Major upgrade for cotton nutrition tools

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The NutriLOGIC program has recently undergone a major revision; it is now more user-friendly, provides information and analytical support for all major nutrients, provides interpretation of soil, petiole and leaf analyses and is relevant for high and low yielding cotton crops.

NutriLOGIC-on-the-web (www.cotton.crc.org.au/CottonLOGIC/NutriLOGIC) is an uncomplicated tool delivered through the Australian Cotton CRC website, designed to aid cotton nutrient management. The information presented is derived from up-to-date cotton nutrition research.

NutriLOGIC-on-the-web helps interpret soil and leaf analyses for all major nutrients, and indicates when fertiliser application may be warranted for individual fields. Petiole nitrate analyses are also interpreted. Growers need only enter the sowing and sampling dates, and the chemical analyses from their laboratory report.

Monitoring the nutrient status of each cotton field is essential to optimise yields and use fertilisers effectively. Inappropriate use of fertilisers affects profitability through increased input costs. And excessive use of N fertilisers may damage the environment through greenhouse gas emissions and contamination of groundwater.

Collect petiole and leaf samples from the fourth or fifth unfolded leaf from the top of the plant. (Photo: CSIRO)

Specifically, the tool helps to interpret levels of the major nutrients (N, P, K & S) from soil tests and indicates where soil sodicity and salinity may affect production. The N fertiliser calculations have been fine-tuned to allow for cropping history, soil compaction and crop response to N inputs.

NutriLOGIC-on-the-web also interprets petiole nitrate nitrogen analyses to indicate crop N status and suggests fertiliser addition if required. To save time NutriLOGIC automatically retrieves Growing Day Degree data from the weather station selected, based on the crop sowing and sampling dates entered.

Importantly, NutriLOGIC-on-the-web can now interpret both major and minor nutrient levels in leaves sampled throughout the season and can indicate whether the nutrient status is adequate for that stage of crop growth.

NutriLOGIC-on-the-web provides additional information on soil fertility and cotton nutrition through direct links to NUTRIpak and SOILpak. Other links contain further information on the quantities of each nutrient removed in seed cotton in relation to yield levels.

Soil fertility may decline as a result of nutrient removal from high-yielding cotton crops and this may limit the productivity of future crops unless these nutrients are replaced. (Photo: CSIRO)

For further information regarding NutriLOGIC please email Sandra.deutscher@csiro.au or phone 0267991500 and ask for Sandra, Rocky or Loretta.

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