

Transition to Mechanical Picking “A Real Step Towards Competitiveness in Turkish Cotton Production *”

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Summary: Turkey is in the transition stage from hand to mechanical picking of cotton and this is assumed to be the most significant change in the last decade in cotton production in Turkey. Cotton prices at international level have remained low in recent years while cotton production costs have increased year by year as influenced by the increase in world energy prices. This could be the trend causing a conflict of narrowed grower’s profit margins and will make a sustainable cotton production difficult in the future. It is obvious that increasing yield in Turkey will not help to enlarge profit margins. The only solution to this problem seems to be a reduction of production costs. On the other hand, the largest components in production costs are the wages for hand picking and fuel consumption. Hence, any reduction in these components will clearly reduce the production costs. In the way of transition from hand to mechanical picking of cotton, the Turkish farmers made progress and improved their knowledge and capacity for growing and successfully harvesting high yields of quality cotton and the area harvested mechanically reached to 16 % in the last season. It could be stated that the competitiveness of Turkish cotton production will be to switch from traditional production techniques to modern ones, such as minimized soil tillage, direct drilling, optimum insecticide application, etc.

Key words: Cotton, harvesting, competitiveness, cotton picker

Makinalı Hasada Geçiş “Türk Pamuk Üretiminde Rekabetçiliğe Doğru Gerçek Bir Adım”

Özet: Türkiye, el ile hasattan makinalı hasada geçiş süresinde olup, bu durum Türk pamuk üretiminin son on yılındaki en önemli değişim olarak kabul edilmektedir. Son yıllarda dünya pamuk fiyatlarının düşük kalmasının yanında, üretim maliyetleri dünya enerji fiyatlarındaki artışlardan etkilenerek giderek artış göstermiştir. Bu çelişki, üretici kar marjını daraltırken ileriye yönelik sürdürülebilir pamuk üretimini de zora sokmuştur. Türkiye için verimde sağlanacak artışın kar marjının arttırılmasına yardımcı olamayacağı açıktır ve böylesi bir durumda probleminin çözümüne yönelik tek uygulama, üretim maliyetlerinin azaltılmasıdır. Öte yandan üretim maliyetlerindeki en önemli komponentler olarak el ile toplama ücretleri ve yakıt ön plana çıkmaktadır. Dolayısıyla, bu kalemlerde sağlanacak bir azalma üretim maliyetinde de önemli bir azalmayı da beraberinde getirecektir. El ile hasattan makinalı hasada geçiş sürecinde Türk çiftçileri son yıllarda gerek üretim ve gerekse de yüksek kalite ve verimde pamuk hasadı konusunda bilgi ve kapasitelerini arttırmış olup son üretim sezonunda makina ile hasat edilen alan 16% düzeyine ulaşmıştır. Bu aşamada, Türk pamuk üretiminde rakabetçiliğin geliştirilmesinin, geleneksel pamuk üretiminden minimum toprak işleme, direk ekim ve optimum insektisit uygulamaları vb içine alan modern üretim tekniklerine dönüşüme bağlı olduğunu vurgulamak gerekmektedir.

Anahtar kelimeler: Pamuk, hasat, rekabetçilik, pamuk kasat makinası

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INTRODUCTION

Turkey is a cotton country with a significant share in both production and consumption in the world. In 2006/07, according to data published by the USDA's Foreign Agricultural Office, the country's share of total global cotton area was 1.9 %, it contributed 3.3% to world production and 5.9% to consumption and therefore ranks 8th, 7th and 4th in each category. Turkey imports and processes 9.6% of cotton in the world.

The increasing demand of the local textile and vegetable oil industry, which is met mostly by means of importing (owing to a shortfall in domestic production), indicates that the importance of cotton production is not only restricted to agriculture but also valid for the national economy. For this reason, the competitiveness, along with the sustainability, of cotton production in Turkey is a must and it should be considered as a nationwide problem.

International cotton prices have remained low in recent seasons. Moreover, few expect that they will move above the long-term average of just under 70.00 cents per lb (as measured by the Cotlook A Index) for the near future.

In contrast, cotton production costs have increased steadily year-by-year, influenced by rising world energy prices. There is no doubt that this will be the trend in the future. The conflicting price trends have narrowed growers' profit margins and made the sustainability of cotton production difficult.

