

# CROP CIRCULAR

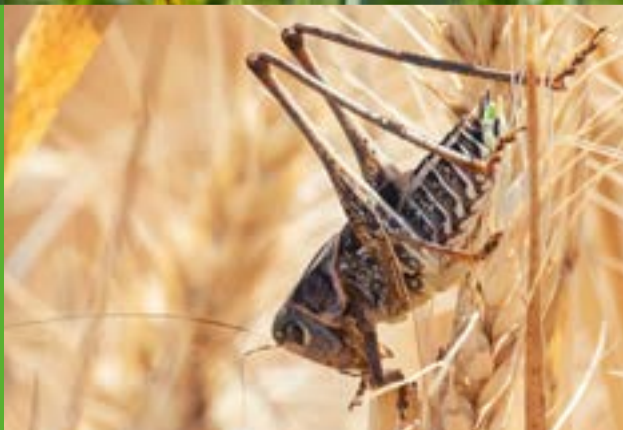
CropLife   
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## IN THIS ISSUE

- New platform for the Basic Crop Protection course
- CropLife SA at NAMPO
- Emergency alert: Resistant Palmer amaranth
- Bruin sprinkaan-uitbraak - Stand van sake



## CONTRIBUTE

We are always looking for news, photographs or event updates from our members. Please forward your contributions to [elriza@croplife.co.za](mailto:elriza@croplife.co.za)



# WELCOME

**It is very hard to comprehend that half of 2022 is nearly behind us! It has been an action-packed first half of the year and I will summarise only a few of the milestones already passed.**

As you all know, the strategic direction of your Association is set by the Executive Council (ExCo) and as usual, a new ExCo was voted in during the 2022 Annual General Meeting of CropLife SA (please see the article later in this newsletter that provides you details of the new ExCo). Your ExCo consists of representatives from 12 member companies – 8 from the supplier companies and 4 from the distribution member companies. Subsequent to the ExCo being elected, the ExCo members themselves voted for President & vice-President; Kobus Meintjes is your sitting President, with David Wood as Vice President.



**Rod Bell**  
Chief Executive Officer  
CropLife South Africa

The highlight of CropLife SA's efforts in 2022 to service its members and raise awareness of the association is without a doubt the conference that the CropLife SA team organised and presented in March 2022 – the conference was aptly dubbed 'CropCon22'. The overarching theme of CropCon22 was 'stewardship', and all of the lectures, presentations and discussion panels were aimed at covering items critical to our industry and all its role players. CropCon22 was presented as a hybrid event – members and industry affiliates could choose to either join the conference in person, or dial-in from remote locations to participate in the various presentations and discussions. Even though the CropLife SA team received excellent feedback and reviews regarding the success of CropCon22, participation by representatives from distribution member companies (both management and crop advisers) and supplier member companies (both management and staff) was disappointing. This was very surprising to the CropLife SA team because all the subjects discussed during CropCon22 affect the entire industry – if CropLife SA members are not aware of future potential threats from legislation or hear 'the voice of the customer', how are they going to prepare for the future?

To highlight only a few of the subjects discussed during CropCon22:

- The EU Green Deal and its potential huge negative impact on the local agricultural industry such as the loss of active ingredients from spray programmes, MRLs for certain actives not being supported in the EU, pressure from the EU to significantly reduce the use of chemical plant protection solutions, etc.
- 'Voice of the customer' discussions from both large-scale commercial farmers and small scale emerging commercial farmers, detailing their experience with the current route-to-market strategy for plant protection solutions – suppliers and distributors alike need to hear what farmers are saying about how they plan to source their plant protection solutions in future.
- Integrated pest management is a critical CropLife SA subject under the stewardship umbrella and was well covered during CropCon22.
- New technologies such as plant biotechnology and the growing importance of biologicals in spray programmes in our country – all players in the industry need to be aware of what is coming and how the new technologies need to be managed.
- Extended Producer Responsibility (EPR)

legislation that is already in place for some industries, with specific regulation for agricultural remedies; this new legislation will impact every person involved in the agricultural remedy value chain, from suppliers to distributors, all the way to farmers.

