

Maximizing cotton yields with High Density Planting System in Erode District

Introduction:

Cotton (scientific name: *Gossypium spp.*) is a flowering plant that belongs to the Malvaceae family. It is cultivated primarily for its fiber, which is used in the textile industry, and its seeds, which are used to produce cottonseed oil. Cotton plants are known for their soft, fluffy fibers, which grow around the seeds and are harvested to produce cotton fabric. There are four main species of cotton cultivated worldwide: *Gossypium hirsutum* (upland cotton), *Gossypium barbadense* (Sea Island cotton), *Gossypium herbaceum* (Asian cotton), and *Gossypium arboreum* (tree cotton). Among these, *Gossypium hirsutum* is the most commonly grown species, especially in countries like India, China, and the United States.

India is the largest producer of cotton in the world, contributing significantly to the global cotton supply. Cotton farming is not only a major economic activity but also plays a key role in the livelihoods of millions of farmers across the country. India cultivates cotton in over 12 million hectares, making it the largest cotton-growing country. The country produces approximately 30 million bales (170 kg each) of cotton annually. India's cotton productivity has been steadily improving with the adoption of better farming practices, high-yielding cotton varieties, and advanced irrigation techniques. Despite facing challenges like water scarcity and pests, the country's cotton production remains robust.

In Tamil Nadu, cotton is an important crop grown in several districts, including Erode, Coimbatore, and Dharmapuri. The state contributes a significant portion to India's total cotton production, with around 2-3 lakh bales produced annually. Tamil Nadu's cotton productivity is also steadily improving with the use of modern farming techniques and better seed varieties. Cotton farming in the state is mainly concentrated in the rainfed areas, with well-irrigated fields also becoming common.

Erode, located in Tamil Nadu, is one of the key districts for cotton farming. It has favorable conditions for cotton cultivation, especially in terms of soil and irrigation. Farmers in Erode typically cultivate cotton in smaller landholdings, with the area under cotton cultivation covering around 10,000 - 15,000 hectares. Cotton productivity in Erode is increasing as farmers adopt improved agricultural practices and technologies.

KVK Interventions

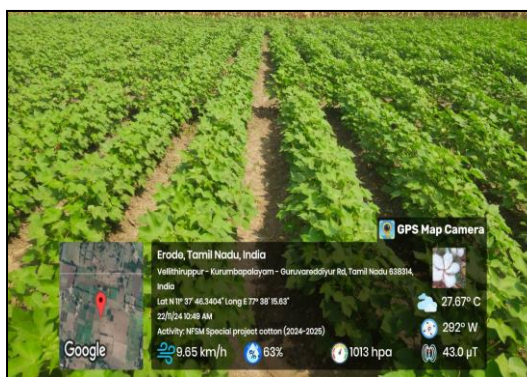
KVK implemented NFSM special project cotton during 2024-25 to adaptation of High-density planting system and Extra Long Stable cotton cultivation technology in Erode district around 100 acres in Winter cotton season (Aug-Feb). NFSM special project cotton was funded by ICAR-CICR. KVK identified around 94 innovative farmers over 30 villages/clusters from Anthiyur, Bhavani and Ammapet block of Erode District. HDPS and ELS is technology in cotton cultivation in recent years. The selected progressive farmers trained on improved crop management practices on HDPS and ELS cultivation and supported with cotton seeds and inputs especially IPM kits and Micronutrients. From sowing to harvest, KVK, CICR scientists and YPs made periodical visit to provide technical advisory services for getting optimum yield. KVK conducted periodical training programmes on Canopy, Nutrient, Pest and Disease Management with Subject Matter Specialists throughout the season. Field day, workshop and Kisan mela conducted by KVK to encourage the farmers to adopt this technology.

Outcome and Impact

Mrs. Vijaya is a small farmer from Gettisamudram village of Anthiyur block in Erode district. The farmer has 2-acre field with shallow soil under irrigation conditions. Out of this, 1 acre is dedicated to the HDPS system using the RCH 929 BGII hybrid. By adopting the HDPS intervention, the farmer achieved a bonus seed cotton yield of 2.2 quintals per acre, which is higher than the conventional method with a spacing of 120x60 cm. Percentage increase in seed cotton yield over practice is 32.8. An additional income of Rs.43,090/acre was realized in HDPS Technology.



Ms.Vijaya, Adopted HDPS cotton technology



HDPS Field- Vegetative stage



Dr.Sankaranarayanan, CICR Scientist Explain about HDPS technology to the farmers



Mr.Srinivasan, SMS Plant protection, Diagnosis the PBW infection during joint visit with State Agri. Dept Officials



IPM Kit Distribution during Kisan Mela