

Working Paper III

Topic of The 2012 Technical Seminar

Proposals from the Secretariat to the Committee on Cotton Production Research

INTERNATIONAL COTTON ADVISORY COMMITTEE

Buenos Aires and Ciudad de Presidencia Roque Sáenz Peña, Argentina September 2011

The following themes are suggested as possible topics for the 2012 Technical Seminar:

Intellectual Property Rights and Role of Private Breeders

Cotton breeding and planting seed production shifted to the private sector in the USA long before the adoption of biotech cotton and the same process occurred in India prior to the adoption of biotech cotton in 2002. In Pakistan, private seed companies are now aggressively competing against public sector breeders who have monopolized variety development until now. Private sector varieties have already been officially approved and are expected to quickly take over the planting seed market. More countries are on the same path and others will ultimately come to the conclusion that the private sector can develop new varieties and produce planting seed for farmers. These changes will allow public breeders to focus on genetic work and the development of germplasm.

However, countries that have commercialized biotech cotton require breeders to test their breeding lines with biotech genes already inserted in the cultivars. But, many companies particularly smaller ones do not have rights to insert biotech genes at the early stages. Public sector breeders lose their rights to the genotypes as soon as a single biotech gene is inserted in the new line. The question of who should own a biotech variety, the biotech company who owns only two or three genes or the breeder who spent 15 years to develop a variety, is the intellectual property rights issue limiting the role of private breeders and related issues could be discussed during the seminar.

Modern Insights into Soil Fertility Maintenance

Sustainable agriculture and various specialty cottons that are popular (e.g. organic cotton, zero tillage, better cotton, cotton made in Africa, etc.) place high emphasis on soil fertility. Fertilizer is applied to cotton to meet plant nutrient needs. The inundation of soil with high doses of fertilizers is not desirable, but neither should plants starve due to a short supply of nutrients. The use of organic fertilizer is disappearing, and this has a significant impact on cotton and other crops. Cotton yields can be pushed up by timely and accurate application of nutrients to meet plant needs. Are there options other than farm yard manure to improve soil texture and organic matter content in soil?. How best can plant needs be met, how can losses in the form of evaporation and leaching be minimized, are there modern approaches to bring this together and still fit into the tough working schedule of cotton production (e.g. mycorrhiza research, application of green-manures, bio fertilizer and other organic fertilizers, especially in areas

where biomass is scarce, modern insights into N and P availability, etc.). This could be a topic for the 2012 Technical Seminar.

Overcoming the Period of no Growth in Yield

Cotton yields increase as a result of technology development and adoption. Once the technological package is optimally utilized, cotton yields tend to stagnate until a new technological innovation is adopted. The same process has been repeated many times in the history of cotton. Cotton yields ceased to grow during most of the 1990s. However, biotech cotton started showing its impact and yields started to grow from 2000/01. Major cotton producing countries have reached their peak in biotech cotton area, and yields have once again stagnated around the world. Statistics show that the highest world average yield was 793 kg/ha in 2007/08. The world average yield has fluctuated but not increased in the last three years. The ICAC forecast shows lower yields for the next few years. Cotton yields in the world have entered a period of slow growth if not a period of no growth. How long this period will last is not known. Why there is slow/no growth in yields and what should be done to improve yields could be a topic for the 2012 Technical Seminar.