The annual continuous professional development (CPD) cycle for salespersons from distribution members has closed – the first time the cycle has been run on the new automated platform. The new platform brings great benefits to users and the CropLife SA team, and developments to improve the system further are already underway. Regarding the 2021/22 cycle, here are some statistics:

- Total number of CPD programme participants: 1 022
- Total number who achieved 'Compliant Crop Adviser' status: 816
- % Compliant participants: 80%
- Number of participating distributor companies: 36
- Number of companies with 100% compliance: 8

The training sub-committee of your ExCo and the CropLife SA team are working to expand the scope of the CPD programme and details of these exciting new developments will be shared in due course.

For the first time, the annual membership renewal process was conducted via an online process and this new process was a resounding success. The CropLife SA members were very disciplined in submitting their membership renewal declarations and at the time of writing, there are only 3 member companies whose membership will be revoked due to declarations not submitted despite numerous reminders and requests from the CropLife SA team. Payment of membership fee invoices has also been at a rate higher than this time last year, so your association's finances are in good shape.

For supplier member companies, the online declaration also included the option to participate in the CropLife SA 'Product Responsibility Organisation' (PRO) programme established ahead of the Extended Producer Responsibility legislation due for our industry in the coming months.

Please stay safe and best wishes to all members for the successful completion of the summer rainfall season harvesting efforts and the winter rainfall region planting season.

# CONTENT

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**01**

**Welcome** message from our Chief Executive Officer

**03**

**Message from the outgoing President, Quintin Cross**



**04**

**CropCon 2022**

**05**

**CropLife SA AGM 2022**

**06**

**New platform for the Basic Crop Protection course**

**End of CPD Cycle 2021/22**

**New Section Available on Agri-Intel**

**07**

**CropLife SA at NAMPO**



**08**

**Exciting developments in container management**



**09**

**IPACKCHEM** leads the way as South Africa's first chemical drum manufacturer to include PCR in their drums

**10**

**Call for the control and management of Fall armyworm in South Africa during the 2021/2022 crop production season**



**11**

**The eighth plague**

**12**

**Responsible use training for state agencies and farmers**

**At the retailer on a Saturday morning**



**13**

**Joint news release issued by AgBiz, SANSOR and CropLife SA on the industry appeal lodged against South Africa's regulatory approach to classify and regulate all new breeding techniques (NBTs) under the Genetically Modified Organisms Act 15 of 1997**

**14**

**CROPLIFE SA IN THE MEDIA**

**Emergency alert: Resistant Palmer amaranth is spreading around the summer rainfall region of South Africa**



**16**

**Pollinator safety – just bee responsible**

**17**

**Die stand van sake met die bruin sprinkaan-uitbraak**



**19**

**Producing more with less: How innovation in agriculture is making every drop count**

**20**

**Uitgebreide produsent verantwoordelikheid - wat beteken dit vir graanprodusente?**

**22**

**Hoe lank bly plaagdoders gevaarlik?**

**23**

**What does the CropLife SA CPD programme mean for farmers?**

**Foute met fosfied kan fataal wees**

# 2022 AGM: Message from the outgoing President

**It was with some trepidation that I agreed to take up the responsibility as President of CropLife SA in the middle of 2020. Covid-19 had thrust all of us into a very different way of managing people and doing business. Shortly thereafter, the world had to deal with the knock-on effect of a global supply chain crisis. Agriculture was not spared from this and to make matters worse, the Suez canal became blocked in March 2021 for six days after the grounding of Ever Given, a 20,000 TEU container ship. More recently, business has had to navigate the events surrounding the Russia-Ukraine conflict and this too has impacted the oil price and the supply of products. It would seem that we all have to come to terms with the increasing frequency of events that end up giving the world a “cold”.**

Although I started this message reflecting on the negative global events, it does allow me to highlight the resilience of agriculture and our industry in particular. On the back of favourable climatic conditions, the industry has withstood the numerous obstacles put in its way. As a result, agriculture ranks second behind mining in terms of industry growth rates in 2021 in South Africa. Spare a thought though for those farmers who are still dealing with container shortages and port congestions as well as those who have



**Quintin Cross**  
CropLife South Africa  
President 2020 – 2022

experienced severe weather conditions. So too, let us remember those friends, colleagues and family members that have succumbed to Covid-19. We miss them.

