



Tip of the Month

June 2020

HERBICIDES AND HUMIDITY

Various crop protection products (CPP) are influenced by low humidity conditions. Certain herbicides will be discussed in this tip, but similar principles may also apply to various other CPP. Please take note that herbicide labels give specific guidelines about application conditions, so it is important to stick to those rules. However, one must remember that certain herbicides may have an extended absorption process, exposing the droplet residual to less favourable conditions at some stage during this period. There are also certain herbicides that will always benefit from the highest possible humidity level, so any increase in humidity will increase the absorption rate and amount.

Herbicides that are affected by low humidity

Water-soluble herbicides like glyphosate and glufosinate may have a tough time entering the plant, as they need to overcome surface barriers like the waxy layers on the weed leaf surface. The herbicide and the surfactant that are used, normally hydrate the leaf surface waxes to assist with the absorption process. However, it can still be an extended process, therefore it may be important to use humectants with these herbicides. The correct humectant will extend the drying time of the spray droplet residual, while also creating ideal conditions for herbicide absorption. This will decrease the detrimental effect of low humidity on the absorption process. It is important to use the correct humectant and to make sure that it doesn't have any negative effect on the herbicide.

Should humectants be used with all herbicides?

It is important to note that not all herbicides need a humectant under low humidity conditions.

For example, it is pointless to use a humectant with a herbicide that is readily absorbed into the leaf. Many herbicides, especially some oil-soluble formulations, are absorbed in a relatively short time period. On the other hand, humectants are often used with certain water-soluble herbicides that have a prolonged absorption process and are prone to drying out on the leaf surface. Herbicides that are absorbed relatively rapidly will not benefit from a prolonged drying time. In fact, the incorrect use of humectants may even inhibit absorption and decrease weed control. Therefore, it is not a good practice to use humectants as a standard practice with all herbicides.

Villa's stance

Just as with any other adjuvant, it's horses for courses with humectants. Water-soluble herbicides like glyphosate and glufosinate may be exposed on the leaf surface and could be prone to drying out under low humidity conditions. Humectants may be needed with these products to decrease the effect of low humidity.

However, humectants should never be used as a standard practice because they may not always be needed, or they may be antagonistic if used with the wrong herbicide. The advice given in this article is for specific herbicides. Don't generalize as there are always exceptions to the rule.

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