

RESEARCH LABORATORY TECHNICAL REPORT



Finalsan, Pelargonic acid

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Dose response and product evaluation

Finalsan (a.i. pelargonic acid) is a herbicide alternative for Diquat. Pelargonic acid naturally occurs within most species of plants and animals; it is therefore classified as an organic pesticide. As a herbicide, pelargonic acid is effective against annual and perennial weeds, mosses, and algae (although NOT aquatic approved). When this product is applied, it is rapidly degraded in the environment. Pelargonic acid has a physical, non-systemic mode of action which makes it ideal for controlling weeds in close proximity to non-target plants and for defoliation of root suckers. For a rapid knockdown and total plant control, pelargonic acid can be used in combination with glyphosate.

Dose response

Finalsan can be applied at a concentration between 200 ml/L and 400 ml/L depending on the plants to be controlled and situation.

Spot Spraying

Finalsan applied at a concentration of 200 ml/L will prove effective for spot spraying of individual weeds but not for controlling large areas of vegetation (Figure 1). After spraying, defoliation occurs 7-11 days later depending on temperature (higher temperatures promote more rapid defoliation). Regrowth may occur with resilient weeds. In these cases, a repeat application will be required.



Figure 1. Finalsan applied at 200 ml/L. Defoliation occurs on average 7-11 days later.

Large scale vegetation control

Finalsan applied at 400 ml/L is required to control large areas of vegetation with a repeat application 11-14 days later. After spraying, defoliation occurs within 11 days with an estimated 80% vegetation control (Figure 2). Defoliation occurs sooner during periods of higher temperature.



Figure 2. Finalsan applied at 400 ml/L. Defoliation was observed at day 11 however, time taken for defoliation to occur decreased with increased temperature.

Conclusion

As an alternative for Diquat, Finalsan proved to be more expensive as larger quantities of the product are required to achieve the same effect: 400 ml/L of Finalsan vs 15 ml/L Diquat. At least two applications of pelargonic acid are also required at 400ml/L to provide total vegetation control. The role in which pelargonic acid fills most appropriately is as a spot spray treatment near non-target plants where a rapid knockdown effect is required. Greater control would be expected when used in combination with glyphosate.



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