



COTTON TALES

Central Queensland

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2007/08

No.15

02/01/08

Day Degree accumulation to the 1st Jan 08

District	Season 07/08	Season 06/07	Season 05/06	Cold Days	Hot Days
Emerald from 15/09	1448	1429	1625	3	19
Theodore from 25/09	1302	1248	1406	2	20

Farm management that affects fibre quality

It is important to manage for quality throughout the season. Fibre development responds directly to the environment, management & stresses. Correct variety choice for the growing region combined with reduced stress management will optimise fibre quality. Stress at one point in a season may have indirect consequences on fibre quality. For example, excess nitrogen rates or events which cause late regrowth, can reduce fibre quality by having fibre development occurring in cooler weather (& reducing micronaire).

Irrigation

Good plant moisture status is critical in the first 20 days after flowering to allow potential fibre elongation rates. With about five weeks of effective flowering & another three weeks to complete fibre elongation, a total of eight weeks without stress is required to have uninterrupted fibre length in all bolls. Healthy soil & irrigation scheduling to take account of soil water holding capacity & evaporative demand are key approaches to managing plant moisture status.

Crop Growth Habit

A uniform set of bolls is more likely to provide uniform fibre. Late flowering & especially regrowth will cause problems in fibre properties & indirectly with grade, so agronomy should aim to produce a crop which optimises plant size & sets bolls when possible. The application of large quantities of mepiquat chloride (Pix) at the last effective square has become a common practice in many regions. The aim is to reduce top growth of the plant & minimize plant resources going into fruit that is unlikely to be mature at harvest time. Pix is unlikely to have a negative effect on fibre quality & may help reduce neps in late crops that are going to produce bolls outside the normal harvestable range.

Okra leaf varieties are known to cause an increase in trash content. Approximately half a grade decrease can result. A balance between okra varieties positive attributes & the potential for a small downgrade need to be taken into account.

Defoliation

The type of defoliation product is unlikely to impact on fibre quality. However, the timing of defoliation can have a big impact on the fibre quality of cotton. Early defoliation can cause a significant reduction in all desirable fibre properties (predominantly in the

upper top quarter of bolls) & significantly increases the number of neps.

Transgenic/IPM Era

The widespread adoption of Bollgard II varieties coupled with more selective *Helicoverpa* targeted sprays & increased resistance to aphicides has the potential to increase late season aphid infestations. This plus the increase in whitefly could result in an increase in sticky cotton. Sticky cotton is a highly undesirable quality characteristic and could incur penalties as well as impact on spinner's confidence in the quality of Australian cotton.

Thanks to Dr Michael Bange for help with this article

Susan Maas new CQ Cotton Extension Officer

I have been appointed into the CQ Cotton Extension Officer Role, previously held by Doug Sands. Having been working within the industry for just over 3 years, I am looking forward to the challenges of this new full time role. My new contact details are 07 49837403 & 0409 499 691.

Bt resistance monitoring 2007/08

Early season results from resistance monitoring of samples collected in Emerald are shown below. The % *H. armigera* values do not include hosts that are known to be dominated by this species (i.e. maize & sorghum). The levels of egg parasitism are averages & values in brackets indicate range.

number of eggs	900
% hatch	64
% parasitised	26 (13-37)
% <i>H. armigera</i>	11

F₀ screens are likely to pick up only individuals that are homozygous resistant (RR) to Bt.

F ₀ screen	<i>Helicoverpa armigera</i>		<i>Helicoverpa punctigera</i>	
	% survivors	(number tested)	% survivors	(number tested)
Cry1Ac	0.00	(20)	0.00	(241)
Cry2Ab	0.00	(5)	0.00	(33)

In all sampled regions the total survival of larvae tested (i.e., the total number of survivors divided by the total number of individuals tested) is not greater than 2% (the baseline), & is not higher than the total survival detected in previous years. These early F₀ screens do not indicate any major changes from previous seasons in survival rates to discriminating doses of Cry1Ac or Cry2Ab.

Thanks to Dave Palarto & Ellie Elsdon for egg collections. For the full resistance report by Sharon Downes, please contact Susan Maas.

The 07/08 Cotton Pest Management Guide has been mailed out. Please contact Susan if you have not received yours.