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Organic Cotton Production - III

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In previous articles published in *THE ICAC RECORDER* or presented at various international meetings, we have tried to gather statistics on organic cotton area, production and yield, and collect information on certifying organizations. Moreover, we have tried to identify various important issues to be considered by researchers and organic cotton producers. Organic cotton production is not simply an elimination of fertilizers and insecticides but it is a complete production system which requires equally sound knowledge of cotton production practices. With respect to insect control in particular, a thorough knowledge of non-chemical means of insect control is a pre-requisite for organic production. Unfortunately, complete information on many aspects of organic production is not available at one place and even in some cases the concerned authorities are not willing to share information. This article is another effort by the Technical Information Section of ICAC to provide additional information on organic cotton, admitting that it is not complete and that much more could be added.

Organic Cotton Programs in Various Countries

It is estimated that little over 8,000 hectares of organic cotton are grown in various countries, the USA being the largest producer in the world. Organic cotton is also said to be produced in Argentina, Australia, Brazil, Ecuador, Egypt, Greece, India, Nicaragua, Paraguay, Peru, Sénégal, Tanzania, Turkey and Uganda. Attempts have also been made to grow it in Benin. However, organic cotton is produced on a commercial scale only in the USA. In most countries, it is produced in small, supervised projects, most of which get financial, technical or supervisory support from international organizations and companies. Nicaragua has provided some technical help to Ecuador for launching organic cotton production projects since the 1995 crop season. The German Agency for Development Cooperation (GTZ) and BoWeevil of Holland are involved in many projects in different countries.

A number of national and international meetings have been held to exchange information on organic cotton production, processing and utilization. The International Federation for Organic Agriculture Movement (IFOAM), based in Germany, organized the First International Conference on Organic Cotton in Cairo, Egypt, from September 23-25, 1993, which was centered around issues related to production practices for organic cotton. Now, the IFOAM is planning to have the Second International Conference on Organic Textiles in Bingen, Germany, from September 23-26, 1996. On this occasion, organizers plan to publish an International Organic Textile Directory which will include a list of eco-textile companies and a brief description of agricultural projects including history, organizations involved, fiber quality, etc. More information on the conference can be obtained from the following address:

IMO Institute for Marketecology
Textile Department
Paradiesstrasse 13
D-78462 Konstanz
Germany
Phone: 49-7531-915275
Fax: 49-7531-915276

Australia

Australia has high insect pressure and cotton production is all mechanized. Although average yields are the highest in the world, lack of subsidies from the government often renders cotton production an expensive business. Australian farmers cannot afford to reduce yields by any significant margin, which is unavoidable under organic production conditions. Organic cotton production in the last two years has been as follows:

Organic Cotton Production in Australia

Item	1994/95	1995/96
Area in hectares	1000	500
Production in MT	750	400
Average yield in kg/ha	750	800

Organic cotton is certified by Biological Farmers of Australia Limited at a fee which is not known. A general consensus about organic production in Australia is that it is not a feasible proposition and no increase in area is expected at this stage, but the introduction of Bt cotton during 1996/97 might bring an increase in organic production. Bt cotton, being resistant to lepidopteran insects, can decrease the revenue difference between Bt organic and Bt conventional production practices.

Brazil

Organic cotton production in Brazil is an outcome of a study, ''Ecologic Handling of the Moco Cotton,'' carried out by ESPLAR at the end of 1989 in the state of Ceará. Losses due to boll weevil had gone so high that many farmers were abandoning cotton cultivation. Experiments in organic production were carried out in 1991 and 1992 which produced 240 kg/ha and 196 kg/ha lint yield as against an average yield of 100 kg/ha. Accordingly, 130 small growers decided to undertake organic cotton production in 1994/95 and area increased to 200 ha. Area was expected to remain the same during 1995/96. A number of unfavorable factors led up to a boll weevil flare up in 1994 and 1995, keeping organic cotton yields far below the 1991 and 1992 levels. The main threat to organic production in Brazil is boll weevil, and, if economically-viable nonchemical methods are found to control boll weevil, organic cotton production has a great potential for expansion in the area. A local private company, Green Peace, Inc., has purchased

organic production without certification, based only on mutual trust, from the small farmers association in Ceará. The average premium paid for the 1993 and 1994 crops was 30% and 10% over the conventional production price.

