

FUNGICIDE

'Over-applying fungicide on wheat has negative long-term effects'

The excessive use of fungicides in wheat production is not only harmful to the environment but can result in the development of fungicide-resistant fungal strains. This is according to Dr Tarekegn Terefe, senior researcher at the Agricultural Research Council's Small Grain Institute in Bethlehem.

"Disease control options other than fungicides should be considered first, or fungicides should be used in combination with other methods in an integrated disease control strategy. For instance, many foliar diseases in wheat can be effectively controlled using resistant wheat cultivars," he explained.

According to Terefe, accurate identification was critical to ensure that the disease which the fungicide was intended for was indeed a foliar disease. Common wheat diseases in South Africa that were treated

with foliar fungicides included leaf rust, stripe rust, stem rust and powdery mildew.

He said it was crucial that farmers familiarised themselves with the signs of these diseases to ensure accurate diagnosis and effective management, and they needed to start monitoring wheat plants at around the seven-leaf stage. Weather conditions should also be taken into consideration as most leaf diseases in wheat flourished in moist and warm conditions.

Should symptoms appear at, for example, the seven-leaf stage at the same time as continuous wet conditions, fungicide application could be considered.

"When there is no significant disease threat at this stage, the first application can be skipped, saving the cost of application. Many fungal pathogens are able to adapt to repeated fungicide applications and this could lead to the development of strains



ABOVE: According to Dr Tarekegn Terefe, a senior researcher at the ARC-Small Grain Institute, excessive use of fungicides in wheat production is detrimental to the environment and can also result in fungicide resistance. ARC

that are less sensitive to the fungicides used," he added.

When highly resistant cultivars were not available, moderately resistant cultivars could be used in combination with fungicides. According to Terefe, a single fungicide application would probably provide sufficient disease control and yield protection on moderately resistant cultivars, reducing application costs and the risk of environmental contamination. – Annelie Coleman