

Flexi-N scorch: does it affect yield?

Background

Flexi-N applied to emerged crops can cause leaf scorch or burn, especially if mixed with pesticides. It was considered that the reduction in the leaf area of the damaged crop might affect its growth and final yield.

In response to this concern, CSBP has conducted numerous trials with the application of Flexi-N with and without pesticides and has documented crop damage and performance, as well as 25 replicated trials in 2004 investigating the long term effects of leaf scorch on yield from post-emergent applications of Flexi-N.

Key Results

In more than 60 trials over ten years, minimal or no damage to cereals or canola was observed with early post-emergent applications of Flexi-N up to 170L/ha without pesticides.

In a few cases, up to 30 per cent of the youngest fully-emerged leaf was burnt, but these crops grew vigorously with the enhanced nitrogen supply and the damage had no impact on final yield. Widespread grower experience supports this result.

The addition of pesticides, especially those with an emulsifiable concentrate formulation, and oils and wetters, exacerbated leaf scorch.

In more than 15 trials where Flexi-N was applied at 50-100 L/ha at the flag leaf stage or later, scorch on the flag leaf was observed in less than half the trials. In some cases the Flexi-N was applied for trial purposes only, even though it could have been predicted that dry conditions would result in poor returns on the application. In two such trials this scorch resulted in a 10-15 per cent yield reduction.

Despite instances of severe scorching from Flexi-N and pesticides when 50 per cent or more of the youngest leaf was damaged, crops recovered quickly and suffered no yield loss compared with the same pesticides applied in water.

Summary

Research and grower experience shows that mild scorch results in a temporary set back. **Provided the damage is before stem elongation, it has no impact on the final yield.** There is always a risk of scorch when Flexi-N is applied post-emergent, but the risk of scorch can be minimised by:

- reducing rates to 50 L/ha for cereals and 75 L/ha for canola;
- avoiding wet crops especially in the early morning (night or afternoon applications are less likely to result in scorch);
- avoiding warm windy conditions which tend to exacerbate scorch;
- if mixing with pesticides, avoid those containing emulsifiable concentrate (EC) formulations, or oils and wetters;
- applying Flexi-N in the first six to eight weeks after sowing (crops will recover from early damage).



The inner part of this oat crop was sprayed with 70 L/ha Flexi-N during light, misty rain



Two weeks later the crop had grown away from the damage.