Even with a buoyant industry, being successful is not a guarantee. It still takes great leadership and great people to make a difference. Despite the volatile and uncertain environment, both the operating team under Rod Bell's leadership, as well as the CropLife SA Executive, have executed the plans put forward and so it is with great pride that I could deliver this message at the AGM as the President of CropLife SA at that time.

Financially, CropLife SA is in a sound position. This is due to increased membership contributions, growth in membership numbers and a budget that is well managed. Over the last two years our membership has increased by over 28%, mainly as a result of the good work the CropLife SA team has done to promote the value of belonging to CropLife SA. I am also confident that the financial position of the association will enable the team to execute future strategies that are mandated by the incoming executive team.

In terms of stewardship, the existing container management programme has made huge strides towards establishing collection points throughout the country. Furthermore, through the efforts of the CropLife SA team, the new Extended Producer Responsibility (EPR) programme for plastic packaging in South Africa for pesticides is close to finalisation and the levy system will shortly be finalised. In May 2021, EPR Regulations were gazetted in South Africa which made EPR mandatory in the paper and packaging sectors. It is pleasing to see that CropLife SA is leading the way in respect of this regulation.

Similarly, CropLife SA is driving the responsible use of agricultural remedies and in particular, the application of products strictly in accordance with the label. It is for this and other reasons that CropLife SA has invested extensively in the Agri-Intel database. Agri-Intel remains the only reliable database for accessing information on agricultural remedies registered in the country. Both the registration information (including labels & SDS) and MRL data are readily available to subscribers and members.

Great strides have been made in driving a positive message about the agrochemical industry and the efforts we are putting in to protect our environment. The marketing team, armed with a larger budget than in the past, has leveraged the

agricultural media and ensured that the CropLife SA principles and policies are regularly reported. Despite these efforts it still seems that some of our members are not clear on the function and responsibility of CropLife SA vis-à-vis that of the Department of Agriculture, Land Reform and Rural Development (DALRRD). It is the latter that is responsible for issuing policy guidelines and promulgating new regulations and not that of CropLife SA. As a voluntary organisation we engage with government in respect of the policies and regulations and assist our members in interpreting them. I therefore encourage all members to read the publications and messages put out by CropLife SA and to also participate in the various working committees that are active. This will ensure that all stakeholders are fully informed.

The functioning of DALRRD in terms of managing the regulatory environment still remains dysfunctional and of great concern for all at CropLife SA. A number of interventions have been carried out in our attempt to assist DALRRD in resolving this matter. Unfortunately, I am unable to report a successful turnaround within the department at this stage. We will continue to engage with government in this regard.

Despite the regulatory and other challenges faced in 2021, CropLife SA continues to grow into a highly professional organisation with a clear set of values and goals. It is ably led by Rod Bell as CEO. In line with the prevailing articles of the association, my time as President came to an end in March 2022, however, I will continue to play an active role in the organisation where possible and look forward supporting the new President and the Executive Council during their term of office.

In closing, and as I have done in the past, I wish to remind you as members, that you are CropLife SA! I therefore invite each of you to become more involved. Participate in our committees and working groups. Engage with the Executive Council. Constructively criticise. After all, it is your ideas and your energy that will move this association forward and enable all of us to live our vision...

