

Introduction of salinity resistant variety of wheat in coastal region

Background / Problem Statement:

Bhavnagar district is divided into three different agroclimatic zones. The coastal belt of the district comprising Mahuva taluka falls under South Saurashtra Agroclimatic zone. The zone is characterized with different types of soil viz., medium black soil, coastal alluvial soil and shallow black soil. Being a coastal area, salinity ingress in underground water and increase in soil salinity are the major constraints faced by the farmers of this region. Poor yield of major crops had restricted cultivation of wheat crop in the surrounding area of Kalsar village (taluka: Mahuva).

Intervention of KVK:

- After establishment of KVK-Bhavnagar, in the year 2011, KVK established linkages with local farmers through an NGO (Triveni Kalyan Foundation) based at Kalsar village.
- After conducting PRA, KVK came to know about the problems and need of the farmers' group of this region.
- KVK scientist collected soil samples from farmers' field and analysed for soil salinity. Soil salinity was found to be very high ($> 6.0 \text{ dS m}^{-1}$).
- KVK scientist searched / inquired for a salinity tolerant variety of wheat at CSSRI, Karnal. After a discussion with scientist of CSSRI, Karnal, salinity tolerant variety KRL 19 found suitable for the region.
- KVK planned front line demonstrations of the variety in surrounding area of Kalsar village. Seed was procured from CSSRI, Karnal. Front line demonstrations of wheat variety **KRL 19** on farmers' field were laid out in *Rabi*, 2013-14 in 5 ha area.
- All the package of practices for wheat cultivation were extended to farmers through regular visit to demonstration plots. A healthy crop emergence and plant stand obtained. On maturity, field day was celebrated and farmers' feed back collected.

Output:

- The variety performed well and exhibited grain yield ranging from 2700 kg/ha to 3500 kg / ha in different fields. Looking to the yield received, farmers were very happy and revealed that they would like to store some portion of the harvest as seed for next year.

- The farmers under front line demonstration kept some seed for next season and distributed the surplus to the other farmers for cultivation in *Rabi*, 2014-15.
- Looking to the success of the front line demonstration results and acceptance of the variety among the farmers KVK also produced truthful seed of KRL 19 at KVK demonstration farm and distributed to farmers in 2015-16.
- Within two years (seasons) of the demonstration the variety is spread over 7 – 8 villages covering approximately 80 ha area.

Outcome of intervention & Impact:

- Earlier the farmers around the Kalsar village of Mahuva taluka were forced to leave wheat cultivation due to poor yield because of soil salinity and unavailability of salinity tolerant variety.
- Due to the introduction of KRL 19 variety through front line demonstration, farmers are cultivating the variety and also sell seed to other farmers. Farmers of the region are now capable of producing wheat for domestic consumption also.
- Introduction of the variety has increase production of wheat up to 18 per cent and gave better cost benefit ratio.

