THE EFFECT OF ROUNDUP® PRE-HARVEST ON SPROUTING OF GRAIN IN THE EAR

In the event of very wet harvesting conditions this note clarifies the possible effects of pre-harvest glyphosate in the prevention or control of sprouting in cereals.

SUMMARY:
Correctly timed pre-harvest Roundup® will not prevent grain in the ear from sprouting if harvest is delayed due to prolonged wet weather. The susceptibility to sprouting will depend on weather conditions, variety and maturity.

Where a crop is already sprouting the application of Roundup® may help to dry out the crop and enable harvest sooner than if untreated but it cannot regain the quality which has already been lost through sprouting. The resulting grain may contain residues of glyphosate, but this will not make it unsuitable for animal feed.

DETAILS:
1) Are Roundup® treated crops protected against sprouting?
   • Even crops
     Spraying Roundup at the correct preharvest timing in cereals, (<30% moisture), ensures the grain is physiologically ripe (BBCH87). At this stage glyphosate will not be translocated into the grain and will therefore not prevent sprouting in the ear if harvest is delayed unduly by wet weather.
   • Uneven crops with secondary tillering
     Glyphosate will translocate into immature grains in green secondary tillers which have not reached BBCH87. Grains may shrivel but sprouting should be prevented in these grains if harvesting is delayed due to wet weather.

2) What is the effect of spraying Roundup® on crops with sprouted grain in the ears?
   • Sprouted crops can be sprayed as soon as the chits lengthen and turn green when glyphosate will be absorbed through the chitting shoot and prevent it growing any more. (If chits are very small and hidden beneath the glume it will be impossible to get good coverage, leading to poor results).
   • If the crop was already treated with Roundup before sprouting, it is still legal to re-treat providing the maximum total dose does not exceed 1440g/ha of glyphosate. This is not the case for all glyphosate products, with only one treatment per year per crop legally allowed for many products - see statutory information on the label.
   • Spraying sprouted ears may help facilitate an earlier harvest by helping the crop to dry out quicker and improve the combine efficiency. But such treatment will:-
     a. Still result in a shrivelled, poor quality sample suitable at best for animal feed.
     b. Not preserve Hagberg Falling Numbers in milling wheats.
     c. Lead to a residue of glyphosate in the ear which could be in excess of the EU Maximum Residue Level of 10 mg/kg for human consumption. Feeding of such grain to animals is covered by the data and risk assessment supporting the pre-grazing recommendation and will still be suitable for animal consumption.
     d. If wet weather continues beyond about 2-3 weeks after spraying, the lignin may start to break down causing heads & stems to be more prone to breaking.
     e. Require a harvest interval of 7 days.

Roundup® contains glyphosate.
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