

Development of Gypsum Based “Micron Fertilizer”



CHALLENGE:

During 1995-2001, a series of field experiments were undertaken in salt affected fields in rice-wheat system of Punjab and Sindh for developing management strategies for salt affected lands and brackish waters. It was noticed that leaching of excess salts, after gypsum application, leads to inadequate soil micronutrient supplies to support optimum crop growth. It was also observed that gypsum application positively affects the release of soil micronutrients. Additional calcium supply through gypsum application helps wheat plants to alleviate the deleterious effects of sodium ions on plant growth by enhancing K^+ uptake and reducing Na^+ uptake by plants.

In 2003, MoU was signed between PARC and Pakistan Agribusiness Ltd., Islamabad to develop viable gypsum-based product having appropriate concentrations of micronutrients. After thorough investigation, a product named “Micron” was developed containing 5% $ZnSO_4$, 2% Ferrous sulphate, and 5% $MgSO_4$.

INTERVENTION:

The product is being marketed by Pakistan Agribusiness Ltd in southern Punjab and Sindh for amelioration of salt affected lands. So far the firm is able to meet only 60% of the demand of their dealers’ network, having head office at Islamabad and regional offices at Lahore, Kasur, Sahiwal, Sukkur and Hyderabad.

OUTCOME:

Gypsum based Micron fertilizer increases crop yield upto 35% and also improves soil health. Beneficial impact of the product has been demonstrated widely by Pakistan Agribusiness technical staff to farming communities. Approximately 300,000 bags of micron were sold in last three years and sale is on the increase