



Sputtoplossing pH

Deur Brian de Villiers

Buffers word dikwels gebruik om die pH te verlaag en te handhaaf op vlakke waar insekdoders die stabielste is. Dit word ook soms met ander gewasbeskermingsprodukte (GBP'e) wat 'n lae pH vir optimale effektiwiteit vereis, gebruik. Daar is egter verskeie ander sputtoplossing komponente wat ook tot 'n lae pH bydra. Dit sluit suur GBP'e, blaarvoedings, en verskeie ander produkte in. Terwyl 'n lae pH voordelig in verskeie gevalle is, is daar ook gevalle waar dit ernstige negatiewe gevolge kan veroorsaak.

Die voordele van 'n suur sputtoplossing

pH-verlagende buffers is een van die wyd verbruikte byvoegmiddels in Suid-Afrika. Dit verlaag die pH tot op vlakke waar alkalies-sensitiewe insekdoders die stabielste is. Daarom speel alkaliese hidrolise 'n baie beperkte rol met hierdie produkte, en verseker effektiewe beheer. Indien 'n insekdoderetiket 'n buffer aanbeveel, is dit belangrik om een te gebruik. 'n Klein belegging in 'n buffer kan 'n massiewe verskil in beheer beteken. Versuring deur buffers en ander sputtoplossing komponente mag ook die opname en effektiwiteit van ander GBP'e bevorder.

Die nadele van 'n suur sputtoplossing

Ongelukkig het 'n suur sputtoplossing soms ook nadele. Dit sal die oplosbaarheid van sekere GBP'e verlaag en 'n negatiewe impak op oplosbaarheid en effektiwiteit hê. Nog 'n nadeel van verlaagde oplosbaarheid is fisiese onverenigbaarheid in die vorm van flokkulasie, skeiding, jellie-agtige spuitmengsels, en blokkeerde siwwe en spuitpunte. Die kans op fisiese onverenigbaarheid word verder deur 'n lae watervolume verhoog. 'n GBP in 'n suur

sputtoplossing mag redelik onoplosbaar wees, maar 'n spuitvolume van 200 l/ha mag net genoeg wees om alles in oplossing te hou. Dieselfde GBP teen dieselfde lae pH in 100 l/ha kan egter tot onverenigbaarheid lei. pH is gewoonlik die hoof probleem in hierdie spuitmengsels, maar ander faktore soos watergehalte en -temperatuur kan tot die probleem bydra. Buffers is baie effektiewe byvoegmiddels, maar indien dit nie korrek gebruik word nie, kan dit onverenigbaarheid veroorsaak. Buffers is egter dikwels nie die hoof sondebokke nie. Baie ander produkte het 'n laag genoeg pH om tot die probleem by te dra. Indien 'n suur GBP, blaarvoeding, of enige ander produk, tot die spuitmengsel gevoeg gaan word, is dit wys om eers te bereken wat die impak op verenigbaarheid gaan wees. Dit word meer belangrik as die spuitvolume verlaag word.

Villa se mening

Buffers is belangrike byvoegmiddels, en dit behoort gebruik te word wanneer dit op 'n GBP etiket aanbeveel word. Moet egter nie net alle sputtoplossings as 'n standaard praktyk versuur nie. GBP'e, blaarvoedings, en ander produkte, mag ook sputtoplossings betekenisvol versuur en die impak behoort altyd oorweeg te word. Lae pH het groot voordele, maar dit kan nadelig in sekere gevalle wees. Kontak jou Villa landboukundige vir meer inligting oor byvoegmiddels en watergehalte.



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Spray solution pH

By Brian de Villiers

Buffers are frequently used to decrease and maintain the pH at levels where insecticides are the most stable. They are also occasionally used with other crop protection products (CPPs) that require a low pH for optimal efficacy. However, there are many other spray solution components that also contribute to a low pH. These include acidic CPPs, foliar nutrients, and various other products. While a low pH is beneficial in many cases, there are also instances where it can cause serious negative issues.

The benefits of an acidic spray solution

pH-reducing buffers are one of the most widely used adjuvants in South Africa. They decrease the pH to levels where alkaline-sensitive insecticides are the most stable. Therefore, alkaline hydrolysis plays a very limited role with these products, ensuring effective control. If an insecticide label recommends a buffer, it is important to use one. A small investment in a buffer could mean a huge difference in control. Acidification by buffers and other spray solution components may also enhance the absorption and efficacy of other CPPs.

The drawbacks of an acidic spray solution

Unfortunately, an acidic spray solution sometimes also has disadvantages. It will decrease the solubility of some CPPs and have a negative impact on absorption and efficacy. Another drawback of decreased solubility is physical incompatibility in the form of flocculation, separation, jelly-like spray mixtures, and blocked sieves and nozzles.

The chance of physical incompatibility is further increased by a low water volume. A CPP in an acidic spray solution may be quite insoluble, but a spray volume of 200 l/ha may be just enough to keep everything in solution. However, the same CPP at the same low pH in 100 l/ha could result in incompatibility. pH is normally the main problem in these spray mixtures, but other factors like water quality and temperature can contribute to the problem. Buffers are very effective adjuvants, but if they are not used correctly, they can cause incompatibility. However, buffers are frequently not the main culprits. Many other products have a low enough pH to contribute to the problem. If an acidic CPP, foliar nutrient, or any other product, is to be added to the spray mixture, it is wise to first assess what the impact on compatibility will be. This becomes more important as the spray volume is decreased.

Villa's stance

Buffers are important adjuvants, and they should be used when recommended on a CPP label. However, don't just acidify all spray solutions as a standard practice. CPPs, foliar nutrients, and other products, may also acidify spray solutions significantly and their impact should always be considered. Low pH has major advantages, but it could be detrimental in some cases. Contact your Villa agronomist for more information about adjuvants and water quality.