**“to be the absolute proponent of responsible production, distribution and application of crop protection and public health solutions across the entire value chain. We will continue to enable our members to be providers of environmentally compatible solutions that ensure sustainable, safe and affordable food production, and therefore food security, in South Africa”.**



# CropLife South Africa CropCon 2022

**The CropLife SA team was elated to host their first conference in nearly five years on 29 and 30 March in Pretoria. The hybrid event was attended by industry stakeholders both online and in-person, and the jam-packed programme covered numerous topics, the majority of which related to stewardship in some form or another.**

The event kicked off with a session facilitated by renowned economist Wandile Sihlobo (AgBiz), themed *International Market Forces*, with contributions from CropLife International CEO, Giulia Di Tommaso and VP of public affairs and communications, Laurie Goodwin, who set the scene in terms of global agriculture and the future of innovation. Thereafter, CropLife Africa Middle East CEO, Samira Amellal and Kobus Hartman (Agri Business Systems International) illustrated the potential impact of international policy on South African agriculture.

The second session of the day focused on stewardship compliance, specifically with regards to the responsibilities of product registration holders. Attendees heard the viewpoints from an export producer and a supplier member, and the subsequent panel discussion included comments by Dr. Elmé Coetzer-Boersma (Managing Director: GLOBALG.A.P.), all of which contributed to providing a wholistic view of the importance of stewardship in that part of the value chain.

The first day concluded with an informative session on integrated pest management (IPM), incorporating discussions about IPM principles, how technologies such as biologicals and plant biotechnology form part of the IPM toolkit, as well as some success stories from the resistance action committees.

Continuing with the stewardship theme, day two kicked off with a thought-provoking session about what producers expect from their crop advisers and included feedback from a commercial farmer, an emerging farmer as well as a distributor member about the responsible link between suppliers and producers. A lively debate ensued during the panel discussion led by Corné Louw (Applied Economics & Member Services Lead: Grain SA) and it became clear that communication across the value chain is essential to ensure that all role players are involved in the responsible sale and use of crop protection solutions.

During the session themed *Advocacy*, the CropLife SA team had an opportunity to share some of the resources that are available in the pursuit of educating the various stakeholders about the responsible use of crop protection products. In addition, the weed species section on Agri-Intel

was launched, a functionality that allows users to search for any active ingredient, crop, registration holder or registration number to find herbicides that are registered to control a particular weed species. The session concluded with an intriguing presentation by award-winning journalist and television presenter, Gerrit Bezuidenhout, about journalism in agriculture and how everyone, even those who share information via word-of-mouth, has a responsibility to ensure the information is accurate and credible.

The final session was dedicated to one of CropLife South Africa's biggest success stories, the empty pesticide container management programme.

Kirsten Barnes of the South Africa Plastics Pact set the scene by illustrating why plastic, if not managed correctly, can be problematic, while other role players shared their activities, new initiatives and challenges with regards to the collection and recycling processes. It was also with great excitement that Mishelle Govender (Chief Directorate - Chemicals and Waste Policy Evaluation: DEFF) announced that the draft Extended Producer Responsibility (EPR) regulations were promulgated on that day, and so it was apparent that the CropLife SA team was well prepared and ahead of the curve to be the Product Responsibility Organisation (PRO) for its members, and in a position to assist them to comply with the new regulations.

The conference was closed by CropLife CEO, Rod Bell, who reminded everyone about the industry's collective goal and commitment towards stewardship, and that it is non-negotiable objective for the association.



If a person was unable to attend the conference and is interested in viewing any of the sessions, they can do so on our YouTube channel, or on the links below.

[Session 1: International Market Forces](#)

[Session 2: Stewardship compliance - Are you a responsible registration holder?](#)

[Session 3: Integrated pest management](#)

[Session 4: Stewardship compliance - Are you a responsible crop adviser?](#)

[Session 5: Advocacy](#)

[Session 6: End of product life cycle management](#)

# CropLife SA AGM

Following a successful CropCon 2022, the CropLife SA AGM was hosted at the same venue on 31 March as a hybrid event where virtual members could log on, live stream the event and submit their questions or proposals online. Rod Bell (CEO) opened the meeting and welcomed everyone present, in person and virtually. Thereafter Quintin Cross took the stage for the President's Report and provided an inspirational review of the resilient agricultural industry in South Africa. While he focused on the wins of the CropLife SA team over the course of the year, he remained realistic about the challenges that the industry still faces as well as differentiating between the mandate of the association versus that of the Department of Agriculture, Land Reform and Rural Development.

