4. HUSBANDRY

4.4 Chemicals for cane eradication

Roundup (isopropylamine salt of glyphosate, 360 g a.e./litre), Touchdown (trimesium salt of glyphosate, 480 g a.e./litre) and Fusilade Super (fluazifop-butyl, 125 g/litre) are registered products for sugarcane eradication for minimum tillage crop re-establishment.

Note: a.e. = acid equivalent.

Optimum time for spraying

The products are more effective during the warmer months from October to March when the growth of sugarcane is rapid, but the best results for glyphosate are obtained in the hot months from December to March. Areas such as valley bottoms and heavy soils, where the product is less effective, should be sprayed during this period. Winter applications of glyphosate are not effective. Fusilade Super is not as dependent on rapid growth and is the better choice for less favourable temperature conditions (e.g. early spring).

Growth stage for spraying

The plough-out crop should not be sprayed later than 6-8 weeks after harvesting. Spray when all the buds have germinated and when the canopy is 400 to 700 mm from the ground. It should be well tillered with no developed stalk. Buds on the stubble of the old crop that have not yet germinated will not be affected by the chemical, so check that they have germinated before spraying.

Slashing back the old cane and then spraying the regrowth has increased the effectiveness of glyphosate and Fusilade Super in trials. There is no translocation of the chemicals within a stool, nor between stools.

For both ripening and eradication of the crop, pre-harvest application of chemicals is ***not recommended***. This is based on the results of numerous trials that indicated unaccepabily high numbers of surviving tillers with this technique. The rates of products used in these trials ranged from 4 to 13 litres/ha for Roundup and 4 to 10 litres/ha for Fusilade Super.

Rates

Roundup should be applied at 8-10 litres/ha, or Touchdown at 5,33 to 6,67 litres/ha + Add-2 at 0,6 litres/ha, mixed with 200 to 400 litres water. Higher rates of chemical are recommended in early summer (October to November), but lower rates may be applied during periods of vigorous growth and when conditions are ideal (January to March).
Fusilade Super at a rate of 6 litres/ha, mixed with 200 to 300 litres water, can be applied to all varieties except N55/805, which should receive 8 litres/ha chemical.

Application

Any method that provides good coverage is acceptable. Good droplet distribution without runoff is desirable. Nozzle height and position should be where the cane row and the base of the adjacent rows are effectively covered. The nozzle should be held above the cane row when using a knapsack sprayer.

Split applications with two passes on the same day, at half the recommended amount of Roundup on each pass, have given better results in some experiments. This method improves coverage, particularly if each row is sprayed in opposite directions. It is preferable to spray onto dry foliage that is not dusty. Dust inhibits the activity of the chemicals.

Rainfall

Rainfall within six to eight hours of spraying will wash Roundup off the foliage and severely reduce its effect. Touchdown requires four rain-free hours after spraying. Fusilade Super requires only about one hour of dry conditions after application.

Cane stress

Chemical uptake will be decreased when the cane is under stress from low moisture, high temperature or iron chlorosis. Spraying should

be carried out when the plant is actively growing and turgid.

Soil types

Germination is affected by soil type, and this will therefore influence the timing of the application. Cane grown in heavier soils should be sprayed in mid-summer when germination is quicker and more even. The maximum of 10 litres/ha of Roundup or 6,67 litres/ha of Touchdown should be used for cane grown in heavy soils (>30% clay). The recommended rates of Fusilade Super do not vary with soil clay content.

Spray-to-plant delays

After cane is sprayed with Roundup the next cane crop can be planted immediately. With Fusilade Super, a 28 day delay is required on soils with <8% clay, and a 56 day delay for soils with >8% clay.

If Fusilade Super is used, the next cane crop should be of variety NCo376 only.

Water quality

Clean water, free of excess salts and silt, is essential. Glyphosate is more effective if used with water that is slightly acidic (± pH 6). If in doubt, have it tested.

Equipment should be thoroughly cleaned after use to remove any chemical residue or dirt, and again before re-use.

Varieties

The varieties NCo310 and N55/805 are less sensitive to glyphosate than others, and the higher rates should be used on them. The higher rate of 8 litres/ha of Fusilade Super should be applied only to variety N55/805.

Additives

Roundup includes a surfactant which improves the chemical's effectiveness, so it is not necessary to add additional surfactants. The surfactant Add-2 should always be used with Touchdown. Additives will not prevent the chemical from being washed off by rain, nor improve the effect of the treatment when the cane is at an unfavourable stage of growth.

No additives should be used with Fusilade Super.

Follow up

A complete kill of cane without any subsequent regrowth does not usually occur. Regrowth should be removed by hand hoeing at a later stage.

Important: Read the label before spraying!

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