Cotton Catchment Communities CRC
NSW DEPARTMENT OF PRIMARY INDUSTRIES

COTTON *TALES*

Macquarie Valley and Bourke

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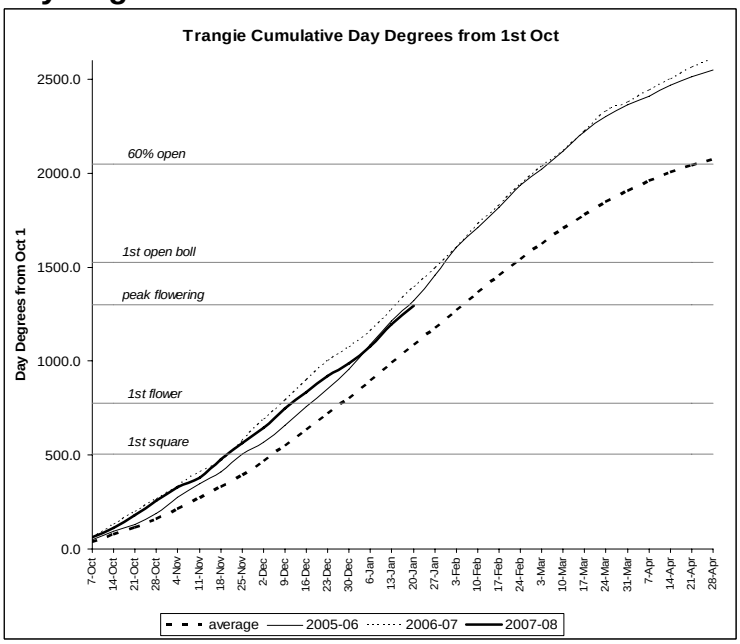
2007/08
No.12
21/01/08

Day Degrees



Hot days (>36°C) up until 20/01/08 – 8

Strategic Plan for the BMP Programme Review

In consultation with a range of cotton industry stakeholders including growers, a new Strategic Plan for BMP has been developed. This takes into account all of the feedback and survey data collected from industry over the last two years, and maps a clear path forward for a revised BMP Program. The aim is to re-invent BMP so that it is more relevant, addresses upcoming NRM issues, provides more on-farm support to growers, integrates the efforts of all industry groups including the Cotton CRC and can measure and report real on-farm change. Cotton industry participants are invited to view the new BMP Strategic Plan at www.cottoncrc.org.au under industry, publications, BMP Evolution or follow the link http://www.cottoncrc.org.au/content/Industry/Publications/BMP_Evolution.aspx. Cotton Australia is keen to get any feedback from growers or industry throughout the process to ensure that industry needs are met.

Leaf analyses

Monitoring of soil and plant nutrient status is recommended on a field-by-field basis to manage soil fertility and to avoid nutritional stress of cotton crops. Plant tissue analysis can provide feedback on the adequacy of a fertiliser strategy, the impact of unforeseen circumstances or to explain differences in crop performance and can be used a both a strategic and tactical nutrient management tool.

After squaring, leaf blades offer the best means of monitoring crop nutrition. The leaf blade can be used for monitoring all nutrients including micronutrients. Leaf tissue tests can be used for identifying nutrient imbalances, deficiencies and toxicities and can do so more precisely than soil testing and assist in optimising fertiliser programs.

When do I sample leaves?

Leaf sampling can be done throughout the growing season, but sampling twice (at peak flowering and cut-out) produces the most useful information. It should be noted that after 1200 day degrees, leaf analyses provides a more reliable estimate of nitrogen nutrition for cotton than petiole analysis, although at this time it may be too late to fully correct the deficiency.

How do I sample leaves?

About 50 leaf samples are collected from a uniform area within a crop and the leaf chosen is usually the fifth unfolded leaf from the top of the plant.

Collect samples only in an actively growing crop that is not stressed either from waterlogging or lack of moisture, or where insect or disease problems are severe. Also, avoid sampling following cold days or cloudy weather. If the majority of the plants throughout the crop have been tipped out, then sample from the stem with the most actively growing terminal.

Sampling from the same areas that soil analysis has been conducted and soil water is being monitored, there is greater likelihood that results can be interpreted in the knowledge of other soil constraints and soil moisture effects. Where a nutritional problem is suspected, a separate collection of healthy and unhealthy plants may aid diagnosis.

Sample handling and storage

Petiole samples should be stored in an absorbent (paper) bag and kept cool. To avoid contamination of samples, hands should be thoroughly washed with soap and dried or gloves worn. Common contaminants include salt from sweat and zinc contained in many sunscreen products.

Your plant samples **must** arrive at the laboratory as quickly and in as good a condition as possible. Samples not likely to reach the laboratory the day after collection should be dried prior to transport. This is best done at low temperature (less than 70^{o}C) in a convection oven or quickly air dried. Microwaves are **not** suitable.

Leaf analyses and NutriLOGIC

Plant analyses taken during crop growth can indicate nutrient deficiencies which, if identified early enough, may be rectified by applying the appropriate fertiliser.

The revised NutriLOGIC can assess leaf tissue tests and indicate whether the level is high normal or low, according to the stage of crop development. Research results over a wide range of seasons and experiments (including high yielding crops) have been combined into a number of simple nutrient response curves for major and minor nutrients including nitrogen, phosphorus, potassium, sulfur, calcium, magnesium, and sodium.

The new NutriLOGIC can be found on the Cotton Catchment Communities CRC web site at http://tools.cotton.crc.org.au/CottonLOGIC/NutriLOGIC/

Looking for more information on nutrition?

NutriLOGIC provides additional information on soil fertility and cotton nutrition through direct links to NUTRIpak and SOILpak.

Thanks to Dirk Richards, Sandra Deutscher and Ian Rochester, CSIRO and the Cotton CRC for their contribution in developing this information.