

INSIGHTS

The new GHS labelling system
- What to expect?

New commercial
managers to take
Villa to new heights



EU Green Deal:
Impact on SA agriculture

Wanneer mikro-elemente
makro belangrik word

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SUMMER 2022

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EDITOR'S NOTE



René de Klerk

In the blink of an eye, another year is gone. It was not a year without challenges, but at Villa, we prefer focusing on the positives. We revamped INSIGHTS to bring you a new look, but the publication still covers the same insightful topics to help you make better decisions. Villa takes customer service seriously and has appointed two new commercial managers to service new and loyal customers. See who they are and how they can help you on page 3. Our Research, development and Innovation department will probably enjoy a well-deserved break this year as they worked around the clock to implement the new GHS labelling system. Find out what it entails and what it means for agrochemicals and those using them on page 4.

We all rely on agrochemicals for optimum crop yields, but what about their nutritional health? Do you provide your crops with the nutrition they need, or do you plant and hope for the best? Turn to page 6 to learn the importance of micronutrients.

Talking about nutrients, we have an invader in our midst that could steal the nutrients of your crops and affect crop yield immensely if left unchecked. The palmer amaranth (*Amaranthus palmeri*) is not something to turn a blind eye to and while it may seem like a difficult challenge to overcome, soil preparation before planting and scouting your fields during the season becomes key. Page 12 is an eye-opener. Read it now to find out why it is crucial to act now.

Lastly, if you are going to explore the garden route at home over the holidays, there is something for you to read too. We tend to kill all bugs we perceive to be a pest the moment we see them, but is it necessary to kill all those caterpillars in your garden? And what kind of benefits would hoverflies have? You can read more on pages 7 and 9, respectively.

Whatever you choose to do over the quieter period, remember to make time for yourself and your loved ones. Happy New Year!

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Investing in a brighter future

t's been another busy year and we've had several new appointments in the marketing team this year. This is only the start of a new path for Villa, investing in additional technical marketers to serve customers across the country even better than before, providing better focussed service. Part of the new journey include the creation of new Portfolio and Crop Manager positions. Announcements of these will follow in the coming year. These appointments fit in with Villa's strategic plans to be a leader in the changing agriculture sector.

We introduce some of the new team members that joined this year:



James John Cloete

James John (JJ) Cloete serving the Northern Cape

JJ is the latest addition to the Villa team. He grew up in Douglas in the Northern Cape and completed a bachelor's degree in agriculture through the Central University of Technology in Bloemfontein. His crop protection career started in 2015. JJ brings knowledge of both chemical and biological products to the team. He is married with two kids and enjoys hunting, shooting, water sports, and farming.

Kontak JJ: jjcloete@villacrop.co.za



Vivian Butler

Vivian Butler serving the Limpopo Province

Vivian joined the team in October after a career in guiding. He studied Zoology and Entomology at the University of the Free State, followed by a brief stint working at a company constructing golf courses in the United Kingdom. While Vivian took a slight career detour before landing in his current role, his love for entomology and the practical aspects of insect management combines perfectly with agriculture. He wants to make a difference by providing advice and technical knowledge to agents and bringing them up to date with the latest research and options.

Contact Vivian: vbutler@villacrop.co.za

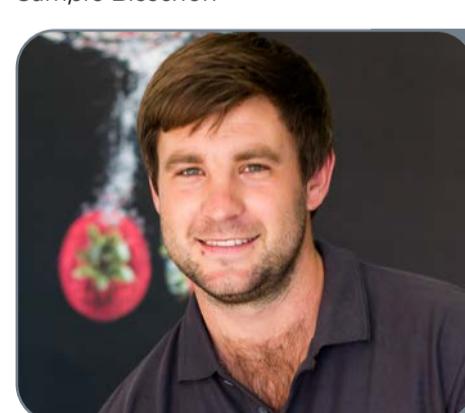


Sampie Bisschoff

Sampie Bisschoff serving the North West Province and the western Free State

Sampie brings a lot of experience to the team. He started his agriculture career in 1995 at NTK Pietersburg and then moved to Isando where he worked as a Buyer and Sales Consultant at Agrinet. Later he managed the Belville branch. He moved to NTK Musina and later managed the Alldays branch before starting a career in crop protection in 2007. Sampie wants to market the Villa range as wide as possible and offer it to customers as the first and only solution. He loves nature, is a 4x4 enthusiast, and loves hunting, camping, and playing golf.

Contact Sampie: [ampieb@villacrop.co.za](mailto:sampieb@villacrop.co.za)



Albert Potgieter

Albert Potgieter serving the eastern Free State and KwaZulu-Natal

Albert completed a bachelor's degree in agriculture, specialising in mixed farming at the University of the Free State. He worked in the agri-sector for three years before pursuing a career in agrochemicals. He recently got married and enjoys spending time in nature and the outdoors. He is from Bethlehem in the Free State and joined the Villa team in April.

Contact Albert: apotgieter@villacrop.co.za



James Duvenage

James Duvenage serving the Highveld

James grew up in the small Mpumalanga town of Ogies, approximately 40km from Delmas. He completed a BSc degree in Botany and Microbiology and then did his honours degree in Integrated Pest Management at the Northwest University. His focus was on the efficacy of insecticides on the fall armyworm. James is busy with a diploma in Business Management and completing a fertiliser advisor certificate at the Fertiliser Association of South Africa. James also joined Villa in April.

Contact James: jduvenage@villacrop.co.za



Warming up to change



Noelene Mostert

New commercial managers to take Villa to new heights



Louis Reynolds



Cullen Botes

What is the secret to running a successful business and increasing sales? Offering quality products to the end user is one aspect; another is great customer service and building quality long-term relationships with existing clients.

This is why Villa recently appointed two commercial managers to serve customers better and improve and grow relationships even further. While it is still early days, this move puts the company in a great position to help expand its market share in the industry.

Louis Reynolds and Cullen Botes served the company for many years and will strengthen relationships in the Southern and Northern regions, respectively. Both have demonstrated their passion for customers throughout their careers and have already built strong relationships with the customers.

Louis joined the Villa team in 2015 as an intern, shortly after he finished his B.Sc. Honours degree at the University of Potchefstroom. He then grew into a new role of Answer Plot Lead. Louis played a key role in developing and marketing new principles and products in the field for his first three years, whereafter he focussed on key customers as Marketing Advisor. He served as Marketing Manager for the South for two years.

"I see myself as an honest person with integrity where your word is important. I believe you only have one name, especially in this industry, and you can never get that name back once it is lost. This is the reason why I stand for what is right and always try to be the same person to friends, family, and customers. Relationships are a priority for me, not only in the work environment but also in my social circles," says Louis.

Louis has a natural feel for people with good interpersonal skills. He has technical experience in various crops and has shown growth in every area by ensuring innovation and optimal contact with clients, making him the ideal candidate for the position.

Cullen joined Villa in 2015 as an intern in the Marketing Department after completing his BSc (Agric) degree with a dual major in Applied Plant and Soil Sciences at the University of Pretoria. He spent most of his time in the Technical Department as a product development specialist, focussing on herbicide development. In August 2020, he got the opportunity to head up the Herbicide Product Portfolio at Villa, which led to the current opportunity to operate within the commercial side of the business.

Cullen is passionate about agriculture with a keen interest in crop protection, which stems from a family with deep roots in the South African agrochemical industry. Cullen is an ambitious, critical thinking professional with an infectious enthusiasm for success. He looks forward to the challenges that the new position will bring and thrives in the opportunity of growing and learning from the best in the industry.

This appointment will improve customer service speed. Louis and Cullen have demonstrated, throughout their careers, a passion for our customers and have built strong relationships with them.

The last few decades have seen a global population explosion never thought possible. With billions of mouths to feed, an unsuccessful war on single-use plastics, increasing human migration patterns and carbon-heavy innovations, the initial gradual, but now growing effect of Climate Change has never been a bigger reality.

Climate Change does not just bring about challenging events such as severe drought and increasing fire patterns, but also immense changes in how plants react and grow, as well as new pest and disease patterns that farmers need to battle. Resource depletion and Climate Change present major obstacles to agriculture and sustainability.

This sentiment set the scene for the Climate Smart Agriculture Convention held outside Somerset West in the Western Cape in October 2022. It is clear that although we cannot reverse the effects of Climate Change, it is vital that we do everything possible to mitigate change to be prepared and protect the agriculture industry.

The main discussions and conclusions from the convention were that we need to use the data and technology at our disposal and turn it into wisdom, which should then be used to act. But data, good intentions and technology are not worth anything unless converted into something viable. Sustainability needs to be an integral part of businesses. It must be measurable and be accountable, not just about reaching sustainability points. Our minds need to change to include the mantra: "Do the right thing because it is the right thing to do."

Scan the QR code below for the Climate Smart Convention's presentations, videos and more.



Implementing the new GHS-compliant labelling system

By René de Klerk



Annelize Viljoen



Mariana van Jaarsveld

The Research, Development, and Innovation (RD&I) department at Villa started around seven years ago with extensive training to get to know the system and implement it successfully. But what is GHS, and why do we have to implement a new system when the old one served its purpose?

GHS, or the Global Harmonised System of Classification and Labelling of Chemicals, is an international system harmonising the classification and labelling of hazardous chemicals. While chemicals are crucial for food growing, hygiene, insect, and pest control, and so much more, there are also risks to people and the environment. The GHS system will provide even more information and facilitate international trade due to standardised and improved hazard communication on the label and SDS (Safety Data Sheet).

The new system will place chemicals in 17 different physical hazard classes. Ten classes are related to health hazards (compared to six in the old system), and two environmental classes. Each hazard class has different categories according to the severity. The new hazard classes are single target organ toxicity (single or repeated exposure), aspiration, carcinogenicity, mutagenicity, and reproductive toxicity. The last three are known as CMR chemicals – the hazard classes of most concern. Carcinogenic chemicals could cause cancer, while mutagenic chemicals can cause genetic mutations. Reproductive toxic chemicals could damage the reproductive process. The pictograms on containers will address all the physical, health and environmental hazard classes.

Furthermore, the Registrar of the Department of Agriculture, Land Reform and Rural Development instructed the agro-chemical industry to replace the inert ingredients classified with a CMR Category 1A

or 1B by 1 June 2024. Alternatives should also be suggested for active ingredients with a CMR Category 1A or 1B classification by 1 June 2024.

According to the International Labour Organisation, 25% of workplace deaths worldwide are due to exposure to hazardous substances. The new system aims to provide workers with comprehensive information on the safe handling of chemicals, personal protective equipment and first aid treatments and emergency procedures.

A team of the Research, Development and Innovation department of Villa has been busy since May 2022 submitting all the GHS labels of the companies within the group. Not an easy task, but we have submitted 20 – 30 dossiers per week. "We have finalised about 90% of the product portfolio to date," says Annelize Viljoen, Senior Research, Development, and Innovation Specialist: Regulatory.

