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Indian Cotton Yield in 2014 –Prediction Analysis

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The views expressed in this column are his own and not that of Cotton Association of India)

A few weeks ago there was a national buzz that India would replace China as the largest producer of cotton. The guess work started with the fact that India's cotton area increased and China decreased its area. The main reason for China's decrease in cotton area appears to be the record stock reserves available in the country. China started building huge national strategic reserve stocks since 2011 reaching a record in January 2014 and is currently holding an estimated 64.7 million bales (170 kg bale). During the last three years China imported 75.3 million bales, mainly from India. The Chinese Government has been procuring domestic cotton at about 50-60% more than the prevailing international prices. The ICAC estimates that in 2014-15, China would produce 36.5 million bales while the USDA predicts 37.7 million bales. During 2013-14 India produced 39 million bales from an area of 11.9 million hectares. The ICAC estimated that China produced 35.4 million bales in 2013, while the USDA speculated that the production was 41 million bales. The cotton area in India increased to a record 12.6

million hectares this year in 2014, thus resulting in speculations of higher production compared to all the previous years. The ICAC predicts that during the current season of 2014-15, India could produce 35.5 million bales. The USDA estimates India's production in 2014-15 at 37.1 million bales.

It is important to note that India's variability in cotton yields is determined mainly by the monsoon pattern in rain-fed regions of the central and south zone. Four states, Gujarat, Maharashtra, Telangana and Andhra Pradesh together account for 9.5 million hectares (75% of the total area) and contribute about 28 M bales (72% of the total production). Maharashtra is predominantly rain-fed with more than 97.0% of its 4.1 million hectares under cotton being dependent on monsoon.

Cotton is cultivated in about 40% of irrigated area in India. The three cotton growing states of Punjab, Rajasthan and Haryana cultivate cotton under 99.8% irrigated conditions. The irrigated cotton area in Gujarat is 49%, Madhya Pradesh 43.2% and Tamilnadu 35.7%. In general early sowing is possible in irrigated regions, whereas sowing depends entirely on the arrival of monsoon in rain-fed areas.

An increase of 0.7 million hectares in 2014 compared to last year, should contribute to higher production. However, the 2013 season and the current 2014 Kharif are in stark contrast.

EXPERT'S Column



Dr K.R. Kranthi

The details of irrigated area, production in 2013 and estimates for 2014 are shown in the table below

	% irrigated	2013-14			Estimate 2014-15		
		Area M hectares	Production M bales	Yield Kg/ha	Area M hectares	Production M bales	Yield Kg/ha
Punjab	99.9	0.505	1.5	504	0.45	1.4	528
Haryana	99.7	0.614	2.5	692	0.64	2.3	610
Rajasthan	95.8	0.45	1.4	528	0.416	1.5	612
Gujarat	49	2.688	12	759	3.006	10.5	593
MadhyaPradesh	43.2	0.621	1.95	533	0.578	1.7	500
Maharashtra	2.7	4.146	8.6	352	4.171	7	285
Andhra Pradesh	19.1	0.506	2.8	940	0.71	2.6	622
Telangana		1.607	4.8	507	1.635	4	415
Karnataka	14	0.529	2.3	739	0.76	2.1	469
Tamilnadu	35.7	0.121	0.55	772	0.11	0.5	772
Other States		0.148	0.6	689	0.125	0.4	544
All India	35.1	11.935	39	556	12.601	34	458

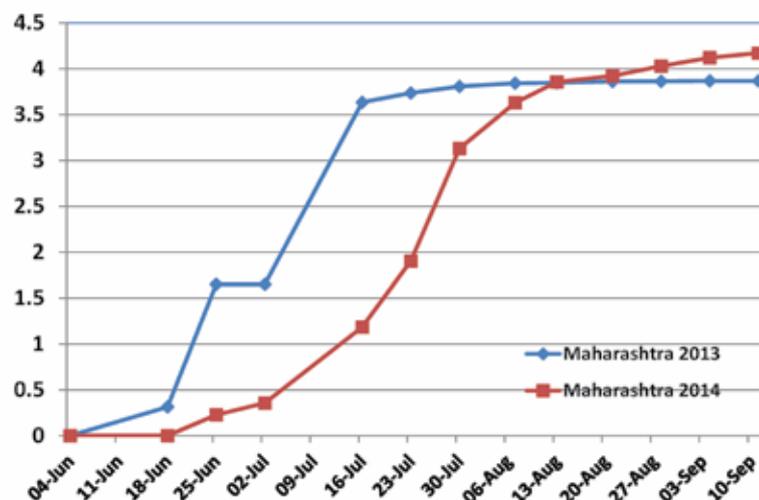
Although the CAI's cotton production estimate for the 2014-15 cotton season is 408.50 lakh bales of 170 kg, yet we positively welcome views that differ from us.

