Managing cotton crop residue: preventing ratoons from carrying over

Getting rid of the crop post-harvest can be difficult and resource intensive, however it really is the first step in terms of best practice for your future cotton crops.

“Best Practice in this area is often conflicting, as there is no one-size-fits-all recommendation for stubble management,” says d&d team senior specialist for disease, ipm and biosecurity susan maas.

“Deciding on what to do with crop residues really depends on the disease status of individual fields, and the farming system,” Susan said.

“Where Verticillium wilt is present, research has found that incorporation of cotton residues soon after harvest is beneficial.

“This process allows for the rapid breakdown of plant material, preventing further build-up of inoculum. “In contrast, Fusarium can survive on plant residues as a saprophyte, so fields that are known to have Fusarium wilt, should have stubble retained on the surface of the soil; for this reason root pulling and mulching is also preferred.”

Susan emphasises that growers should aim for the removal of all disease hosts, which includes many weeds as well as cotton.

“Inoculum for soil borne diseases can build up if hosts are present so clean fields are very important,” she said.

“The value in reducing Fusarium wilt from root pulling and mulching, can be undone, if conditions are not suitable for use of this equipment, and a high number of ratoons are left behind.

“This also increases the risk of virus and additional pest problems in future crops. Root cutting can be more effective across a broader range of soil conditions however care still needs to be taken to ensure thorough crop destruction.

"More than one operation may be required to achieve 100 percent control of ratoons, and when you look at the risks, such as mealybug, CBT, and overwintering aphids, 100 percent is all that can be acceptable if you are intending on growing cotton again.”

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