"I did the first course about this in 2015 but we were unable to submit any labels before April 2022. The official communication and implementation only came into effect this year," explains Viljoen. It was, therefore, a race to get everything done before the new law came into effect.

These label changes might also affect the end-user applying the chemical products to crops. Mariana van Jaarsveld, Group Manager for Research, Development, and Innovation at WinField United South Africa confirms that training will be crucial in this aspect. "In the past, even illiterate users could look at the colour band on a label to know the toxicity level. It was also a sales technique because producers would often buy fewer toxic products," she explains. Van Jaarsveld explains that there will still be pictograms with pictures but no colour band. Training will be vital for factory workers too.

A product label is a requirement for any chemical product (including agro-chemicals, PCO, home and garden and fertilisers etc.) supplied to an end user, but labels varied globally. To be on par with international standards, South Africa is adopting the new Global Harmonised System (GHS) labelling system under the Occupational Health and Safety Act of 1993.

This system officially came into effect on 29 September 2022. Phasing out of old labels will be compulsory by 30 September 2023.

The New Globally Harmonised System (GHS) Agricultural Product Labels

Our product labels are changing to comply with the Global Harmonised System that has been adopted by many countries around the world. The GHS is a single system for classifying and communicating the hazardous properties of industrial and consumer chemicals. It is important that everyone understands the new pictograms, and where to look for the group names, icons, etc.

The NEW Chemical Safety Symbols for Hazard Identification

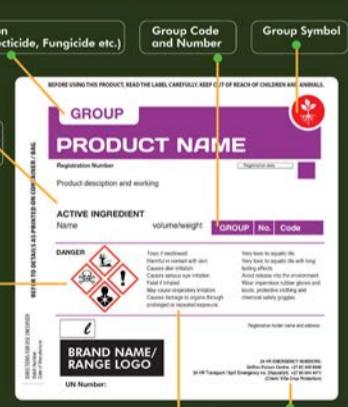
The nine safety symbols and their meanings



NEW GHS SAFETY SIGNS

1. Flammables
2. Oxidising
3. Acute toxicity
4. Corrosive
5. Explosives
6. Irritant, sensitiser and organ toxicity, hazardous to ozone layer, acute toxicity
7. Environmental toxicity
8. Serious health hazard
9. Gasses under pressure

The new label layout and information



SAFETY SIGNS DESCRIPTIONS

1. Flammables: Flammable materials can burst into flames easily.
2. Oxidising: Oxidising materials can cause other materials to catch fire or explode.
3. Acute toxicity: Exposure to these materials can cause immediate and possibly, serious health problems. [Health Hazard]
4. Corrosive: Corrosive materials can seriously damage the skin and eyes. [Health Hazard]
5. Explosives: Explosive materials can blow up.
6. Irritants: These materials may cause immediate health effects such as skin rashes or respiratory irritation.
7. Environmental: These materials can kill fish or other wildlife living in the water. [Environmental hazard]
8. Serious Health Hazard: Prolonged exposure to these materials may cause health problems such as cancer and birth defects.
9. Gasses under pressure: Some chemicals showing this symbol may cause asthma or damage in specific organs of the body. [Health Hazard]



COLOUR CODES	PICTOGRAMS
Red	Flammables
Blue	Oxidising
Yellow	Corrosive
Green	Explosives
White	Irritant, sensitiser and organ toxicity, hazardous to ozone layer, acute toxicity
Black	Environmental toxicity
Grey	Serious health hazard
Orange	Gasses under pressure

THESE COLOUR CODED BANDS AND PICTOGRAMS WILL NOT BE ON OUR LABELS IN THE FUTURE!



Weed control in soybean: strike early and hard



By Magunya Kalimashe

The soybean area planted in South Africa continues to increase due to increased local demand. To meet this demand, producers need to produce good yields. Effective weed control is one of the essential components of achieving this. Over 90% of soybeans grown in South Africa contain the glyphosate-resistant gene, and glyphosate is the major method of weed treatment in this crop. The combination of these technologies has made weed control more economical.



For long lasting, effective control of weeds in soybeans, choose ZEONA 840 WDG!



Scan the QR code for the label and more info.

INPUT COSTS

Glyphosate has been under a lot of pressure globally. Constraints in the production and supply of agrochemicals are currently hampering the industry. Production of raw materials, logistics, and the COVID-19 pandemic are some of the problems that have caused challenges in the agrochemicals industry, and glyphosate has been one of the hardest hit active ingredients. It has caused the international glyphosate prices to increase by over 90%, year on year, making applications more expensive.

Fuel costs also add to the farmer's input costs, and it is impossible to get past this in spray operations. Glyphosate is a foliar-applied herbicide with limited or no soil activity, so weeds that emerge after the application will not be affected. Follow-up applications are often required, thus increasing the input costs, including fuel. With the current fuel prices in South Africa, reducing the number of herbicide follow-up applications has significant economic benefits for the farmer.

HERBICIDE RESISTANCE

Cutting the number of glyphosate applications helps avoid the overuse of the same active ingredient. We are seeing the consequences of the dependence or overuse of glyphosate for weed control over the years. The evolution of glyphosate-resistant weeds is a challenge causing great concern to producers and professionals in agriculture. Cases of glyphosate resistance have been reported in various crops in South Africa. Management practices are

top of the list in the development of herbicide resistance in weeds.

A different management approach can play a significant role in delaying the development of herbicide resistance. For instance, research has shown that the elimination of pre-emergence herbicides resulting in the intense use of post-emergence glyphosate contributes to the high selective pressure of glyphosate-resistant weeds. Lands should remain weed free for a longer period where pre-emergence herbicides are applied, limiting the number of post-emergence herbicide applications.

START CLEAN (DICLOSULAM)

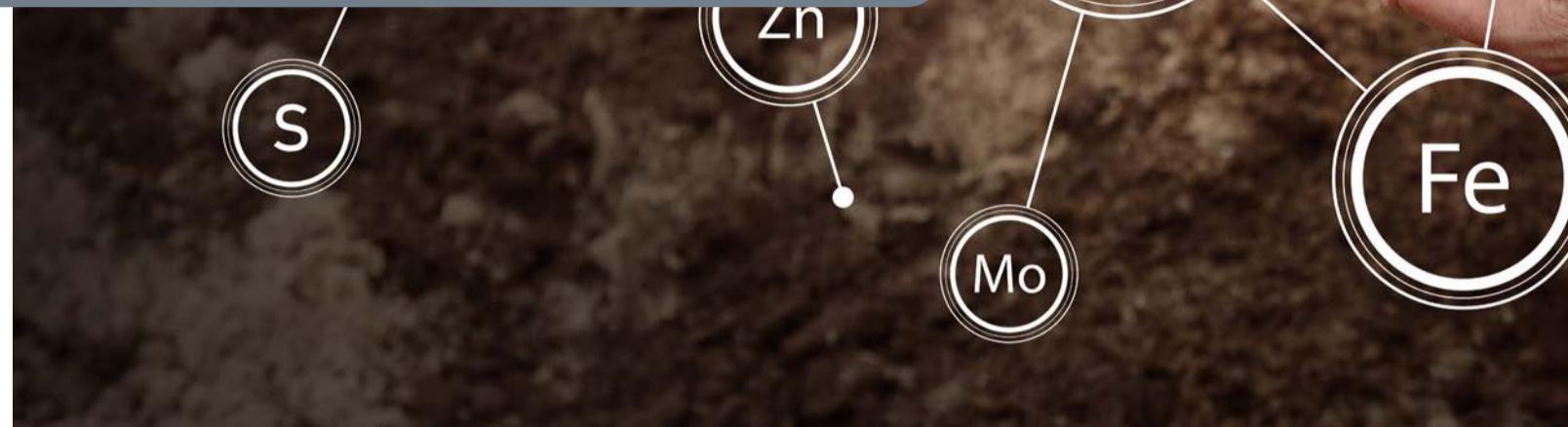
The benefits of including effective pre-emergence herbicides in your soybean weed control program are well-documented. At the start of the growing season, the weed seed bank in the soil will give weeds the headstart over the crop, therefore, weed control as early as possible is essential. At Villa, we believe using a pre-emergence residual herbicide in soybeans is the best solution to provide producers peace of mind. Our diclosulam-containing dry formulation herbicide, **ZEONA 840 WDG**, gives you just that. It is a selective group code 2 herbicide with good crop safety properties. When you use **ZEONA 840 WDG** in a registered program at the correct dose, it gives the crop a competitive early season start with excellent residual control, providing long-lasting broadleaf weed control even later in the season. Grass weeds have low sensitivity to diclosulam. Compensate for this by using diclosulam in a tank mixture with graminicides such as S-metolachlor.

Registration details: ZEONA 840 WDG: Reg No L9842, Act 36 of 1947. Active Ingredient: diclosulam (triazolopyrimidine sulfonanilide) 840 g/kg. Registration holder: Villa Crop Protection (Pty) Ltd, Co. Reg. No. 1992/002474/07, PO Box 10413, Aston Manor, 1630. Tel: 011 396 2233

Wanneer mikro-elemente “makro” belangrik word



Deur Pierré Strydom



Om in beheer van 'n gewas te wees, beteken om na die plant se voedingsgesondheid te kyk. Die regte plantvoedingstrategie moet gekies word vir optimale prestasie.

Daar is 17 belangrike plantvoedingselemente, almal verskillende stukke van dieselfde legkaart. Plante moet hierdie voedingstowwe uit hul omgewing en verskillende bronre verkry om optimaal te groei en opbrengs te lewer. Die drie primêre voedingstowwe is stikstof (N), fosfaat (P) en kalium (K), gevvolg deur drie sekondêre makro-elemente, kalsium (Ca), magnesium (Mg) en swael (S). Dan is daar ook elf mikro-elemente, waaronder sink (Zn), boor (B), koper (Cu) en mangaan (Mn). Balans tussen die verskillende elemente is van uiterste belang – die plant kan net so goed presteer soos sy laagste beperkende faktor. Die belangrikheid van mikro-elemente word soms onderskat en dit is nodig om verder ondersoek in te stel indien optimale opbrengste behaal wil word.

Indien die betekenis van “mikro” gesien word as “nie van groot waarde nie” of “onbelangrik”, sal produsente mikro-elemente sekerlik as opsioneel beskou. Navorsing toon egter dat mikro-elemente 'n noemenswaardige bydrae in gewasproduksie maak. Alhoewel dit in klein hoeveelhede benodig word, is mikro-elemente van belang by alle plantfunksies en dus noodsaaklik vir die groei en produksie van die gewas. Mikro-elementtekorte kan die plant verhoed om optimaal te presteer.

