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SYRIA

COTTON CROP DOWN BY 100,000 TONS IN 1984

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[Article by Nadir Makanisi: "Why Is Cotton Production Down? 1984 Production Amounted To 423,000 Tons, In Contrast To 523,000 Tons In 1983"]

[Text] It is necessary to stick to planting schedules for healthy, plentiful production.

Syrian cotton is internationally famous and there is a demand for it in foreign markets. The country has made strides in cotton growing, and has achieved abundant yields, particularly during the 1983 season, when cotton production amounted to 523,000 tons, a record for the country. This level of production had been expected to increase during the 1984 season. But that did not happen for several reasons.

Indications are that this year's cotton crop will be 423,000 tons, a 100,000 tons drop from last year.

To find out why cotton production was lower this season we met with Dr Farid Khuri, the director general of the cotton authority in Aleppo. He spoke about the 1984 cotton harvest and the reasons for the lower yield.

He said, "In order to understand the 1984 cotton crop the best approach would be to compare it with the 1983 season, when production reached its highest level in the country's history, and brought the highest revenues as well. In 1983 the yield was about 3,000 kg per hectare. Indications are that the 1984 crop will be 423,000 tons. In examining the causes for the 100,000 ton decline in production it should be noted that the area cultivated in 1983 was approximately 175,000 hectares, while in 1984 it was 173,500 hectares, 1,500 hectares less than the previous year. This means that the decreased yield as a result of the reduced area would be about 4,500 tons on the basis of the yield per hectare in the previous year.

"Furthermore, early in the season, during the planting period there were environmental factors, such as lower temperatures and heavy rain, particularly during the period between the end of the second week of April and the beginning of the first week of May. These factors led to slower cotton growth in areas where planting was early, and to delayed planting in the areas not yet planted.

"These factors caused the incidence of (suffocation) [al-khinaq] disease, in its various stages, to spread among the plants, causing the seeds and roots to rot, and the seedlings to suffocate. The amount of damage from this disease varied from one area to another, depending on the extent to which it penetrated the soil. This made it necessary to replant a total of about 300,000 dunams in all parts of the country."

The Sown Areas Were Replanted

In fact, most of the areas that had to be replanted were those which had been planted by machine with a shaved seeds. This is due to several factors, most significantly the following:

The average of the shaved seeds for mechanical planting is 6 kg, while the average of the seeds for traditional methods is 12 kg, twice as much.

In addition to the presence of a percentage of imperfections in the shaved seeds, which ranged from approximately 1 to 7 percent, there was also a certain amount of breakage in the shaved seeds, averaging about 15 percent. This is because they were shaved by using oil company shavers not equipped with sieves, and as a result a quantity of imperfect and broken seeds were mixed in with the rest, which [are planted in the amount of] 6 kg per unit of area.

The Need to Sterilize the Shaved Seeds

If we want to avoid such ambiguities in the future we must sterilize the shaved cotton seeds in antifungal disinfectants to protect against (suffocation) disease. That would implement the recommendations of the scientific cotton conference held in 1982, and reaffirmed by the cotton conference held in 1983. The scientific conference affirmed this principle as a result of its deliberations on research carried out locally over a period of 14 years.

It is essential to avoid improper shaving, and the seeds must be sifted, to eliminate imperfect and broken seeds from the good ones.

Furthermore, the agencies responsible for testing the seeds must calculate the germination rate after determining the percentage of imperfect and broken seeds that remain. Without such a determination, misleading results about the suitability of the seeds may be given.

This is especially true in view of the fact that the widespread use of shaved seeds is a recent development in our country.

As a result of what we have just mentioned, physiologically the cotton plants were 20 to 30 days less developed than they were in 1983 in many areas.

As a result, as explained in a report by the management of the cotton office to the 17th cotton conference which was held from 7 to 8 January 1984, plants

that blossomed in September constituted about 5 percent of total production, at that time estimated at about 25,000 tons.

Adding this figure to the figure resulting from the decreased area under cultivation, the production drop is about 30,000 tons of cotton.

Reasons For the Remaining 70,000 Ton Shortfall:

In answer to this question Dr Khuri said the following:

"We can divide the country into two regions.

"The following areas constitute the first region: al-Hasakah, al-Raqqah, Dayr al-Zawr, Aleppo, Idlib, al-Ghab, Hamah, Hims and Damascus. They are grouped together because since 15 October they have received copious, incessant rainfall this season, which caused flooding in some areas. This caused a decrease in the number of cotton plants and caused the bolls to open on the ground or to be lost. In addition, the temperature was lower and there was greater moisture, which made it impossible to use the bolls which developed during the last third of August. Our preliminary estimates indicate that this accounts for a loss of about 7 percent of the total production, or about 35,000 tons.

"The second region consists of the governorates of al-Raqqah, Dayr al-Zawr and the areas of Marqadah and al-Shaddadah in the governorate of al-Hasakah.

"In these regions it was warmer than usual during the day and cooler than usual at night. The temperature was higher than the maximum the plants could tolerate and this caused the loss of buds, flowers and bolls in plants less than 8 days old."

The critical maximum temperature by day is 37.7 degrees, and the critical minimum at night is 21 degrees.