Rod Bell led the remainder of the meeting by providing an overview of the activities of the CropLife SA team during 2021, presenting the budget, as well as facilitating the standard formalities at the AGM. In addition, a proposal was tabled and approved to establish a committee to review the CropLife SA membership structure and associated fees, as these are becoming outdated and not aligned to the current industry trends and requirements. Finally, the newly appointed ExCo was revealed after an online voting process.

Congratulations to incoming ExCo members and our sincere thank you to those outgoing members who have dedicated their time to serve in previous years. We look forward to another great year ahead.

Antonie Delpont (Syngenta)  
Ben Krog (Andermatt Madumbi)  
Chris Thompson (Laeveld Agrochem)  
David Wood (Farmers Agri-Care)  
Fanie van der Merwe (Corteva Agriscience)  
Gerrit Badenhorst (Rolfes Agri)  
Gideon Hefer (InteliGro)  
Kobus Meintjes (Bayer Crop Science)  
Marius Boshoff (Winfield United)  
Matt Fryer (UPL)  
Quintin Cross (AECI Plant Health)

In follow-up meetings, Kobus Meintjes was elected as President and David Wood as Vice President. One position remained opened for a supplier member from group A to join, and ExCo elected Vikesh Vallabh from BASF to fill the position.





## New platform for the Basic Crop Protection course

The CropLife SA team was very excited to announce the launch of Basic Crop Protection course on a new platform (similar to that of the CPD programme) in April 2022. The platform allows for a variety of new functionalities, such as any time registrations, completing the course in a student's own time (with a one-year limit) and automatic certificate generation.

As with any new system, it usually comes with its challenges and the CropLife SA team has been working around the clock to resolve these, however, we are confident that once these issues have been addressed, the process will be seamless and much more user friendly.

If you have any queries pertaining to the crop protection course, kindly forward them to [training@croplife.co.za](mailto:training@croplife.co.za)



**Want to kickstart your career in the crop protection industry?**  
Then our online Basic Crop Protection course **is for you!**

You'll learn all about plant structure, pests, weeds and diseases, safe and responsible use of crop protection products, regulations that govern the industry and integrated pest management (IPM).

You can register at any time throughout the year and complete the course at your own pace (within a 12-month period).

Register on [www.croplife.co.za/register](http://www.croplife.co.za/register) -->>>



## End of CPD Cycle 2021/22

After a challenging year of learning how to navigate an entirely new platform, the CropLife CPD cycle has successfully rolled over to the next, and the digital cards were available immediately to the compliant crop advisers. Of course, as with any new system, it wasn't without its challenges, and there are still some issues that need to be resolved, however these are in the minority. This past cycle saw an 80% compliance rate, slightly down from the previous year, but it is expected to increase again this year as users will be more accustomed to the platform. In addition, the CropLife SA team will roll out a number of online modules again, which will amount to enough points for crop advisers to become compliant solely through the online modules. We believe that this will enable an environment where we can aim for 100% compliance in future.

There are numerous other developments in the pipeline to make the system more user friendly for both the crop advisers and the SDFs who manage the system on behalf of the member companies, and these will be rolled out in the following weeks, along with the accompanying training.

In addition, supplier members will also be able to participate in the CPD programme at an additional fee. More information about this will be sent to our supplier members soon.