Hou in gedagte dat die regte mikro-element vir die gewas op die regte fenologiese groeistadium gebruik moet word. Sekere mikro-elemente is belangriker in vegetatiewe groeistadiums en ander weer in reproduktiewe groeistadiums – dit hang af van die funksies wat die spesifieke element in die plant verrig. Dit gaan beteken dat 'n meer spesifieke bespuiting gedoen moet word – gebaseer op die groeistadium, element en gewas. Vanuit Answer Plot-data kan gesien word dat dit presies hier is waar die grootste opbrengs op belegging

gaan wees ten opsigte van 'n mikro-elementbespuiting.

Soos in Tabel 1 gesien kan word, is die kans op 'n opbrengs na belegging in 'n boor-, koper-, mangaan- en sinkbespuiting meer waarskynlik in die reproduktiewe groeistadium van die sojaboontplant indien dan 'n tekort teenwoordig is. 'n Vegetatiewe bespuiting van boor en sink kan ook reaksie toon asook mangaan wat in die vegetatiewe groeistadium as baie belangrik beskou word en hoe waarskynlikheid toon vir reaksie na bespuiting indien daar 'n tekort teenwoordig is.

DIE ROL VAN SINK, MANGAAN, BOOR EN KOPER IN SOJABONE

SINK

Sink speel 'n uiters groot rol in gewasproduksie. Dit is onbeweeglik in die grond en het beperkte mobiliteit in die plant, daarom is dit van kritieke belang dat sinkvlakte in die seisoen gemoniteer en aangepas moet word soos die gewas groei en ontwikkel. Sink is betrokke by verskeie ensieme wat funksioneer as elektronoorddrag-mechanisms. Dit is ook verantwoordelik vir proteïensintese, chlorofilsintese en koolhidraatvorming. Verder help sink met wortelontwikkeling, wat gaan veroorsaak dat meer nutriënte deur die wortels opgeneem kan word. Behalwe vir 'n saadbehandeling, kan sink as 'n blaarbespuiting toegedien word, hoofsaaklik in 'n vroeë vegetatiewe stadium (V4) asook reproduktief (R1) by die sojaboontplant met 'n produk soos MAX-IN ZINC®.

MANGAAN

Mangaan is die volgende mikro-element van belang. Mangaan speel 'n belangrike rol tydens fotosintese, dus is voldoende vlakte daarvan deurlopend nodig tydens die vegetatiewe groeistadiums van sojabone. Aangesien mangaan tipies

1 SOJABOONMIKRO-ELEMENTREAKSIETABEL.

SOJABONE	VEGETATIEF (V1 - V8)	REPRODUKTIEF (R1 - R8)
Boor	Moontlike reaksie na bespuiting	Hoë waarskynlikheid vir reaksie na bespuiting
Koper	Lae waarskynlik vir reaksie na bespuiting	Hoë waarskynlikheid vir reaksie na bespuiting
Mangaan	Hoë waarskynlikheid vir reaksie na bespuiting	Hoë waarskynlikheid vir reaksie na bespuiting
Sink	Moontlike reaksie na bespuiting	Hoë waarskynlikheid vir reaksie na bespuiting

Bron: *Micronutrient technical handbook*, Winfield United, 2017



in die grond vasgelê word, moet 'n regstelling in die seisoen deur middel van 'n blaarbespuiting met 'n produk soos MAX-IN MANGANESE® gedoen word. Mangaanvaslegging vind ook plaas na plantbeskermende produkte oor die sojaboontplant gespuit is. Aangesien mangaan vir ligniensintese verantwoordelik is, is dit die rede vir die geel vertoning van die sojaboontplant wanneer die mikro-element vasgelê word.

BOOR

Boor is nog 'n belangrike element waarop gefokus moet word. Boor se funksie is om te help om koolhidrate in die plant te kry en suikervloeit te bewerkstellig. In die reproduktiewe stadiums verlaag die boorvlakte in die stingels en blare van die sojaboontplant en word dit gehermobiliseer na die gewas se reproduktiewe organe. Dit het tot gevolg dat die gewas moontlik nie koolhidrate effektief na die nuut ontwikkelde saad kan vervoer nie, wat bestuiwing voorkom. Dit is dus belangrik om voldoende boorvlakte in die sojaboontplant teenwoordig te hê tydens die reproduktiewe groeistadiums, iets wat met 'n produk soos MAX-IN BORON® verseker kan word.

KOPER

Koper is in wese onbeweeglik in grond omdat dit baie styf bind aan organiese materiaal. Die meeste kopertekorte kom dus in hoogs organiese gronde voor. Koper is betrokke by die aktivering van verskeie ensieme, asook by selwandvorming en proteïensintese. Die mikro-element is noodsaaklik vir bestuiwing en stuifmeelbuisvorming, en speel 'n sleutelrol in die plant se immuunstelsel en plantgesondheid. Koper sal dus van enorme belang wees tydens die reproduktiewe groeistadium van die gewas. 'n Koperblaarbespuiting kan gedoen word met 'n produk soos MAX-IN COPPER® wat die vlakte deurlopend optimaal gaan hou gedurende die seisoen.

BLAARMONSTERNEMING EN EIENSKAPPE VAN 'N GOEIE MIKRO-ELEMENTPRODUK

Dit is noodsaaklik om proaktief op te tree gedurende die seisoen – die tekort moet geïdentifiseer word voordat fisiese simptome sigbaar is. Om te meet is om te weet: Maak gebruik van 'n blaarmonster om die beperkende faktor te identifiseer sodat die tekorte deur middel van 'n

B



blaarbespuiting reggestel kan word om sodende die voedingstatus van die plant optimaal te hou. Wanneer 'n mikro-elementblaarbespuiting oorweeg word, is daar twee onderwerpe ter sprake: Die opneembaarheid van die element asook die versoenbaarheid met plantbeskermende chemie.

Om die effektiwiteit van blaarvoedingbespuiting te verseker, moet die duur van blaarnatheid en beskikbaarheid van die element op die blaar verhoog word om die katioonbeweging deur die kutikula van die blaar te verbeter. Dit kan gedoen word deur 'n ingeboude benatter in die mikro-elementproduk. Dit help om die oppervlakspanning te breek, om 'n groter oppervlakte te bewerkstellig vir opname en om die produk vir 'n langer periode op die blaar nat te hou. Die mikro-elemente moet ook saam met gewasbeskermingsprodukte gespuit kan word om so te verseker dat die bespuitings op die korrekte fenologiese groeistadums van die gewas gedoen kan word.

*Soos verskyn in SA Graan, September 2022

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Registrasiebesonderhede MAX-IN ZINC®: Reg No B5278 Wet No. 36 van 1947. Aktiewe bestanddeel: Koper (Zn) 60g/kg. Registrasiehouer: Winfield Solutions Registration Holdings (Pty) Ltd. Mpy. Reg. Nr. 2015/312008/07. Posbus 10413, Aston Manor, 1630. Tel: 011 396 2233

Pesticides in gardens – not always the best option



If you have spotted worms or caterpillars and pupae on the walls of buildings this summer, there is no real reason for concern. It may just be the garden Acraea (*Acraea horta*), one of the most common butterflies seen in South African gardens. They occur pretty much throughout the year.

While the first instinct would be to kill them, there should be no real reason to want to kill butterflies. While the pupae might be unsightly on a wall or structure, you could leave them until after the butterflies have emerged and clean the wall. Reaching for insecticide is not always the answer, and pupal stages are relatively resistant to insecticide.

Also, spraying any pest or bug with insecticide to eradicate them leaves a gap in the ecosystem instead of allowing natural predators to control their numbers. Leaving the pesticides behind in your garden at home will create more diversity. It might take time at first, but nature rewards patience.

One of the garden Acraea's host plants is the wild peach (*Kiggelaria Africana*), a tree used in gardens and landscaping more often due to its robust, low maintenance nature. This evergreen tree provides a food source for the caterpillars year-round. The tree is nectar rich for butterflies when it blooms from August to January. Another butterfly, the battling glider (*Cymothoe alcimeda*), also uses it as a host tree.

Garden Acraea's caterpillars can occur in large numbers on the trees and strip them bare of foliage, but it does not harm the tree. It is part of a natural cycle as the tree will recover quickly with a brand-new set of leaves. When the caterpillars are ready to pupate, they will leave the tree and often end up on walls and structures near the tree.

The bright colour of the butterfly is an indication of its terrible taste. It is poisonous and secretes cyanic acid when squeezed. There are several predators to control their numbers. Birds will see them as a snack, but not just any birds. Only cuckoo species eat the caterpillars. Leaving the caterpillars to feast on your trees could attract a range of cuckoos to your garden.

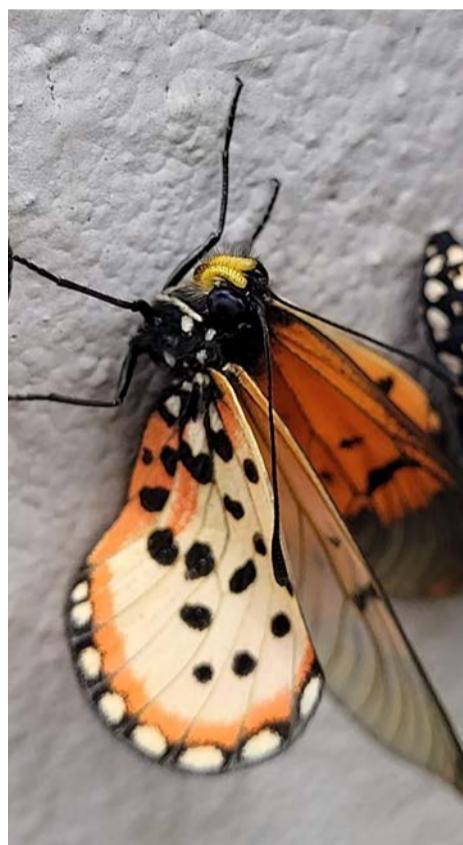
Apart from these birds, assassin bugs will feed on the larvae, and both the eggs and larvae are often parasitised by wasps and flies. There are always checks and balances in nature to keep the numbers in check.

Think twice before reaching for pesticides in the garden. The only way to have butterflies fluttering about is to allow caterpillars to feast on the host plants.

*Information from Mark Edwardes, Bugger reworked for publication.



Mark Edwardes





New invader poses massive threat to food security

By René de Klerk

A recently declared weed species poses a massive threat to the agriculture industry and food security in South Africa, especially if left untreated. The Palmer amaranth (*Amaranthus Palmeri*) may look like just another edible weed, but it requires respect and immediate action.



The petioles will be as long (or longer) than the leaf blade itself in the Palmer amaranth.

The biggest concern is its resistance to many available herbicides, including glyphosate. Nine herbicide modes of action cannot kill the plant in the USA, making it one of the most aggressive weeds to have invaded South Africa. Other concerns include potential crossbreeding and loss of productivity in crops.

