Working Paper IV

TOPIC OF THE 2002 TECHNICAL SEMINAR

Proposals from the Secretariat to the Committee on Cotton Production Research

INTERNATIONAL COTTON ADVISORY COMMITTEE

Victoria Falls, Zimbabwe September 2001

The following topics are suggested as possibilities for the 2002 Technical Seminar:

Effect of Advances in Processing Techniques on Demand for Quality Cotton

Cotton presents its original qualities when each boll opens, but all processing—from picking until the finished good—affects quality. As cotton production practices have changed, the processing of cotton has changed accordingly. Fiber quality testing has improved with machine testing, and automation will eventually eliminate machine operators in HVI systems. On line measurements of some parameters in ginning and the development of IntelliGin are facilitating precise processing of cotton at gins. Similar changes have occurred in spinning and weaving. High speed and automation are the two primary areas where significant changes have occurred. How these changes have affected the need for quality cotton could be a topic for the 2002 Technical Seminar.

Present Situation and Future Prospects of Producing Extrafine Cotton

Extrafine cotton—produced only from *Gossypium barbadense*—is undoubtedly the best cotton in the world. Even the best upland cotton cannot measure in quality to extrafine cotton. However, extrafine cotton varieties often cannot be grown successfully where upland varieties grow. *G. barbadense* in general, and the presently available varieties in particular, are highly photoperiodic and have specific narrow requirements. Interspecific hybridization has limitations in making use of extrafine characteristics, as the hybrid plants ultimately tend to end up either similar to one species or the other. Photoperiodic conditions cannot be changed but the plant can be changed to suit growing conditions. How much and how the plant can be changed—including the current extrafine cotton situation in various countries, and prospects of expansion to other areas—could be a topic for the 2002 Technical Seminar.

Quality Improvement Through Seed and Inputs

The requirements of the textile industry are changing. Accordingly, varieties capable of better agronomic management and of producing better quality fiber without sacrificing productivity have been devised to meet the needs of the textile industry. The trend in input application has changed, and now inputs are applied to improve productivity and to preserve and improve

quality. Excessive nitrogen application produces immature fiber, and uncontrolled whitefly results in sticky cotton. In many countries, including Zimbabwe, the provision of quality seed of the right varieties has been combined with the appropriate use of inputs to help maximize quality. Papers could be presented on the role and cumulative effects of seed quality/vigor, seed treatment, growth monitoring and water, and fertilizer and pesticide use for improving fiber quality.

Integrated Pest Management: Success Stories and New Developments

Integrated pest management has been discussed for decades, but its implementation has been dominated by extensive promotion of pesticide use. Consequently, cotton production has turned into an insecticide intensive operation. Pesticides not only increase the cost of production but can lead to other problems, like resistance and changes in the pest complex. Pesticides have become a threat to the sustainability of cotton production. Also, the impact of pesticides on the environment is becoming more important. No viable alternatives to pesticides are available, other than the implementation of IPM approaches. In order to reduce pesticide use, a number of countries have successfully implemented IPM while others have reverted back to IPM. Papers could be presented on success stories and new approaches to IPM implementation.