

Laeveld Agrochem

Saam boer ons vooruit

Okt 2026

Byvoegmiddels en verenigbaarheid

Deur Brian de Villiers

Dit is welbekend dat byvoegmiddels 'n direkte bydrae lewer tot die effektiwiteit van gewasbeskermingsprodukte (GBP'e). Wanneer die verkeerde byvoegmiddel gebruik word, sien 'n mens dikwels die gevolge daarvan in swak beheer. Dit kan toegeskryf word aan faktore soos watergehalte, deposisie, behoud, druppelverspreiding en opname. Ons dink egter selde aan verenigbaarheid wanneer byvoegmiddels gekies word. Verkeerde byvoegmiddels kan 'n groot rol speel by faktore soos flokkulasie, dik spuitoplossings en gebblokkeerde siwwe en spuitpunte. Dit kan produktiwiteit geweldig knou deur vermorste produk, ekstra skoonmaaktyd en herbespuitings.

Benatters en olies

Hierdie byvoegmiddels word meestal as druppelverspreiders beskou. Dit lewer egter ook 'n direkte bydrae tot behoud en opname. Benatters word nie net alleen gebruik nie maar, is ook deel van oliebyvoegmiddel-formulasies om die olie in die spuitoplossing te emulsifiseer (meng). Die emulsifiseringsvermoë van benatters wissel egter baie. Wanneer die geregistreerde byvoegmiddel nie gebruik word nie, mag die plaasvervangerproduk swak emulsifiserende eienskappe in die spuitmengsel hê. Dit kan lei tot die afbreek van sekere emulgeerbare konsentraatprodukte tydens vermenging, wat geblokkeerde siwwe en spuitpunte tot gevolg het. Daarom kan ongeregistreerde benatters en olies direk bydra tot onverenigbaarheid.

Buffers

Die oplosbaarheid van verskeie produkte word deur pH beïnvloed, met baie GBP'e wat minder oplosbaar in suur spuitoplossings is. Dit is dikwels nie 'n probleem by hoë spuitvolumes nie, omdat daar genoeg water is om alles in oplossing te hou. Onverenigbaarheid mag egter gebeur wanneer 'n laer watervolume toegedien word. Ander faktore wat oplosbaarheid beïnvloed sal dan die probleem vererger. Hierdie faktore sluit koue water en water met 'n lae bufferkapasiteit in. Daarom kan ultra-lae pH wat deur die verkeerde buffers veroorsaak word, die verenigbaarheid direk beïnvloed. Onverenigbaarheid gebeur omtrent nooit wanneer buffers van goeie gehalte volgens registrasie gebruik word nie. Dit gebeur egter gereeld met ongeregistreerde buffers wat geneig is om tenkmengsels te suur te maak. Hierdie oorversuring veroorsaak onoplosbaarheid en presipitasie van een of meer van die komponente in die spuitmengsel.

Villa se mening

Byvoegmiddels het nie net 'n invloed op effektiwiteit nie, maar kan ook 'n belangrike rol by verenigbaarheid speel. Benatters is soms by emulsifisering betrokke, en onverenigbaarheid mag voorkom wanneer 'n ongeregistreerde produk gebruik word. Buffers kan ook verenigbaarheid met oorversuring beïnvloed, deur die oplosbaarheid van sekere tenkmengsel komponente te verminder. Gebruik asseblief altyd die geregistreerde byvoegmiddel omdat beide effektiwiteit en verenigbaarheid betrokke is. Kontak jou Villa landboukundige vir meer inligting oor byvoegmiddels en watergehalte.



Laeveld Agrochem

Together cultivating success

Oct 2026

Adjuvants and compatibility

By Brian de Villiers

It is well known that adjuvants are directly involved in crop protection product (CPP) efficacy. When the incorrect adjuvant is used, we often see the consequences in poor control. This can be attributed to various factors, such as water quality, deposition, retention, droplet spreading and absorption. However, we seldom think about compatibility when choosing adjuvants. Incorrect adjuvants can play a major role with factors like flocculation, viscous spray solutions, and blocked sieves and nozzles. This causes major productivity issues like wasted product, clean-up time, and re-applications.

Surfactants and oils

These adjuvants are mostly seen as droplet spreaders. However, we know that they are also directly involved in retention and absorption. Surfactants are not only used alone but are also part of oil adjuvant formulations to emulsify (mix) the oil in the spray solution. However, the emulsification ability of surfactants varies a lot. When the registered adjuvant is not used, the replacement product may have inferior emulsification properties in the spray mixture. This could lead to the break-up of certain emulsifiable concentrate products during mixing, causing blocked sieves and nozzles. Therefore, unregistered surfactants or oils can be directly responsible for incompatibility.

Buffers

The solubility of various products is influenced by pH, with many CPPs being less soluble in acidic spray solutions. This is often not a problem with high spray volumes, because there is enough water to keep everything in solution. However, incompatibility may occur when a low water volume is applied. Other factors that affect solubility will then worsen the problem. These factors include cold water and water with a low buffering capacity. Therefore, ultra-low pH caused by the wrong buffers can directly affect compatibility. Incompatibility hardly ever occurs when quality buffers are used according to registration. However, it happens frequently with unregistered buffers that tend to over-acidify. This over-acidification causes insolubility and precipitation of one or more components in the spray mixture.

Villa's stance

Adjuvants are not only involved in efficacy but can play an important role in compatibility. Surfactants are sometimes involved with emulsification, and incompatibility may occur when an unregistered product is used. Buffers can also affect compatibility with over-acidification, by decreasing the solubility of some tank mixture components. Please always use the registered adjuvant because both efficacy and compatibility are involved. Contact your Villa agronomist for more information about adjuvants and water quality.