Statistics from America shows that a single plant/m² in maize will lead to a 10% loss. When this increases to 10 plants/m², the loss can be 90%. In soya, three plants/m² will cut your productivity in half. The reason for this is the prolific seed production. A single female plant can produce between 250 000 and a million seeds. Furthermore, the seeds can stay viable in the soil for three years and sprout in any season.

In February, the South African government officially declared it a category 1 weed under the Conservation of Agricultural Resources Act. These acts are hard to enforce due to resource shortages, but it means all Palmer plants require immediate control.

Palmer is indigenous to the semi-arid regions of the USA. In 1975 it was just another plant. In 1989 it was a weed in cotton in two states and six years later, Palmer escalated to a top 10 weed. Since 2005, it has been the number one weed in maize, soya, and cotton in the entire country.

The plants grow fast as it is adapted to survive in dryer environment. The Aztecs and Incas selected it as the ideal food plant in ancient times due to its massive genetic diversity. The Palmer amaranth can grow just over 7cm per day, but, in perfect conditions, this growth could increase. Adult plants are generally 1,8 – 2,4m tall and wide.

POTENTIAL TO HYBRIDISE

At an information session hosted by Laeveld Agrochem in February in Potchefstroom, Dr Charlie Reinhardt, a professor in Agronomy at the University of North-West, and Laeveld Agrochem representative PE Coetzee spoke about the plant's potential to cause havoc. Male and female sexes do not occur on the same plant. Of the 17 amaranth species in South Africa, Palmer is the only species where sexes are separate.

Pollen from male plants can travel up to 300m to fertilise female plants. Furthermore, the palmer can potentially hybridise with other species like *Amaranthus hybridus*. "It is scary because this means that it could spread faster. *Hybridus* occur all over the country," says Reinhardt. In addition, the South African Herbicide Resistance Initiative at the University of Pretoria also discovered herbicide-resistant *hybridus* populations in Cradock in the Eastern Cape and Winterton in KwaZulu-Natal.



IDENTIFICATION

A key aspect of controlling this weed is identifying it. It looks like many other amaranth species at first sight, with small differences, but they are not always easy to spot. It is difficult to identify the plant as a seedling. The plant has a green, red, or red-green hairless stem, like many other amaranth species. Some Palmer amaranth leaves have white chevron or V-shaped watermarks, but other species can also have these characteristics. A tiny hair may be present at the edge of the leaf blade on some plants, or be indented, but this is not true for all Palmer plants either.

The most reliable way to identify it

is by looking at the petiole length. The petiole is the stem-like structure that connects the leaf blade to the main plant stem. In the Palmer, the

petioles (as leaves age) will be as long (or longer) than the leaf blade itself. If this is true for only one leaf on the plant, it is most likely Palmer. Flowers have sharp, stiff bracts making them prickly to the touch. Flower stems can reach 60cm in length.

HOW TO ERADICATE PALMER AMARANTH

While the prognosis does not seem positive, it is not impossible to control. "It is impossible to control it only chemically," Coetze explains. Mechanical removal may be necessary, but it is important to remove it from the field. Any plant lying on the ground will simply form new roots and continue to grow.

A six-year field study in the USA showed the combination of chemicals and manual removal makes a difference. Seed reserves in the soil went down from 170 million to 18 million seeds per hectare in the control area

where action was taken. Where no control took place, seed increased to 1.1 billion seeds per hectare.

Controlled studies during the six-leaf stage with seeds collected in South Africa still showed positive results using atrazine, metribuzin, dicamba, 2,4-D, and glufosinate. Mesotrione was already at risk of developing resistance in South Africa. Many of these actives don't have any effect on Palmer in the USA.

Coetze says the best way to beat the weed is to prepare the soil properly before planting. Planting rows closer together, and smaller gaps, is important. Once Palmer is present, the only way to eradicate it is by wetting it properly. Reinhardt

confirmed using more water and a good adjuvant will make a difference, but this needs to happen when the plant is small.

"Thus far, paraquat is the only active that works to eradicate large plants, but I am not sure how long it will still be around," Coetze says. He says it is better to burn your crops in the process using paraquat than to leave the palmer to grow big. "When you see it, you must spray it immediately. We need a zero-tolerance approach and can't afford escapees." Using three active ingredients together is also better.

Coetze reiterated that there is only one way to beat the weed, and that is through respect. "We are going to have to stop and talk to our neighbours and work together."

HAVE YOU SEEN THE PALMER AMARANTH?

If you suspect the species on your property, report it immediately via email to dr.charlie.reinhardt@gmail.com or juan.vorster@up.ac.za or send photos via WhatsApp to 082 442 3427 or 079 110 9595.

RISE OF THE PALMER AMARANTH

The Palmer amaranth was first recorded in Douglas in the Northern Cape in 2018. Since then, other populations have been confirmed in the Howick and Winterton districts of KwaZulu-Natal, as well as in proximity to the Limpopo River in the Kruger and Mapungubwe national parks. The plant is also present in Potchefstroom, an important maize crop area.



Prof Charlie Reinhardt inspects an amaranth species in Potchefstroom.





By Charla Meyer

Researchers conduct continuous and extensive research and trials on stink bugs and stink bug complexes. At the same time, numerous chemical actives have been registered and used successfully over decades. Why do we still see the devastating effect of these bugs on our pack-out percentages?

Several factors could cause pests to effect crops. However, by understanding the situation and by using the best weapons and tools, effective control strategies can be implemented.

SCOUTING

It is impossible to change what you cannot measure, so scouting remains the foundation for protecting crops effectively against pests and disease. Simply taking the standard approach and following a general spray programme every season can be expensive and unexpected pests and diseases can go unnoticed and untreated. In addition, the repeated use of pesticides with similar modes of action can result in serious resistance challenges.

Pyrethroids are a very economical option. Unfortunately, this active ingredient does not affect two-spotted stink bugs in most of the northern and eastern regions of South Africa due to resistance. Identifying the species is therefore very important during scouting to select the correct product.

INTEGRATED PEST MANAGEMENT (IPM)

A good IPM approach helps prevent resistance build-up and includes a combination of biological, mechanical, and chemical control measures to reduce stink bug populations.

Protecting crops takes careful planning

"A weapon you held and didn't know how to use belonged to your enemy." This saying by Sir Terry Pratchett also rings true when it comes to protecting crops against pests, ensuring maximum yields and minimal loss.

BIOLOGICAL

Beauveria bassiana is a fungal contact insecticide and an excellent biological option as part of the IPM programme.

MECHANICAL

Bugweed and castor-oil plants are good hosts for stink bugs. Keep host weeds and grasses under control by slashing and physically removing larger plants.

CHEMICAL

Several factors can influence the efficacy of insecticides.

MODES OF ACTION

Alternating insecticides containing active ingredients from different chemical groups will reduce the risk of resistance against certain active ingredients.

COVERAGE AND PENETRATION

Spray volumes must be sufficient to ensure that enough product reaches the intended target – stink bugs throughout the canopy of the trees. When spraying for stink bugs, a medium to full cover spray is recommended depending on the product used. Always make sure to read the product labels carefully for instructions.

DOSAGE

Under- or over dosage can seriously compromise the optimal performance of the product, resulting in ineffective control or resistance build-up.

SPRAY EQUIPMENT

Ensure that spray equipment is well maintained and calibrated. It is important to ensure good coverage

by using quality spray nozzles at the recommended pressures.

TIME OF APPLICATION

Adult stink bugs migrate out of the orchards during the day when it is hot. Spraying very early in the morning or during the night proved to be more effective.

WATER QUALITY AND ADJUVANTS

Water quality is one of the most important factors in any spray mix. Organic matter in spray water can bind with active ingredient molecules, rendering them inactive. It can result in unsatisfactory insect control. Use non-ionic adjuvants with spreading and penetrating properties with insecticides. Most insecticides work optimally at a lower pH (around 5). At this pH, the products are stable

and take longer to break down due to climatic factors. The active ingredients are thus available for longer to do their job. When the pH is high (>7), use a buffer to reduce the pH to levels around 5. Consult your chemical advisor and read the product label carefully for preferred pH levels.

CLIMATIC CONDITIONS

Weather conditions have an immense influence on stink bug population numbers. Late season rains can result in out of season hatching of eggs. Weekly scouting is very important to detect untimely outbreaks. In combination with the tools and measures, an arsenal of well tested, trusted chemical products, and common sense, stink bugs can effectively be controlled.



THE TABLE INCLUDES THE MOST USED ACTIVE INGREDIENTS, THE GROUPS THEY BELONG TO AND THEIR MODE OF ACTION.

GROUP	MODE OF ACTION	EXAMPLES OF ACTIVE INGREDIENTS
3A Pyrethrins & pyrethroids	Axon sodium channel inhibitors. <i>(nerve & muscle targets)</i> Pyrethrins interact with open sodium channels on the axons of the insect's nervous system to hold them in an open conformation. Pyrethroid treated neurons exhibit uncontrolled firing and neurotransmitter release resulting in twitching and convulsions in the insect. The overstimulation causes total loss of electrical activity and therefore paralysis and kills the insect.	cypermethrin lambda-cyhalothrin tau-fluvalinate beta-cyfluthrin
4A Neonicotinoids	Acetylcholine mimics. <i>(Nerve target)</i> Acetylcholine is the main neurotransmitter in the insect brain. AI molecules fit into the binding sites of acetylcholine receptors on the synaptic sodium channel to imitate real acetylcholine. This keeps the sodium channels open, so nerve impulses fire constantly and erratically. All bodily systems controlled by the nervous system become overstimulated and eventually, the insect is exhausted, collapses and dies.	thiamethoxam imidacloprid acetamiprid
1B Organophosphates	Acetylcholinesterase inhibitors. <i>(Nerve and muscle targets)</i> Acetylcholinesterase is the enzyme that catalyses the breakdown of acetylcholine. Organophosphates fit into the active sites of acetylcholinesterase. The enzyme is deactivated and cannot break down acetylcholine. The accumulation of acetylcholine results in overstimulation of the nervous system. The insect is exhausted, collapses and dies.	acephate
9B Pyridine azomethine derivatives	Chordotonal organ TRPV channel modulators. <i>(Selective feeding blockers)</i> Prevents insects from feeding by interfering with neural regulation of plant fluid intake in the mouthparts. It modifies behaviour by inhibiting or disrupting stylet penetration into plant vascular fluids, which prevents insects from obtaining nutrients, resulting in starvation.	pymetrozine
28 Diamides	Ryanodine receptor modulators. <i>(Nerve and muscle target)</i> It activates the unregulated release of internal calcium stores, which leads to Ca ²⁺ depletion, feeding cessation, lethargy, muscle paralysis, and insect death.	chlorantraniliprole

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villa

Active ingredient: Acephate (organophosphate) 750 g/kg, Reg. No. L7181, Act 36 of 1947 (caution). Registration holder: Villa Crop Protection (Pty) Ltd. Reg. No. 1992/002474/07 • Photo credit: Matthew Drollinger



Kaap span woeker vooruit

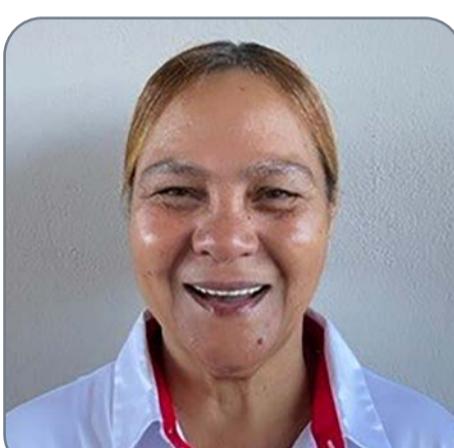
Fokus op Villa Kaap Depot



Hyke Sampson



Chris Persence



Susan Goldstein



Bennet Hendricks



Heinie Albertus



Adam Jacobs



Patrick Schrich



Christie Ross

Die depot is een van die min in die land wat aan 100% van die landbouvereistes voldoen

Die Kaap is nog altyd bekend as 'n plek met ontspanne mense waar dinge soms langer vat om te gebeur, maar die Villa depot span in die Paarl wys telkemale dat hulle dinge gedoen kry. Hulle is verder weg van die aksie, maar woeker met die verkoop.