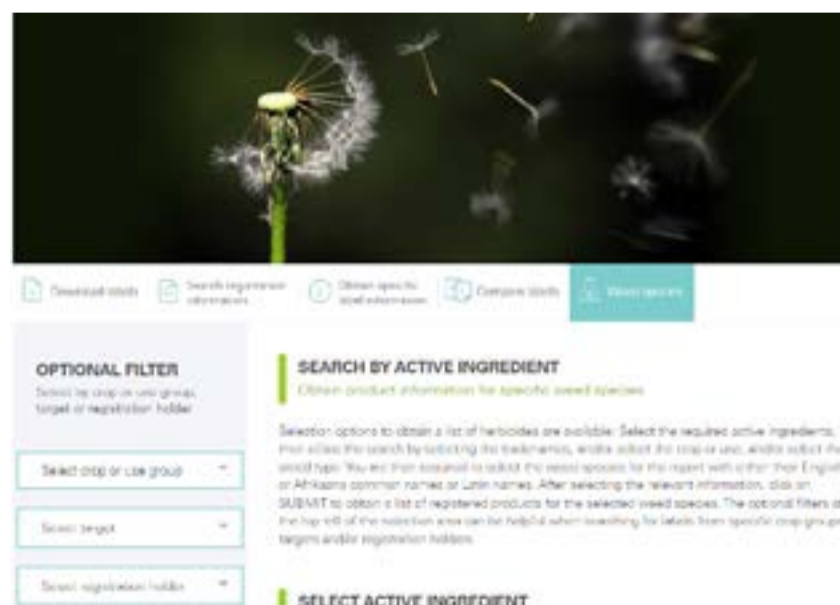
We are confident that the programme will grow from strength to strength in the coming cycles and that we will reach our objective of increasing the skills and standards of the industry through the CPD programme.

If you have any queries, please contact [cpd@croplife.co.za](mailto:cpd@croplife.co.za)

## New Section Available on Agri-Intel

Agri-Intel Users will be pleased to note that the weed species section has been launched on the website. This section was launched during CropLife South Africa's CropCon22 on 30 March 2022 and focuses on herbicides registered in South Africa. A user can search for any active ingredient, crop, registration holder or registration number and find herbicides that are registered to control a particular weed species. The Latin name, English common name and Afrikaans common name of the weeds are also provided, making the search easier for users. The weed species section can be found under the Label Information (Database) and aims to be a valuable tool for the industry.

[Click here](#) to view the weed species section page online.



The screenshot shows a search interface for weed species. At the top, there are navigation tabs: 'Download labels', 'Search registration information', 'Obtain specific label information', 'Generate labels', and 'Weed species'. Below this is a search section titled 'OPTIONAL FILTER' with three dropdown menus: 'Select crop or use group', 'Select target', and 'Select registration holder'. To the right is a section titled 'SEARCH BY ACTIVE INGREDIENT' with a sub-heading 'Obtain product information for specific weed species'. Below this is a text area for selecting active ingredients and a 'SUBMIT' button. At the bottom, there is a section titled 'SELECT ACTIVE INGREDIENT'.

## Agri-Intel Training

Agri-Intel user training videos are available on the Agri-Intel website under the "Industry resources & training" section. The videos are short, individual clips focusing on explaining each section that is available on the website.

These videos can be viewed at any point should you require more clarity about what is available on the Agri-Intel website and what each section has to offer. A video for the new weed species section will be available at a later stage. If you have any queries regarding Agri-Intel, please feel free to contact the Agri-Intel team at [admin@agri-intel.co.za](mailto:admin@agri-intel.co.za)

# CROPLIFE SA AT NAMPO

**The CropLife SA team was excited to once again participate in Nampo this year. Team members were there on varying days and, when not participating in panel discussions or meetings, met up with members, media and industry role players at their respective stands. Members of the CropLife Africa Middle East team also joined on the Wednesday, some of whom have never been to Nampo before, making it a noteworthy occasion to showcase South African agriculture in context.**



On day 2 of Nampo, CropLife SA participated in a panel discussion on Nation in Conversation facilitated by Theo Vorster about the responsible use of chemicals. Kobus Meintjes participated as CropLife SA President, alongside Klaus Eckstein from Bayer and farmers Jaco Minnaar and Egon Zunckel. The session can be viewed here: <https://youtu.be/v1E74Q3EEExo>