A look at the temperature tables indicates that from 27 June to 28 July the highest temperatures in the day and the lowest at night were consistently higher than the plant's critical maximum. This caused the plants to lose their fruit and leaves.

Sticking to Planting Schedules To Ensure Good Yields

In examining the planting schedules we find that those areas which were planted on 1 April reached their peak florescence and growth before the critical maximum temperature was exceeded on 27 June. As a result, yields were normal for those areas.

Depending on the extent to which planting was delayed, the fruit formation period occurred during the critical period between 27 June and 29 July. Information contained in a report on planting in the Euphrates basin, and

information obtained from the management of the cotton office indicates the following:

In areas planted between 1 and 15 April the plants bore ripe bolls, with an average of 12 to 14 bolls per plant.

Areas planted between 15 and 29 April had 8 to 10 bolls per plant.

In areas planted between 1 and 10 May the number of bolls was 6 to 8 per plant.

Areas planted between 10 and 20 May had 4 to 6 bolls per plant.

Areas planted between 20 and 25 May had only 1 or 2 bolls per plant.

As a result, yields ranged from a low of 50 kg per dunam in the governorates of al-Raqqah and Dayr al-Zawr and the districts of al-Marqadah and al-Shaddadah in al-Hasakah, [which were planted] during the latter half of May to 300 to 350 kg per dunam in the areas planted in early April.

On the basis of the planting schedules in the governorates of al-Raqqah and Dayr al-Zawr their yield has been estimated at only 100,000 to 110,000 tons.

This is about 30,000 to 35,000 tons less than expected.

By adding this shortfall we can in fact see the true reasons for the decrease in production from 523,000 tons in 1983 to 423,000 tons in 1984.

Using Early Varieties To Resist the Heat

The cotton office is trying to create early varieties that are resistant to heat to use in the governorates of al-Raqqah and Dayr al-Zawr. These would be somewhat similar to the varieties grown in those regions prior to 1977, before which they had not been exposed to such phenomena.

This would be done on the condition that these varieties also be able to withstand the heat, and could be planted early to avoid any disease and bear fruit before the critical period in July, and so that they could withstand the heat in case there is any delay in planting.

The management of the cotton office currently has shaved varieties which it may recommend after discussing the results at the next cotton conference.

Early Planting Is Essential

A summary of what was said follows:

It is essential to concentrate on planting early, within the dates specified in the recommendations of the cotton conference. These dates are as follows:

In the governorates of Dayr al-Zawr and al-Hasakah beginning 1 April. In al-Raqqah and Aleppo beginning 10 April.

In Damascus, Idlib, Hims and Hamah, beginning 1 April.

In particular, special attention must be given to teaching farmers in the governorates of al-Raqqah and Dayr al-Zawr that it is necessary to leave more space between individual plants because the more densely they are planted the lower their yield, and the plants lose their leaves.

The average number of plants per dunam ranges from 8,000 to 12,000. In some fields, however, there are 20,000 and 40,000 plants per dunam.

It is necessary to teach the farmers how to use nitrogenous fertilizer properly. When the farmers were using 26 percent (kalnitro) fertilizer they used one bag of fertilizer per dunam. When 46 percent urea was introduced the farmers continued to use one bag of fertilizer per dunam, which is twice the proper amount. As a result, the plants lost their leaves. Therefore, special attention must be given to teaching the correct use of fertilizer.

During the critical periods many farmers water their plants excessively, use too much fertilizer, and plant too densely. This causes the worst loss of leaves. Cotton must be watered lightly and frequently rather than heavily and infrequently.

Experimental Mechanical Picking

On the subject of the extent to which mechanization is being used in growing and harvesting cotton, and the benefits derived therefrom, Dr Khuri said the following:

"Mechanization of cotton farming can be divided into two phases.

"The first includes all farming operations involved in growing the crop, including ploughing and seeding, until the time for harvesting. This phase must be mechanized completely in order to increase production.

"The second phase involves mechanical harvesting. We are experimenting so that we will be prepared to use mechanical harvesting equipment when it becomes necessary to do so.

"Nevertheless, we must continue to pick cotton by hand as long as we are able to. We know that we were able to pick 523,000 tons by hand in 1983, when environmental factors were appropriate, of course.

"Currently, we are not using mechanized methods of harvesting for the following reasons:

"Mechanized harvesting causes 8 to 12 percent of the yield to be lost, and it reduces the quality of cotton by a grade or more.

"This has repercussions on the income of the farmer and on the national income. Furthermore, Syrian cotton is preferred in world markets because it is hand picked. We cannot allow this distinction to be jeopardized.

"Cotton picking time is September through November. During these months opportunities for farm work [other than harvesting] are at a minimum, so rural workers, who constitute a majority [of the nation's population], can find work picking cotton.

"The wages paid for picking 500,000 tons of cotton amount to 300 million Syrian pounds. It would not be fair to deprive the rural workers of this income. Nor would it be right to spend hard currency to buy mechanized harvesting equipment at the present time, since it could be spent in economically more important areas. This does not mean that we are against using mechanized harvesting equipment on the nation's farms in principle."

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