Turkey is one of the countries experiencing these difficulties most. The area planted has decreased by 23% during the last seven years, but the production level overall remained constant as a result of a premium paid for the use of delinted cotton seed, that has contributed to an increase in yield (Table 1).

It seems that there is limited scope for enlarging profit margins by means of increasing yields in Turkey, as yields on the basis of these data already rank among the highest in the world. The only solution would appear to be a reduction of production costs. To achieve this in face of a rising trend in input prices requires the use of technology

that will enhance input efficiency as well as product quality.

STEP TOWARDS MECHANICAL PICKING

The largest components of production costs are the wages for hand picking and fuel consumption. Hence, the enhancement of profit margins by reducing production costs requires the necessary amendments in these two items and this was anticipated about twelve years ago as a result of a case study and project titled "*Adaptation of the Turkish Cotton Production to Successful Mechanical Picking*". Within this project, experiments were conducted in the major cotton regions of the country, namely the Aegean, together with Southern and Southeastern Anatolia, during the period of 1951 and 2001. Additionally, numerous field demonstrations and farmer meetings were organised so that the findings from the project were made publicly known. The results were shared not only with farmers but also with companies providing seeds and pesticides etc, and others such as those involved with ginning, cotton dealers and industrialists, as well as government and private company managers. All these efforts tended to break resistance to, and prejudice against, mechanical picking and to establish the appropriate infrastructure that extends from obtaining seed to the ginning process.

In this period, the number of self-propelled, 4/5 narrow row pickers purchased by farmers were limited to fourteen, due to doubts among farmers on the qualitative and quantitative performance of the picker and also questions surrounding transportation, storage, ginning and marketing of machine picked cotton, the high investment costs and lack of financial support for purchasing. In addition, labour-related problems had not reached a critical level yet.

Thereafter, picker sales nearly doubled each year, as doubts on qualitative and quantitative performance of the picker dissipated and also facilities for leasing, transportation, ginning and marketing improved (Table 2).

Table 1. Cotton Production in Turkey

	2001	2002	2003	2004	2005	2006
Area sown, thousand hectares	697	693	637	551	533	534
Lint Yields, kg/ha	1214	1406	1396	1575	1605	1816
Lint Production, thousand tons	920	983	918	868	856	985

Source: Dept. of Agriculture, Turkey

Table 2. Cotton Picker Sales and Mechanisation Rates in Harvesting in Turkey

	1996-2001	2002	2003	2004	2005	2006
Sales, Units	14	13	22	34	102	277
Mech. Rates, %	0.5	0.7	1.2	2.3	5.8	15.6

Last season, the number of pickers sold reached 277 and it is estimated that the area harvested mechanically increased to 16 percent of the total. Turkish farmers recognised well the benefits of mechanical picking and think it is a must for sustainable cotton production. They are still training, improving their knowledge and capacity for growing and successfully harvesting high yields of quality cotton. Moreover, the facilities for transporting, storing and, saw/rotary-knife ginning of machine-picked cotton are being developed to complete the success of transition.

CONCLUSION

It is believed that the nationwide contracting model used in Turkey will speed the transition to mechanical harvesting. At present, cotton farmers' use of the contractors, which costs half the price of hand picking, still enables the contractors to get back their investments with these fees in 4 or 5 years.

If this situation and the developments in ginning and marketing last, the completion of the transition to full mechanical picking in 20 years should not be considered a surprise. The next step for improving the competitiveness of Turkish cotton production will be to switch from traditional production techniques (all of which result in excessive time and fuel consumption, not to mention soil compaction) to modern ones, such as minimized soil tillage, direct drilling, optimum insecticide application, etc. The high investment required to purchase large and sophisticated tractors and equipment means small and medium size farms can only benefit from those modern farming techniques by contracting out the work. Such services are expected to become available to farmers in the near future. The benefits to Turkey of these issues will illustrate a good model for those countries that have no possibilities of adopting new technology, due to their inadequate farm structures and insufficient farm income levels.



A view from mechanical picking in the province of Sanliurfa



Inspection of mechanically picked cotton by the farmers of Diyarbakir

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