Later that day, CropLife SA's lead for plant biotechnology, Chantel Arendse, was joined by AgBiz CEO Theo Boshoff, in an informative discussion about the regulatory environment for new breeding techniques (NBTs) and the implications in terms of access for farmers and trade etc. The session can be viewed here: <https://youtu.be/EdUhlN4cIs4>



The following day Chantel was joined by Andrew Bennett (Agricultural Consultant) to discuss the importance of stewardship with new technologies as well as incorporating elements of integrated pest management (IPM) in farming operations. The session can be viewed here: <https://youtu.be/EK169Dl5HqY>



A huge congratulations to the team of Grain SA for another spectacular, well-attended and well-organised event.



# Exciting developments in container management

Dr Gerhard H Verdoorn  
Operations and Stewardship Manager

Zweli Mgayo of Olimekayo Agricultural Solutions is a relative newcomer to the CropLife SA team of certified recyclers. He joined the team earlier this year and is working towards a sustainable solution for emerging farmers in Limpopo and Gauteng for their empty pesticide containers. He recently acquired a good site in Walkerville in Gauteng where he stores triple rinsed empty pesticide containers which he collects from various sites in Limpopo and further afield. Zweli invested in a new bakkie and trailer to transport the containers to his site in Walkerville. His plan is to provide farmers with large polypropylene bags to temporarily store their empties so that Zweli can collect it for recycling. There are literally thousands of farmers in Limpopo that need to dispose of empty containers.

Meanwhile Funa Masuko of Ipha Plastics in Brakpan also received certification from CropLife SA to collect and recycle empty HDPE containers. She is also a newcomer, but her network stretches far and wide, and is also linked with Zweli. These two recyclers are a blessing for CropLife SA because we are working on plans to service the emerging farmers in areas where they are far from the existing certified recyclers. With the Pesticide EPR regulations pending promulgation, CropLife SA hopes to have a network of certified recyclers that can service each and every farmer in South Africa. The network has already reached saturation point in the Western Cape, Limpopo, Mpumalanga and Gauteng, while three new collection points under InteliGro (sponsored by BASF) are going to be launched in the Free State. Laeveld Agrochem is adding a few more with sponsorship from FMC Chemicals and the North West is also close to saturation in terms of CropLife SA certified recyclers. KwaZulu-Natal and the Eastern Cape is adequately covered with a good network of certified recyclers.

The future for recycling of empty pesticide packaging is bright, but the Green Scorpions have already been alerted by CropLife SA about individuals who burn or bury empty pesticide containers. The penalties under the National Environmental Management: Waste Act, 2008 (Act No. 58 of 2008) are severe and no one can afford to spend R5 million on a fine if found guilty of contravening the Act by burning unrinsed empty containers. No empty pesticide container should be left unattended on a farm. All containers must be triple rinsed and recycled. It is the right thing to do!



# IPACKCHEM leads the way as South Africa's first chemical drum manufacturer to include PCR in their drums



**The year 2022 got off to a great start for IPACKCHEM customers, with post-consumer recycled content (PCR) being included in their products for the first time in South Africa.**

In May 2021, as part of their innovative and environmentally friendly packaging solutions, IPACKCHEM embarked on an ambitious project to include PCR material into their product offering.

Simon Morgan, MD of IPACKCHEM, expresses the importance of this project:

“IPACKCHEM has a long history of implementing sustainable projects, like using solar power in our plant in Cosmo City, to reduce our annual carbon footprint by avoiding 410,000 kg of CO<sub>2</sub> emissions. The inclusion of PCR into our drums was a natural outcome of our strategy to be a leader in sustainability. The project assists our customers to comply with ever more stringent extended producer responsibility (EPR) regulations and allows us to support the circular economy in UN certified containers. The project further contributes to IPACKCHEM's ambition of achieving Ecovadis Platinum rating in 2022, a level positioning IPACKCHEM in the top 1% of companies evaluated by Ecovadis globally.”