Nie net het die besigheid geweldig gegroei oor die jare nie, maar die span lewer konstant goeie prestasies. Die depot bedien die Wes-Kaap, Noord-Kaap, Suid-Kaap en dele van die Oos-Kaap. Jacques Slabber, die Villa depotbestuurder in die Kaap, gesels oor hulle rol by Villa.

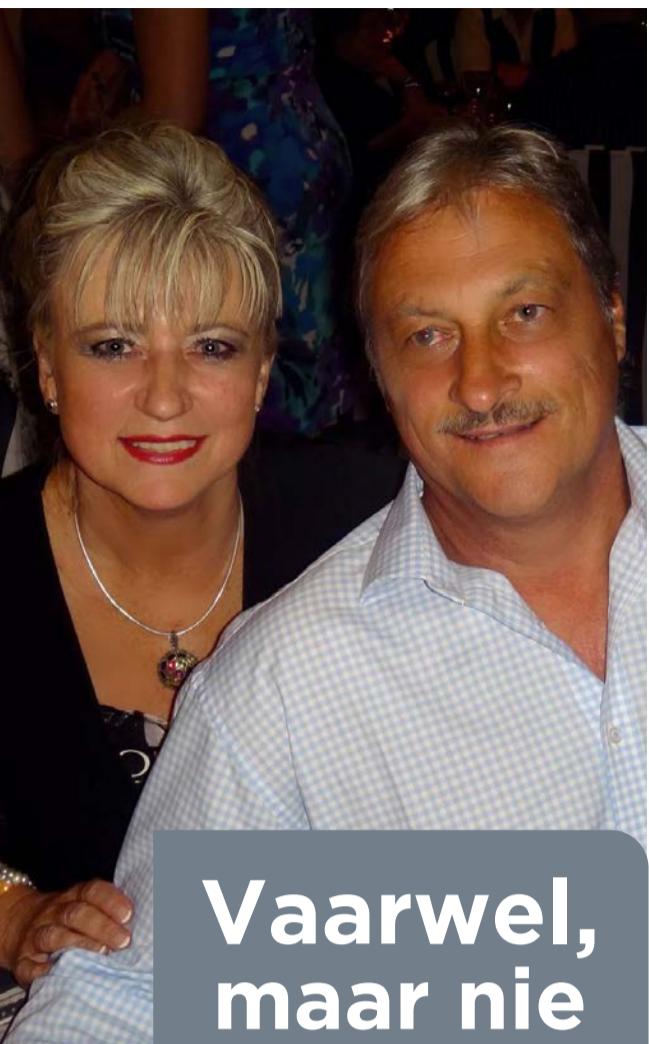
Die Kaap depot is in 1995 gestig met Leoné Slabber aan die stuur en slegs een helper, Adam Jacobs reeds 24 jaar by Villa. Hulle het begin in 'n stoor van 400 vierkante meter. Vandaag is die stoor amper 5 000 vierkante meter en die direkte span 11 lede sterk. Meer as die helfte van die personeel is reeds langer as 20 jaar in Villa se diens. "Ons is 'n hegte span en ken almal se vrouens en kinders ook. Ons lag saam en huil saam," verduidelik Jacques. Een van hulle gereelde instellings is die personeel braai wat die span se moraal hoog hou.

Dinge het oor die jare baie verander. Waar Leoné eens alle verkoop, logistiek en admin self moes doen, is daar nou kundiges aangestel om met die bemarking te help. "Dis lekker om bekwame jongmense as deel van die span te hê," verduidelik Jacques.

Pierre Slabber kyk na die logistieke kant van die besigheid en help met die verkoop. Hy is die grootste deel van die dag op sy foon besig met depots om voorraad te bevestig of te reël dat dit betyds arriveer. Die meeste van die produkte wat in die Kaap versprei word, kom van die depot in Kempton Park of die fabriek in Olifantsfontein af. Die omswaai van produktes is gewoonlik tussen 3-5 dae. Die span hanteer ook tussen 60-80 skeepshouers per jaar vanaf Kaapstad hawe. Goeie kommunikasie en beplanning is uiteraard noodsaaklik. "Ons kan dit ook nie doen sonder die hulp en samewerking van die Kempton depot en fabriek mense nie," verduidelik Jacques.

Voorraadtellings vind daagliks plaas en Chris Persence, reeds 24 jaar by Villa, sorg dat die syfers klop. Chris en Hyke Sampson praat daagliks met die depots oor beschikbaarheid van voorraad en as daar probleme is word dit onmiddelik uitsorteer. "Ons lewer nie voorraad by ander depots af nie, maar help graag met vervoerreëlings indien nodig. Ons drywer Patrick Schrich is ook reeds 23 jaar by Villa en help met kolleksies en ander dringende take."

Gesondheid- en veiligheidsvereistes is ook hoë prioriteite en die Department van Arbeid het onlangs besoek en laat weet dat die depot aan 100% van landbouvereistes voldoen, een van die min depots in die land wat dit bereik. "Daar is talle uitdagings by die werk met alles wat op die oomblik in die wêreld aangaan, maar die heel belangrikste is dat ons altyd 'n goeie diens aan ons kliënte moet lewer," verduidelik Jacques.



Vaarwel, maar nie totsiens

Die tyd het aangebreek vir Jacques en Leoné Slabber om af te tree. Hulle was vir die laaste twee en 'n half dekades deel van Villa se Kaapspan. Louis Reynolds het hierdie stukkie bymekaar gesit.

Soos met elke individu is daar 'n begin en 'n einde van elke fase van 'n mens se lewe, en met elke nuwe fase is daar altyd opwinding en nuwe dinge om na uit te sien. Die probleem is altyd vir die mense wat agter bly en wat gewoonlik die leemteervaar.

Jacques en Leoné, hierdie leemte gaan Villa nog vir baie lank voel en ervaar. Dankie vir die bydrae die afgelope dekades in die maatskappy, om die groei van Villa te kon bewerkstellig, groei in verkoop natuurlik maar meer groei in karakter as 'n geheel en veral die helpende hand in die groei van jong talent. Leoné, ons gaan beslis hierdie dinamiese vrou mis, iemand wat altyd die beste belang vir die maatskappy sal voortsit om terselfdertyd die kliënt se belang ook op die hart te kan dra. Daar is min mense wat hierdie balans ooit sal kan reg kry. Ek glo ook nie jy sal ooit kan oud word nie...

Jacques se stappie in die kantoor, stoer en op die gholfbaan gaan beslis deur die hele industrie gemis word. Ons ken jou nog altyd as iemand wat vriendelik en positief is maak nie saak in watter situasie jy jouself bevind nie. Jou behulpsaamheid veral as dit by spoedige probleemoplossings kom is iets wat almal by jou kan leer. Weet net as Jacques ooit iets reël sal dit 'n sukses wees. Sterkte met die nuwe fase in jul lewens. Ons gaan jul verseker mis!

**Villa wens die Slabbers
alle sterkte toe met
die toekoms.
Geniet die nuwe
lewensreis en avonture
wat voorlê!**

Impact of EU Green Deal on South African agriculture

CropLife
SOUTH AFRICA



By Rod Bell, CEO: CropLife SA

CropLife SA members are of course involved in primary agriculture and the industry association is therefore looking closely at this strategy and the potential negative impacts it may have on South African producers.

It is worth listing a few key aims of the Farm to Fork strategy:

- Making 25% of EU agriculture organic by 2030.
- Reducing the use of pesticides by 50% by 2030.
- Reducing the use of fertilisers by 20% by 2030.
- Reducing the use of antimicrobials in agriculture by 50% by 2030.

CONCERNS

At face value, having goals for food production activities within the EU conducted in a more sustainable and climate-friendly manner seems like a wonderful policy and one that should be embraced by all. However, as the old saying goes, the devil is in the details.

The key detail that currently causes concern for CropLife SA is the so-called 'mirror clause' that is now included in the Farm to Fork strategy. The mirror clause was introduced as a form of reciprocity with the aim of creating a level playing field for EU producers (meaning any constraints for EU producers must be equally applied to producers in countries from where agricultural produce

In 2020, the European Union (EU) adopted a set of policies aimed at making the EU 'climate neutral' by 2050 under the so-called 'EU Green Deal'.

There are several initiatives that are covered by the umbrella EU Green Deal, but the 'Farm to Fork' strategy is one that is of greatest concern to the South African agricultural economy.

is imported into the EU), whilst also encouraging sustainable food production methods in other parts of the world.

WHY WOULD THE MIRROR CLAUSE POSE PROBLEMS FOR SOUTH AFRICAN PRODUCERS?

An example of where the mirror clause would cause trouble for South African growers relates to the removal of certain pesticide active ingredients from the EU market. This will happen due to the aim of the Farm to Fork strategy of reducing pesticide use by 50%, but also because some pesticides are considered unnecessary for EU agriculture. South Africa has a different climate to much of the EU, it has agricultural production that is not always possible in the EU (sub-tropical fruits for example) and South African producers must fight pests that are not present in the EU.

The removal of certain pesticides from the EU market will mean that their import tolerances (allowable residues of pesticides) will probably also disappear, meaning South African producers will not be able to use those affected pesticides in their local production processes. This is hugely disadvantageous to local producers whose pest-crop combinations do not exist in the EU and whose need for pesticides differs from that which is required in the EU.