Organic Cotton in Brazil

Year	Number of Farmers	Organic Cotton Area (Ha)	Production (Tons)	Average Price US$/Kg
1993	NA	150	2.0	1.51
1994	130	230	8.2	2.31
1995	130	230	1.2	
1996	115	200	5.0	

Note: 1995 production is not sold yet and area for 1996 is an estimate.

Egypt

In Egypt, organic cotton production was started in 1991 with 11 hectares which increased to 38 ha in 1992, 140 ha in 1993 and 607 ha in 1994. SEKEM Farms—the main promoter of organic cotton in Egypt—hosted the First IFOAM International Conference on Organic Cotton in 1993. The Conference realized the need for an international platform for the exchange of information and coordination of research results. The Centre of Organic Agriculture of SEKEM Farms agreed to accommodate such activities but no significant coordination activities have come out of this center so far.

India

Three organic cotton projects have been reported from India; one in Gujarat, one in Maharashtra and one in Madhya Pradesh. The Gujarat project is supported by the Gujarat Cooperative Cotton Federation in collaboration with a Dutch organization SKAL who is responsible for certification and sale of organic produce. The Maharashtra project is supported by GTZ and being implemented in collaboration with the Central Institute for Cotton Research in Nagpur, Maharashtra. The Maharashtra project was started in 1995 and involves an area which is said to be traditionally low yielding, hence a big decrease in yields is not expected. The Madhya Pradesh project was started in 1992 by a Swiss yarn trading company. The project is called Bio Re-Project and covers the complete chain from field to finished product. Insecticides are used in the project area but farmers are small landholders who usually grow fewer than two hectares of cotton. The three projects' total area is not expected to be more than a few hundred hectares.

Nicaragua

The organic cotton production program was started in Nicaragua in 1994 with 26 farmers who produced 54.5 tons of seedcotton. Now, it is a joint venture between the Fundacion Nicaraguense para el Desarrollo Agricola-FUNDA and GTZ. The program is successful but without any significant increase in area due to high insect pressure. It is estimated that about 140 hectares were grown under organic production during 1995/96 and farmers were frequently visited by technical experts from FUNDA and an expert who used to work for GTZ. Under conditions where insect pressure is so high that farmers have to spray frequently to avoid insect losses, it is really difficult to grow cotton without insecticides. It is comparatively easy to manage soil fertility without synthetic fertilizers, it but requires a lot of skill to manage insects without insecticides. Though the GTZ program is going to conclude shortly, organic production will continue on a small scale.

Sénégal

As in many other African countries, in Sénégal cotton is produced by farmers under a centralized input supply and sale system. In Sénégal, all inputs and credit are supplied by Société de Développement des Fibres Textiles (SODEFITEX) and farmers are paid at the end of the season, when the cost of inputs and loans is deducted from gross income. SODEFITEX in collaboration with the Pesticide Action Network (PAN) and the Pesticide Trust decided to grow organic cotton during 1995/96. Researchers from the Sénégalese Agricultural Research Institute (ISRA) were also involved in the project. The overall objective was to reduce the use of inputs and improve revenue to farmers rather than to produce a novel cotton for environment friendly users. The high cost of inputs, particularly insecticides, compelled farmers to consider growing cotton without expensive inputs. A Swiss company, Remie AG, agreed to buy all organic production at a premium of 30% over conventional price in order to support the project and meet losses in production due to low yields. Fifty-three farmers participated in the program and grew fourteen hectares of cotton from which 4.6 tons of seedcotton were produced. Organic cotton yields ranged from 131 kg/ha to 560 kg/ha at various farms. More farmers have shown interest in participating in the 1996/97 program.

USA

In the USA, organic cotton is grown in Arizona, California, Missouri, Tennessee and Texas.

Texas

The organic cotton program of the Texas Department of Agriculture is still the strongest program in the USA. Area has steadily increased and further expansion is expected in the next few years. The Texas Organic Cotton Growers Association brings out a newsletter on a quarterly basis to keep organic cotton growers informed about organic production products. The Association is also maintaining a consultation library for grower members. Some of the events planned by the Association for 1996 include an educational workshop, a field day, seeking grants for the organic program and putting up a trade show. It is strongly felt that there is a need to establish an organic feed mill. Organic growers are also given updates from time to time on the Texas Department of Agriculture organic certification rules. Some recent decisions are as follows:

- Organic certification will change to calender year instead of fiscal year beginning January 1, 1997.
- Only biological fungicide treatment, no pesticides, will be allowed on cotton seed retained from the previous year.

