



Villa Adjuvant Tip of the Month

DELAYED ABSORPTION

We frequently assume that systemic herbicide spray droplets are safe once they reach the weed leaf. The truth is that the absorption process into the weed only starts then. It is often a tedious process that can take hours to complete. The condition of the spray droplet deposit must be conducive for the absorption of the active ingredient. Unfortunately, there are often factors that delay absorption and prolong the period that the active ingredient is exposed on the leaf surface. These factors include antagonistic tank mixtures, incorrect adjuvant selection, poor water quality and environmental conditions. This can result in poor weed control or crop damage. It is important to use the correct adjuvant and to stay away from antagonistic tank mixtures to avoid this problem. We discuss the influence of delayed absorption in more detail below.

Poor efficacy

The various factors mentioned above can contribute to decreased or delayed absorption. Delayed absorption is frequently caused by unregistered applications. These include applying the herbicide with the incorrect adjuvant or not using the label recommended adjuvant at all. It is also caused by unregistered tank mixtures with other crop protection products or with foliar nutrients or fertilizers. This can cause delayed absorption which leaves the herbicide unprotected on the leaf surface for an extended period, exposing it to environmental conditions. This includes amongst others, low humidity, and photo-degradation. The longer it takes for the herbicide to be absorbed, the longer it will be exposed to these factors. These environmental conditions then degrade the mixture and reduce the absorption of the active ingredient. This leads to poor efficacy and weed control. Prevent delayed absorption by using the correct adjuvant

and by avoiding unregistered and antagonistic tank mixtures.

Crop damage

Delayed absorption is normally associated with poor efficacy but in some instances, it may even lead to phytotoxicity. Systemic herbicides have an absorption period. Once this period has been drastically increased, the herbicide lies on the crop leaf surface and causes scorching. This is often an atypical symptom of the herbicide, but it is caused by spray deposits that are not absorbed fast enough. Surprisingly, the factors that contribute to these symptoms are precisely the same as for poor efficacy. Systemic herbicides need to be absorbed in adequate amounts to be effective. If this does not occur, it causes either poor efficacy or phytotoxicity. Therefore, it is vitally important to adhere to label recommendations concerning water quality, adjuvants, tank mixtures and environmental conditions.

Villa's stance

Villa aims to register all its herbicides with the correct adjuvants and tank mixtures. This is done to both optimise efficacy and decrease the chance of crop damage. It is impossible to predict precisely what will happen if these label recommendations are ignored, especially under adverse climatic conditions. Therefore, it is crucial to adhere to label recommendations pertaining to these factors. Once you fail to do so, you run the risk of delayed or decreased absorption with the unwanted side-effects of inefficacy or crop damage.

Contact [Brian de Villiers](mailto:bdevilliers@villacrop.co.za) for more information on adjuvants and water quality 082 880 0974 or bdevilliers@villacrop.co.za