As the EU removes pesticides from its market to reach the goal of a 50% reduction in pesticide use by 2030, pesticide manufacturers will need to keep pace with the loss of older pesticides by introducing new plant protection solutions that are compatible with EU standards. Unfortunately, the regulatory process for the approval for use of new plant protection solutions in South Africa

is very protracted. This means that South African producers are going to lose many pesticides from their toolbox without having the concurrent registration and introduction of new plant protection solutions to use on their farms for pest control. The competitiveness of local producers is going to be reduced as well as the attractiveness of the EU as an export destination for agricultural produce.

ACTIONS

The African Union (AU) and the EU need to be made aware of the potential unintended consequences that the Farm to Fork strategy could have on South African (and African) producers. For this reason, CropLife SA is hosting a hybrid conference on 24 November 2022 to look at the potential impact of the overall EU Green Deal on South African producers.

This event's aim is to provide an EU Green Deal update to all stakeholders in primary agricultural production targeting the export of produce to the EU, with the view to having potentially affected stakeholders' concerns heard by local government officials, the AU, and the EU itself. The EU must consider any negative impacts on the ability of South African producers to produce and export their crops according to local conditions and the local regulatory environment. To register for the conference, visit croplife.co.za/ConferenceRegister.

OESBESKERMING

Van data tot insig



Deur Carina Olivier

Daar word gesê dat die wêreld se waardevolste kommoditeit nie meer olie is nie, maar data. Alhoewel die ervaring en kundigheid wat oor geslagte oorgedra is baie beteken, is dit te midde van klimaatsverandering, 'n groeiende populasie en stygende insetkoste nie meer genoeg nie. Elke besluit beïnvloed jou opbrengs en data is die sleutel daaragter.

Klimaat is een van die mees kritiese en onvoorspelbare faktore in plantgesondheid.

Die Verenigde Nasies se Interregeringspaneel oor klimaatsverandering voorspel dat die helfte van die wêreld se wingerde uitgewis sal wees teen 2050 en dat die ineenstorting van vee en mielieproduksie, soos ons dit vandag ken, waarskynlik is sodra aardverwarming 3°C sedert die pre-industriële era bereik.

Ons staan tans op sowat 1°C en daar word voorspel dat ons teen 2030 1.5°C sal bereik. Dis dus belangrik om die invloed van die klimaat op jou gewas te bepaal en ingelig daarop te reageer.

'n Weerstasie op die plaas samel data soos temperatuur, humiditeit, reënval, blaarnathied en meer in. Hierdie data kan jy op 'n historiese wyse vergelyk met die opbrengs wat daardie seisoen gerealiseer het en sodoeende 'n maatstaf skep vir toekomstige seisoene. Data wat intyds ingeligte besluitneming kan lei is nog meer waardevol.

Wanneer jy 'n weerstasie installeer, maak seker dit beskik oor funksies soos Delta T wat ideale spuitvensters aandui, daagliks evapotranspirasie wat help met besproeiingsbeplanning, en siektemodelle om aan te dui wanneer die

infeksierisiko van jou gewas die hoogste is. Metos SA se FieldClimate platform dui dit op 'n eenvoudige wyse aan.

Die potensiaal van jou gewasbeskermingsproduk lê grotendeels opgesluit in jou toedieningstegniek. Deposisie effektiwiteit word omskryf deur die persentasie dekking van die aktiewe bestanddeel op die teiken asook die kwaliteit en eenvormigheid van die verspreiding daarvan oor die blaar.

Watersensitiwe papiertjies is in die verlede gebruik om dit te meet, maar dit simuleer die verspreiding van water, nie die aktiewe bestanddeel nie, en is nie 'n goeie verteenwoordiging van 'n blaar se oppervlakte nie. Nog 'n uitdaging is om 'n kwantitatiewe waarde aan die deposisiekwaliteit te koppel eerder as om met die oog te vergelyk.

Verder moet die data ingewin deur rekordhouding, blaarmonsters, residuummonsters en satellietbeelde nie onderskat word nie. Maak seker dat jy nie met hope data sit, maar nie waardevolle insigte daaruit kan kry nie. Kies die regte platforms en vennote om saam met jou deur die vierde industriële rewolusie 'n pad te stap.



Vir meer inligting, kontak Carina Olivier by
083 805 9335 of colivier@winfieldunited.co.za.

METOS® SA



INTERESSANTE METOS SA STATISTIEK

Metos Suid Afrika voorsien talle produsente landswyd van weerstasies sodat hulle slimmer besluite kan maak. Die Climate Smart Agriculture (CSA) projek maak ook deel hiervan uit. Die projek het sopas hulle 200ste weerstasie in die Wes-Kaap installeer. Hier is 'n paar interessante statistieke:

HOEVEELHEID STASIES INSTALLEER

Daar is 434 stasies, waarvan 200 onder die CSA projek val.

HOEVEELHEID BESKERMDE AREAS

Ongeveer 24 000 hektaar is tans onder monitering.

PRODUSENTE WAT VOORDEEL TREK

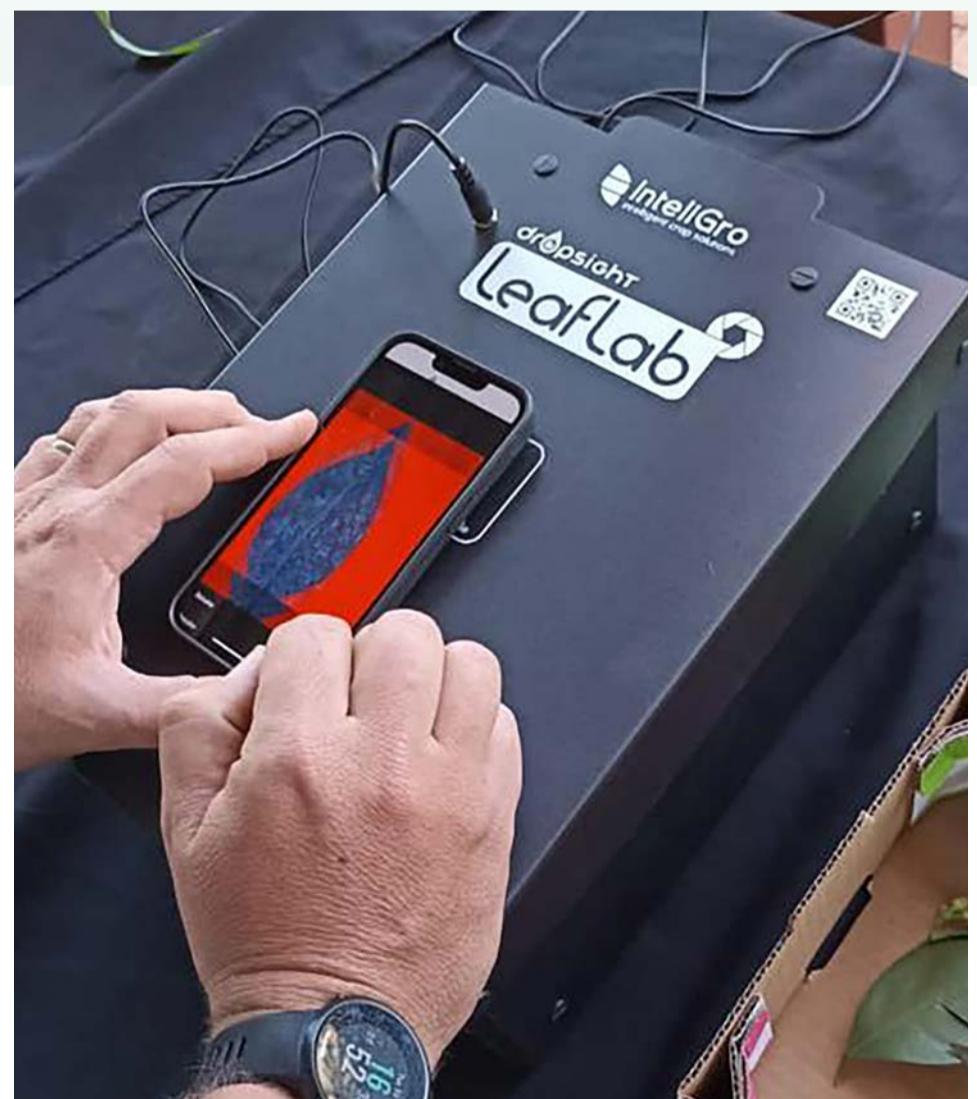
Meer as 497 produsente trek voordeel uit die data wat verskaf word.

GEWASSE BEVOORDEEL

In die suide van die land is druwe, koring en appels die hoofgewasse wat bevoordeel word, terwyl mielies, sojas en sitrus die hoofgewasse onder monitering in die noorde is.

HOOGSTE LIGGING

Die hoogste weerstasie is in Winterton in KwaZulu-Natal installeer (1923,60m) terwyl die hoogste stasie onder die CSA projek naby Beaufort Wes staan (1864,60 m).



Dropsight is 'n nuwe produk op die mark wat met behulp van 'n fluorescent kleurstof, UVlig en 'n selfoontoepassing 'n waarde aan 'n produsent se toedieningstegniek kan koppel.



Die effek van *Botrytis cinerea* op druiwe



Deur De Wet du Toit



Wingerdprodusente neem reg deur die seisoen verskeie ingeligte besluite om te verseker dat die beste gehalte oes opgelewer word. Klimaatstoestande tydens die seisoen skep egter gunstige toestande vir die ontwikkeling van verskeie swamsiektes. Een van die swamme; *Botrytis cinerea*, ook bekend as Botrytis-vrot of vaalvrot is verantwoordelik vir ernstige verliese in kwaliteit en opbrengs. Dit dra by tot 'n afname in wynaamde, asook die na-oes bederf en verkorte rakleefyt van tafeldruwe. Hierdie swaminfeksie kan egter ook 'n positiewe uitwerking hê, aangesien dit onder gunstige klimaatsomstandighede tot die ontwikkeling van edelvrot lui, wat gebruik word in die vervaardiging van spesiale laatoes- of edelwynne.

Gunstige toestande vir die ontwikkeling van Botrytis-vrot sluit periodes van hoë humiditeit, verhoogde temperatuur en reën gedurende die lente en somer in. Volgehoue temperatuur bo 28°C sal daar toe lei dat Botrytis-vrot in suurvrot verander, wat suur sappe uit die korrels laat drup en asynvlieg lok. Daarteenoor is laer temperatuur in die afwesigheid van nat toestande, tesame met droë suidoostelike en westelike winde, gunstig vir die ontwikkeling van edelvrot. Klimaatstoestande dra by tot die ontwikkeling en siektedruk van swaminfeksies, maar om te verstaan hoe Botrytis-vrot in wingerde sy verskynning maak, is dit belangrik om die siektesiklus beter te verstaan.