However, certified seed can be treated with fungicides, but no pesticides.

- Organic producers are accountable to processors (gins) for keeping accurate records on lint, seed, and farms and fields where product is grown.
- There will be administrative penalties for failing to adhere to the standards.

The Texas Department of Agriculture has a Coordinator for Organic Programs who handles all issues related to organic production in the state. Perhaps this is one of the reasons the program is very successful. In Texas, organic lint cotton yields on average range from 270 kg/ha to 400 kg/ha under dryland conditions and 540 kg/ha to over 800 kg/ha under irrigated conditions. As in commercial production, farmers are responsible for selling their organic cotton.

California

In California, many private companies are involved in organic certification. Under the California Foods Act of 1990, all growers who choose to produce organic crops must register with the state of California. The provisions of the Act contain rules and regulations to which organic producers must adhere. The California Department of Food and Agriculture is responsible for implementation of the state organic programs. As of January 1, 1996, no crop would be certified organic unless it had been grown without prohibited chemicals for a period of at least three years. Members are required to pay a fee at the time of entering the program in addition to an annual fee to retain membership. In 1992 and 1993, in addition to the California Department of Food and Agriculture supervision, about 45% of the total organic production was also certified by private companies, mainly by the California Certified Organic Farmers. Information on how much production or area was certified by which company is not available, but it is known that almost all of the following companies were involved in the certification of the 1994/95 and 1995/96 crops:

California Certified Organic Farmers
Quality Insurance Inspections
Biodynamic Inspections
Farm Verified Organic
Organic Crop Improvement Association
Oregon Tilth Certified Organically Grown
Organic Growers and Buyers Association
Scientific Certification Systems

USA Organic Cotton Area

Year	Organic Cotton	Transitional Cotton	Total
		Hectares	
Texas			
1991/92	445		445
1992/93	648		648
1993/94	648	405	1,053
1994/95	1,052	809	1,861
1995/96	6,475	1,619	8,094
1996/97	2,509	202	2,711
California			
1990/91	61	263	324
1991/92	121	360	481
1992/93	435	760	1,195
1993/94	603	2,385	2,988
1994/95	1,012	2,570	3,582
1995/96	1,000	80	1,080
1996/97	939		939
Arizona			
1992/93			520
1993/94			835
1994/95			845
1995/96			432

Uganda

The project was started in 1994 and is supported by Swedecorp (part of the Swedish International Development Assistance). Cotton was certified by KRAV, a Swedish company. The project is being implemented in an area where insecticides have been rarely used in the past. During 1994/95, the project involved 200 small growers growing 0.5-2.5 hectares in three villages. It was planned to increase the total number of farmers to 1,500 in 1995/96 and, accordingly, increase production to 500 tons of seedcotton. Farmers were guaranteed a 20% premium. A similar project is expected to start in Mozambique on 3,000 hectares involving Swedecorp and KRAV.

Related ICAC Articles on Organic Cotton:
The list of other articles published by ICAC on organic cotton production are as follows:

Organic Cotton Production, *THE ICAC RECORDER*, Vol., VI, No. 1, March 1993

Alternatives to Insecticides, *THE ICAC RECORDER*, Vol. VI, No. 2, June 1993

"Suitable Varieties for Organic Cotton Production" presented by Dr. M. Rafiq Chaudhry at the International Conference on Organic Cotton held in Cairo, Egypt, from September 23-25, 1993, under the auspices of the International Federation for Organic Agriculture Movement (IFOAM).

International Conference on Organic Cotton, *THE ICAC RECORDER*, Vol., VI, No. 4, December 1993

Organic Cotton Production-II, *THE ICAC RECORDER*, Vol. VII, No. 2, June 1994

"Status of Organic Cotton Production" presented by Dr. M. Rafiq Chaudhry at the Ismailia International Workshop on Cotton Production Prospects for the Next Decade in Ismailia, Egypt, on November 16, 1994.