2013-14 Season:

Monsoon arrived on time during 2013. However the total rainfall in almost all the rain-fed cotton regions was more than twice the normal, over the normal seasonal average. Though the crop was partly affected due to excessive rains, there was recovery during the subsequent months after October. The record production of 39 million bales was mainly because of the continuous spurts of rains each month from December 2013 to April 2014. Normally, fields are cleared off by mid January in the central zone comprising the major cotton growing states of Gujarat, Maharashtra and Madhya Pradesh with a combined area of 7.5

million hectares. In Telangana and Andhra Pradesh which together have about 2.4 million hectares of cotton, the crop is generally terminated by the end of January. However, because of the excessive residual soil moisture and the intermittent rains after the first phase of harvest, farmers extended the crop in the Central zone and also in parts of Telangana and Andhra Pradesh. Thus, in about 40% of the country's cotton area the crop was continued until the end of April. Rough estimates point out that the extended crop may have contributed an additional 5.0-6.0 million bales. Thus what could have been 33 to 34 million bales increased to 39 million bales due to the extended period of the crop.

Progress of sowing in Maharashtra (Million hectares)



2014-15 Season:

Crop growth in irrigated cotton is very good, especially when early sown. In many parts of Maharashtra, Gujarat and Telangana cotton was sown during May or early part of June under drip irrigation. The crop in these farms is very good and is likely to yield about 3-4 tonnes of seed-cotton per hectare. But these farms may constitute less than 2% of the area in the region.

Last fortnight I toured Punjab, Haryana and Rajasthan. In general the crop is in good health. However, sudden cloud burst in mid-September caused lodging and boll rot in some regions. Whitefly infestation was severe. It was clear that excessive dependence on insecticide sprays and indiscriminate use of pesticides was aggravating the pest infestation. Whitefly outbreaks are commonly associated with excessive insecticide usage that disrupt the naturally occurring biological control in nature. Leaf Curl Virus Disease is transmitted by whiteflies. The occurrence of the disease was less in general until the boll formation stage by mid-September, but incidence was high in late sown crop. Compared to 2013, there is a possibility of 10-15% decline in the overall production of North India.

The season 2014-15 was characterized by monsoon delayed by about a month. Cotton area increased because of the delayed arrival of monsoon which made it highly unsuitable for soybean sowing. Soybean seeds were also

in short-supply and were expensive. Thus farmers preferred cotton over the general alternative crops in Maharashtra and other adjoining states.

The recommended sowing time for rain-fed regions of Gujarat, MP and Maharashtra is 2nd week of June to 1st week of July. Sowing after 2nd week of July generally results in poor growth of the crop and thus poor yields. However, extended monsoon with showers in October can help in rejuvenation and recovery of growth. Rain-fed cotton is likely to be subjected to moisture stress this season. Especially since rains in October are not expected. Unfortunately October appears to be dry and the crop growth is unsatisfactory in rain-fed

regions of Maharashtra, Gujarat and Telangana. About 60% of the crop in Maharashtra was sown after 15th July, which resulted in poor growth. Thus it is likely that there could be more than 30% reduction of production in the state. Similarly sowing was delayed in more than 50% of the area in Gujarat and Madhya Pradesh. Therefore, it is quite likely that the yields are at least 30% less in these regions, especially in the absence of rains in October or November.

It must be remembered that cotton crop needs less water of 2-3 mm during early vegetative stage and needs more water of 6-7 mm per day during flowering and boll formation stage. Moisture stress during boll formation stage results in poor yields. Thus, the estimated production could be 34-35 million bales in 2014-15.

Progress of sowing in Gujarat (Million hectares)