Die swam oorleef deur te oorwinter as skerotia (swart rustende strukture) op dooie plantmateriaal, sowel as in

geinfekteerde korrels en lote. In die lente, tydens gunstige toestande, ontkiem die sklerotia om spore te vorm (konidia) wat deur die wind versprei word. Infeksies word aangehelp deur konidia wat regdeur die seisoen geproduseer word, indien toestande gunstig is. Spore infekteer vatbare weefsel vanaf die blomstadium en sal uiteindelik skade aan blomme, lote, blare en korrels veroorsaak. Simptome van die infeksie kom eers na vore tydens rypwording, wanneer suikervlakte toeneem. Skade aangerig deur voëls, hael en rowwe hantering lei tot die vorming van wonde op korrels, wat alternatiewe ingangsplek vir die swam bied. Kultivars soos Chardonnay, Chenin Blanc, Pinot Noir en Sauvignon Blanc wat geneig is tot die vorming van kompakte trosse, het 'n hoër risiko vir 'n Botrytis-infeksie omdat die druk 'n toename in korrelbars tot gevolg het.

Simptome van Botrytis-vrot kom tydens rypwording na vore en sluit ligbruin korrels met 'n pap voorkoms in. Die skil van hierdie korrels is los en glip maklik weg van die onderliggende weefsel, waarna verwys word as 'n glyskil verskynsel. Meer gevorderde simptome sluit liggrrys, swamaagtige groeisel op die oppervlak van korrels in. Hierdie verskynsel veroorsaak 'n val voorkoms van die geinfekteerde trosse, wat aanleiding gegee het tot die naam vaalvrot.

Die suksesvolle beheer van *Botrytis* word bepaal deur kritiese faktore wat tyd van toedienning, tipe behandeling en toedienningstegnieke insluit. Die tydsberekening vir die beheer van Botrytis-vrot bestaan uit vier vensters waarin toediennings kan plaasvind: (1)

blom, (2) ertjekorrel, (3) deurslaan en (4) net voor oes. Daar moet ook deeglik kennis gedra word van die tipe chemiese middel wat op 'n gegewe tyd toegedien word, om te verseker dat maksimum residu limiete nie oorskry word nie.

ELITE 625 WDG is 'n dubbel-aktief swamddoder wat die ideale produk is om toe te dien tydens blomstadium wanneer die risiko vir *Botrytis* hoog is. **ELITE 625 WDG** bestaan uit twee aktiewe bestanddele cyprodinil en fludioxonil. Translaminére sistemiese werking word verkry vanaf cyprodinil, terwyl fludioxonil kontakwerking bied. Die produk is ook reëervas binne twee ure, 'n voordeel in winterreënvalstreke. **ELITE 625 WDG** is geregistreer op beide wyn-en tafeldruwe met 'n onthoudingsperiode van 28 dae en word gesien as ideale produk vir 'n eerste bespuiting teen *Botrytis*. Na afloop van jou bespuitings tydens blom, is dit dan belangrik om die res van jou program af te wissel met alternatiewe aktiewe bestanddele soos pyrimethanil (**SUPPORT 400 SC**) of fenhexamid (**ELECTRON 500 SC**). Deur produkte af te wissel verseker jy nie net die suksesvolle beheer van Botrytis nie, maar beveg jy ook so die opbou van weerstand oor die langtermyn.

Bestuur swaminfeksies deur voorkomende beheer en deeglike monitering. Voorspellende weerdata en siektemodelle kan ook gebruik word om moontlike infeksie periodes aan te dui. Die gebruik van hierdie tipe tegnologie kan bydra tot ingeligte besluitneming en voorkomende optrede, om sodoende te verseker dat die beste gehalte oes opgelewer word.

Registrasiebesonderhede ELITE 625 WDG: Reg. No. L 10188 Wet No. 36 van 1947. Aktiewe bestanddeel: siprodinil 250 g/kg, fludioxoniel 375g/kg. Registrasiehouer: Villa Crop Protection (Pty) Ltd. Mpy. Reg. Nr. 1992/002474/07. PO Box / Posbus 10413, Aston Manor, 1630. Tel: 011 396 2233

Registrasiebesonderhede SUPPORT 400 SC: Reg. No. L 9282 Wet No. 36 van 1947. Aktiewe bestanddeel: pirimetanil 400g/l. Registrasiehouer: Villa Crop Protection (Pty) Ltd. Mpy. Reg. Nr. 1992/002474/07. PO Box / Posbus 10413, Aston Manor, 1630. Tel: 011 396 2233

Registrasiebesonderhede ELECTRON 500 SC: Reg. No. L 9637 Wet No. 36 van 1947. Aktiewe bestanddeel: fenhexamid 500 g/l. Registrasiehouer: Villa Crop Protection (Pty) Ltd. Mpy. Reg. Nr. 1992/002474/07. PO Box / Posbus 10413, Aston Manor, 1630. Tel: 011 396 2233



Die oplossing vir effektiewe onkruidbeheer



Deur Brian de Villiers

Glifosaat is geen uitsondering nie, omdat dit deur lae humiditeit en swak waterkwaliteit benadeel word. Daar moet dus 'n manier gevind word om die effek van hierdie nadelige faktore so ver moontlik te beperk. Villa het 'n antwoord in die vorm van 'n byvoegmiddel wat al hierdie faktore hanteer. **CLASS ACT NG** (L10477) is 'n vier-ineen-byvoegmiddel vir glifosaat wat onkruidbeheer die afgelope paar jaar drasties verbeter het. Ons kyk na die verskillende komponente van die byvoegmiddel.

KOMPONENT 1: CORNSORB-TEGNOLOGIE

Lae humiditeit is een van die grootste vyande van glifosaat. Onder lae humiditeitstoestande verdamp die sputtwater baie vinnig uit die sputtdruppels en ontbloot dan die glifosaatdruppelresidu op die blaaroppervlak. Glifosaatopname is 'n redelik tydsame proses en indien die druppelresidu nie vir hierdie hele tydperk geskik vir opname bly nie, sal die uitgedroogde onkruiddoder op die blaaroppervlak agterbly. Dit lei dan tot vertraagde en verminderde opname en swak onkruidbeheer. Hierdie verminderde opname sal nog verder deur die swak Suid-Afrikaanse weersomstandighede beïnvloed word.

CLASS ACT NG bevat 'n bevogtiger (herbenatter) in die formulasie wat bekendstaan as CornSorb-tegnologie. Dit is 'n gepatenteerde hoëfruktoestroop wat die druppelresidu vogtig hou lank nadat die sputtwater uit die druppel verdamp het. Dit skep 'n optimale omgewing vir verlengde en verbeterde opname met gevolglike beter onkruidbeheer. CornSorb-tegnologie verminder die invloed van lae humiditeit op glifosaat en verwijder dus een van die groot struikelblokke vir glifosaatopname en -effektiwiteit.

KOMPONENT 2: BENATTER

Die altyd 'n uitdaging om goeie bedekking van druppels op onkruid te bewerkstellig, veral wanneer die onkruid se blare was- of haaragtig is. Soveel moontlik druppels moet op die blaar behou word, met so min afspat as moontlik. Tweedens moet die individuele druppels versprei sodat voldoende bedekking vir effektiewe onkruidbeheer bewerkstellig word. Dit is belangrik dat daar nie te veel verspreiding van druppels op die blaar is nie, aangesien glifosaat nie van uitgespreide druppels hou nie.

CLASS ACT NG bevat 'n volle dosis alkiel-poliglikosied-benatter (APG-benatter). Hierdie benatter verlaag die oppervlakspanning van sputtwater tot op die korrekte vlak. Dit verseker verhoogde bedekking met die minimum afspat. Die druppels versprei dan tot die korrekte mate vir verdere verhoging van die bedekkingsoppervlak.

Die werk van die APG-benatter is egter nie verby nie, want die opnameproses begin dan eers. Die benatter staan ook met die opnameproses by deur die wasagtige lae op die blaaroppervlak te hidreer. Dit maak die onkruid meer ontvanklik vir glifosaatopname en die beheer word verbeter.

KOMPONENT 3: AMMONIUMSULFAAT

Glifosaateffektiwiteit word deur harde en brak sputtwater benadeel. Hoe meer kalsium, magnesium, natrium, kalium en sekere swaarmetale in die water opgelos is, hoe swakker is die glifosaatopname. Tydens druppeluitdroging op die blaar, bind die antagonistiese katione aan die glifosaat en vorm 'n stroperige stof wat baie swak deur blare opgeneem word. Ongelukkig is beide brak en harde water 'n probleem in verskeie dele van Suid-Afrika en indien dit nie hanteer word nie, kan dit 'n verwoestende uitwerking op glifosaateffektiwiteit hê. **CLASS ACT NG** bevat voldoende sputtgraad-ammoniumsulfaat om hierdie probleem te takel. Die sulfaatbinding bind aan die antagonistiese kation tydens druppeluitdroging, voordat die kation aan die glifosaat kan bind. Sodoende stel dit die glifosaat vry om effekief opgeneem te word. Die ammoniumion help weer met die glifosaatopnameproses. Sputtgraad-ammoniumsulfaat is dus 'n integrale deel van die **CLASS ACTNG**-formulasie.

KOMPONENT 4: TEEN-SKUIMMIDDEL

Glifosaatsputtoplossings is geneig om uitermatig met verroering te skuim. Dit skep probleme met die sputproseses en kan beide tyd en geld mors. **CLASS ACT NG** bevat 'n teenskuimmiddel wat die skuimvorming van glifosaatsputmengsels verminder. Dit bied 'n oplossing vir die skuimprobleem en maak glifosaatsputmengsels baie meer gebruiksvriendelik. Die teenskuimmiddel maak geen bydrae tot effektiwiteit nie, maar dit dra wel tot 'n makliker toedieningsproses by.

CLASS ACT NG spreek al die hoof tekortkominge van glifosaat aan en dra tot verbeterde onkruidbeheer by. Om dieselfde redes kan dit ook suksesvol saam met onkruiddoders soos glufosinaat gebruik word. **CLASS ACT NG** is egter nie 'n wonderproduk nie en ander praktek vir goeie onkruidbeheer moet natuurlik altyd gevolg word. Dit sluit bespuiting onder die beste moontlike toestande, korrekte sputtegnieke en die gebruik van 'n neerslaghulpmiddel soos in **INTERLOCK** (L10254) in. Indien al hierdie praktek gevolg word, sal **CLASS ACT NG** 'n massiewe verskil in onkruidbeheer bewerkstellig. Die bewys hiervan is die talle tevrede produsente wat die afgelope paar seisoene **CLASS ACT NG** met hulle glifosaat en glufosinaat bespuitings gebruik het. Ons hoor dikwels van verhoogde en versnelde beheer, veral van moeilik beheerbare onkruide met was- en haaragtige blaaroppervlaktes. **CLASS ACT NG** het 'n geregistreerde dosisreeks. Die hoeë dosisse moet gebruik word wanneer die waterkwaliteit swak is, die onkruide moeilik beheerbaar is, of die toestande nie na wense is nie.

