Cotton Catchment Communities CRC
Queensland Government Department of Primary Industries and Fisheries

COTTON *TALES*

Central Queensland

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2007/08
No.11
15/11/07

Day Degree accumulation to the 13th Nov 07 .

District	Season 07/08	Season 06/07	Season 05/06	Cold Days	Hot Days
Emerald (from 15th Sept 07)	754	724	792	3	12
Theodore (from 25th Sept 07)	635	582	661	2	12

Evaluating In Crop Nutrient Status

Both petiole and leaf tissue tests can be used to evaluate crop nutrient status. Petioles are ideal for monitoring nitrate-N and potassium concentrations until mid-flowering. Beyond flowering, leaf tests are a better method of monitoring crop nutrition.

Leaf samples can be used to monitor all nutrients including micronutrients. Micronutrients are most accurately assessed with leaf blade samples. Sampling twice (at flowering and boll opening) produces the most useful information although leaves can be sampled at any time. Leaf tissue tests can identify nutrient imbalances, deficiencies & toxicities more precisely than soil testing & assist in optimising fertiliser programs.

The table below is from NutriLOGIC and outlines ideal, high and low leaf tissue levels of each major nutrient at 2 stages during the season. Requirement for nutrients change as the crop matures.

	Days after sowing	Ideal	High	Low
Macronutrients (%)				
N %	70	4.49	4.99	3.99
	120	4.01	4.51	3.51
P %	70	0.34	0.39	0.29
	120	0.31	0.36	0.26
K %	70	1.66	1.69	1.64
	120	1.35	1.37	1.32
S %	70	0.88	0.91	0.85
	120	1.10	1.113	1.07
Ca %	70	3.16	3.08	3.24
	120	3.70	3.78	3.78
Mg %	70	0.7	0.71	0.68
	120	0.81	0.82	0.79
Micronutrients (ppm or mg/kg)				
Na	70	<1050	1900	
	120	<1200	2100	
Cu	70	7.39	8.39	6.39
	120	6.43	7.43	5.43
Zn	70	28	34	22
	120	23.3	29.3	17.3
Fe	70	225	305	145
	120	155	235	75
Mn	70	104	134	74
	120	111	141	81
B	70	69	89	49
	120	88	108	68

Late season options for alleviating any deficiencies are limited, particularly for macronutrients. After cut out, crops should be able to fill bolls with the nutrients already taken up. Applying more nutrients may encourage vegetative growth rather than enhance yield. Late season micronutrient deficiencies could be alleviated through foliar applications.

An understanding of nutrient demands, the pattern of nutrient accumulation and the partitioning of these nutrients within cotton bolls could assist with making in crop nutrient management decisions.

Thanks to Julie O'Halloran (NSW DPI & Cotton CRC) & Dr Ian Rochester (CSIRO & Cotton CRC) for this article

Northern IRMS

Stage 2 commences 15th November, with the use of Steward allowed.

Cotton and Grains Irrigation Workshop Series

A new series of irrigation workshops are currently being rolled out across the industry. These workshops were developed following consultation with industry through the Irrigation Knowledge Management project. The workshops generally run for about 3hrs each and are designed to incorporate local trial data or planning processes (such as BMP) or can be targeted to local issues. The workshops are also mapped to national training competencies, so contribute towards obtaining a nationally recognised qualification if desired. Workshops will be conducted on an on-demand basis. Please contact Lance on 49837416 if interested.

Workshops On Offer	
• Benchmarking • Scheduling & Plant/Water relations • Storage & Distribution systems • Planning	• Metering • Soils • Advanced Scheduling • Surface Irrigation • Pumps

If you are considering planting a summer grains crop, now may be a good time to sign up to the scheduling workshop as it goes into detail on grains water use and critical stages for water stress for the different crops.

Crop	Crop ET need (mm)	Critical Irrigation Periods
Maize	600-850	Tasselling through seed fill
Peanut	500-700	Flowering and pegging to pod maturity
Sorghum	450-850	Boot to dough stage
Soybeans	500-775	Flowering to leaf drop
Sunflowers	600-800	Once bud is visible, start of flowering and just after petal drop

**The crop ET (evapotranspiration) is the demand that must be met by in-season rainfall, irrigation stored soil water at planting*