trial consisting of wheat and barley genotypes was also constituted to analyse its performance under Leh and Kargil (summer sown) conditions. Survey and local germplasm collection of wheat at Thiksey, Stakna, and other adjoining villages, was also done and technical knowhow on cultivation practices was also imparted. It was recorded that crops were sown at much higher seed rate against recommended rate and broadcasted to obtain good amount of crop residues along with weeds which are stored and utilized as fodder during winter.

Outcome: Besides awareness/training, technical skills for sowing of barley and wheat trial was also given to the technical staff for evaluation of suitable high yielding and disease resistant genotypes for Leh-Ladakh region. Help rendered by Dr Namgyal, Associate Director and Dr Maheshwar Singh to organize this programme is highly appreciated. Dr Namgyal lauded IARI technologies and highlighted them among the farmers in Ladakhi Language. He emphasized the traditional germplasm used in Ladakh are nenak, yang-ma, yang-kar, sermo, tug-zur of barley which are involved in folk songs revealing the significance of these local germplasm. Questions of farmers were also addressed. Technical bulletin of the station was also given to the farmers.

Source: Pal DP, Patial M and Manoj Kumar (2023) IARI, Regional Station, Shimla (H.P.)