Onthou om die etiket altyd deeglik te lees. Kontak jou Villa gewasadviseur vir meer inligting of besoek www.villacrop.co.za.

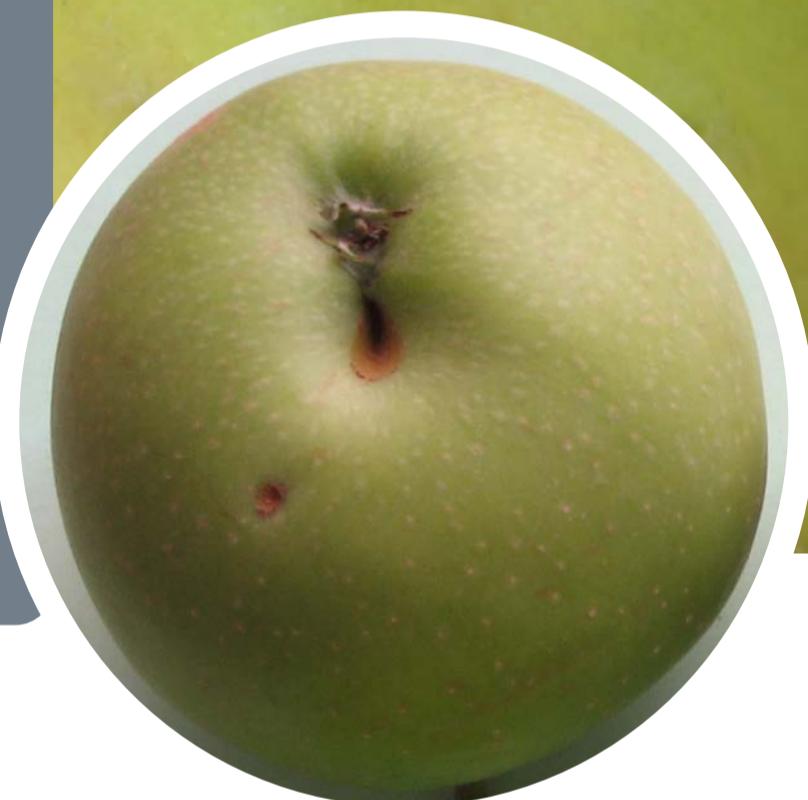
Registrasiebesonderhede CLASS ACT NG: Reg No L10477, Wet Nr 36 van 1947. Aktiewe bestanddeel: ammoniumsulfaat 480g/l plus 'n nie-ioniese benatter. Registrasiehouer: Winfield Solutions Registration Holdings (Pty) Ltd. Mpy. Reg. Nr. 2015/312008/07. Posbus 10413, Aston Manor, 1630. Tel: 011 396 2233

Registrasiebesonderhede INTERLOCK: Reg. No. L 10254 Act/Wet No. 36 of/van 1947. Aktiewe bestanddeel: groente olies, poli oxyetileen vetsuur ester 880g/l. Registrasiehouer: Winfield Solutions Registration Holdings (Pty) Ltd. Mpy. Reg. Nr. 2015/312008/07. PO Box / Posbus 10413, Aston Manor, 1630, Tel: 011 396 2233



*Die Afrika bolwurm (*Helicoverpa armigera*) en kodlingmot (*Cydia pomonella*) is van die mees verwoestende plae wat produsente moet beveg.*

Slim oplossing om jou oes te beskerm



Deur Reinhardt Wessels

Kernvrug produksie areas word oorval met skade deur peste en plae wat die bemarking en uitvoer van produkte belemmer.

Die gebruik van chemiese produkte is noodsaaklik om die skade te verminder en te verseker dat produsente gehalte vrugte aan eindverbruikers kan lewer.

Bolwurm larwes begin onmiddellik na hulle uitbroei het op bloeisels, jong blare en jong vrugte voed. Die skade veroorsaak dan dat vrugte nie uitvoerkwaliteit bereik nie. Bolwurm is net vroeg in die seisoen 'n probleem omdat die pes afhanglik van jong groei is. Die meeste vrugskade sal teen einde November aangerig wees. Daarna verdwyn bolwurm uit die boorde.

Dit is dus belangrik om die vrug aan die begin van die seisoen te beskerm.

Kodlingmot vrugskade kan vanaf vrugset tot oes plaasvind. Kodlingmot is hoofsaaklik interne vrugvoeders, maar kan ook aan blaarweefsel voed en soms in takkies boor. In die lente tydens vroeë vrugontwikkeling dring tot 80% van kodlingmot larwes die vrug deur die kelk binne, maar vanaf November dring larwes die vrug deur die skil binne. Die skade wat kodlingmot aanrig word geklassifiseer as vlak penetrasie (steke) of diep penetrasie (tonnel na die kern).

Tydens vlak penetrasie beskadig larwes die vrugoppervlak. As hierdie skade vroeg in die seisoen plaasvind sal dit tot misvormde vrugte lei, maar later in die seisoen sal die skade 'n vlak eelt by die ingangspunt van die vrug vorm. Tydens diep penetrasie tonnel die larwe tot in die kern waar hulle op die sade voed. Die larwe skei bruin korrelvormige uitwerpsels af wat uit die tonnelgang gestoot word.

CONFLICT GRANULE van Villa Crop Protection is geregistreer vir die beheer van bolwurm en kodlingmot op appels en pere. **CONFLICT GRANULE** se aktiewe bestanddeel is emamektien bensoaat en is deel van die Groep 6 insekdoders. Emamektien bensoaat is 'n nie-sistemiese insekdoder met translaminêre beweging, wat beteken dit beweeg tot aan die onderkant van die blaar na toediening. Hierdie aktiewe bestanddeel teiken die larwale stadium van beide bolwurm en kodlingmot. Dit is nie 'n kontak produk nie en moet deur die larwe ingeneem word. Nadat die larwe die emamektien ingeneem het, stel dit 'n ensiem vry wat tot die inhibering van neuron-oordrag in die larwe lei. Dit verlam die larwe, hy hou op vreet en twee tot vier dae later sterf hy. Emamektien is veilig teen 'n wye spektrum voordelelike insekte, maar direkte kontak is wel toksies vir bye.

CONFLICT GRANULE is uniek omdat dit 'n water verspreibare korrelformulasie is met 'n lading van 200g/kg emamektien bensoaat. Dit het 'n kort onthouding van 14 dae in appels en pere, so kan laat in die seisoen gespuit word. Die formulasie is baie veilig aangesien dit nie 'n oliebasis soos ander formulasies nie, wat dus die kans op vrugskade verminder. Die lading is twee keer soveel as ander produkte so vat minder spasie tydens vervoer en in store en op.

CONFLICT GRANULE is 'n sleutel produk in 'n geïntegreerde pesbestuurprogram. Dis geformuleer om effektiwiteit, veiligheid en verbruikersvriendelikheid te verseker. Kontak jou chemiese agent vir navrae en raadpleeg **CONFLICT GRANULE** se etiket.



ALYFOS 800 WDG

Your answer against Phytophthora root rot

By Charla Meyer

*Phytophthora root rot is the most serious and important disease of avocado worldwide. The causal agent, *Phytophthora cinnamomi*, has over 1 000 hosts, including many species of annual flower crops, berries, deciduous fruit trees, ornamentals, and vegetables.*

Root rot thrives in areas of excess soil moisture and poor drainage. Trees of any size and age may be affected. The pathogen is easily spread through movement of contaminated nursery stock of avocado and other plants, on equipment and shoes, in seed from fruit lying on infested soil, or by any activity by people or animals that moves moist soil from one place to another.

Spores spread easily and rapidly in water moving over- or through the soil. Entire areas can readily become infested.

Foliar symptoms of Phytophthora root rot include small, pale green or yellowish leaves. Leaves often wilt and have brown, necrotic tips. Foliage is sparse and new growth is rare. There may be little leaf litter under infected trees. Small branches die back in the treetop, exposing other branches and fruit to sunburn because of the lack of shading foliage. Fruit production declines, but diseased trees frequently set a heavy crop of small fruit.

Small, fibrous feeder roots are scarce at advanced stages of this disease. Where present, small roots are black, brittle, and dead from infection. Foliage is wilted even when soil under diseased trees is wet. Affected trees will decline and often die either rapidly or slowly.

Registration details: ALYFOS 800 WDG. Reg Nr L10784 Wet Nr. 36 of 1947. Active ingredient: fosetyl-al (alkyl phosphonate) 800g/kg. Registration holder: Villa Crop Protection (Pty) Ltd. Co Reg. Nr. 1992/002474/07. PO Box 10413, Aston Manor, 1630. Tel: 011 396 2233

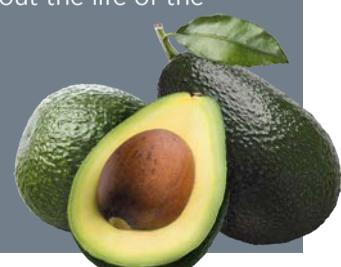


CULTURAL CONTROL:

- Purchase certified disease-free nursery stock and root rot-resistant cultivars.
- Inspect roots before planting and if their health appears questionable seek advice from a farm advisor or private consultant before planting trees.
- Employ stringent sanitation measures, good cultural practices, and appropriate chemical controls. The most important control of this disease is good irrigation management. For example, where new trees are interplanted among older trees, separate irrigation lines are needed to ensure appropriate irrigation timing and amounts for the different aged trees.
- In new plantings, avoid soils and soil conditions favourable to root rot development, including poorly drained, saline, or pathogen-infested soils.
- Appropriate irrigation is the single most critical practice for improving tree health and managing root rot. Irrigation water with high overall salinity or an excess of boron, chloride, or sodium promotes infection of roots by Phytophthora. Phytophthora can contaminate irrigation water, such as surface water that is runoff from infested soil.

CHEMICAL CONTROL:

- **ALYFOS 800 WDG** is a water dispersible granule, systemic fungicide for the control of *Phytophthora*. The active ingredient in **ALYFOS 800 WDG** is Fosetyl Aluminium. It can markedly improve trees' ability to tolerate, resist, or recover from infection by *Phytophthora cinnamomi*.
- It is a systemic protective, curative and broad-spectrum fungicide that acts by inhibiting germination of spores or by blocking sporulation and development of mycelium. It also has limited antibiotic and bactericidal activity.
- The active ingredient also works by enhancing the plant's own natural defence system against fungal diseases.
- Good control requires using this chemical in combination with other recommended practices, such as careful irrigation practices and applying wood chip mulch. Fungicides cannot eradicate *Phytophthora* from the grove and Phytophthora root rot requires ongoing management throughout the life of the trees.



VILLA OUT & ABOUT