Historically, the quality of, and access to PCR have hindered the inclusion of PCR into new products. Working closely with MyPlas, the IPACKCHEM team was able to overcome these hurdles.

To produce the upcycled Mypolen® grade PCR, MyPlas's ISO9001:2015 certified plant employs a proprietary combination of manual and auto sorting, washing, cleaning and filtering processes utilising state-of-the-art European equipment.

An additional major quality requirement was ensuring the exclusion of possible contaminating packaging being included in the recycling process. This meant excluding all packaging which previously contained substances that may have affected the packaging (for example high oxidating content), packaging containing toxic, infectious, or radioactive material or packaging over 10 years old.

Other exclusions to ensure the quality was of the highest standard, was any packaging showing signs of deterioration (such as UV damage), any packaging produced from material that cannot be reprocessed, and all packaging not clearly marked with a resin identification symbol.

Johann Conradie, Director of MyPlas, comments:

“MyPlas was very excited to work with IPACKCHEM on the project. It allowed us to step up to the quality demands made by the IPACKCHEM team and to highlight our ability to supply good quality PCR in sufficient quantity to fulfil their needs.

We saw this project as a great step towards proving the feasibility of a circular economy for drums in South Africa and an opportunity to divert 1,000's of tonnes of plastic from the environment every year.”

MyPlas' knowledge of PCR, and the company's ability to meet the requirements of the local and international IPACKCHEM technical and R&D divisions, inspired confidence in IPACKCHEM to use MyPlas' PCR offering in their testing phases and subsequently in their product offering.

The inclusion of PCR into chemical drums is a great advancement towards CropLife SA's circular ambitions of their container management programme. CropLife SA's network of over 134 approved collectors and recyclers ensures that more than 76% of empty pesticide containers in the agricultural market are collected and recycled.

IPACKCHEM is quick to highlight that the inclusion of PCR into their products does not impact the recyclability of the product, which is great news for their customers and for CropLife SA's certified recyclers who can be assured that the drums can be fully recycled within existing streams.

Dr Gerhard Verdoorn, operations and stewardship manager at CropLife SA, says:

“CropLife SA has always known that including PCR in chemical drums is an extremely necessary and important piece of the pesticide drum value chain and has been working with several container manufacturers on the inclusion of PCR into their products for some time.

IPACKCHEM has now taken the lead and is first to market with its large batch inclusion of PCR in their pesticide drums. What is exciting about



IPACKCHEM taking this lead is their stringent adherence to quality specifications and testing; ensuring our members get the quality they require.

The inclusion of PCR back into chemical containers provides a valuable end use for the recycled material collected by our CropLife SA certified recyclers, and it supports our drive towards a circular economy within agricultural packaging.

We look forward to similar initiatives from other HDPE container manufacturers in South Africa.”

CropLife SA is a supporting member of the South African Plastics Pact which has a 2025 target of 30% average PCR content across all plastic packaging. The inclusion of PCR into chemical drums clearly contributes directly towards reaching this target.

Kirsten Barnes, South African Plastics Pact Project Lead, was excited to note “We now have ‘drum to drum’ recycling capabilities in the country, eloquently expanding our circular vocabulary to more than ‘bottle to bottle’. This project goes a long way towards our 2025 targets, and we hope to see ever more PCR inclusion in chemical and agricultural packaging going forward.

We celebrate our SA Plastics Pact members, CropLife SA and MyPlas’s bold action towards a circular economy for plastics in South Africa.”

CropLife SA member, Metson World, is the first South African company that will use IPACKCHEM’s new containers. According to marketing manager, Jenna Milane, Metson World produces millions of litres of specialised nutrient and bio-stimulant foliar agricultural products, which translates to tens-of-thousands of plastic containers that need to be responsibly disposed of.

“Bringing circular-economic solutions to the single-use plastic concern is of great importance to the industry and a priority. Metson has been in business and partnership with IPACKCHEM, formerly known as Quadro, for 27 years and is proud to be the first South African company to introduce this recycled plastic solution to the agricultural market in September 2022 – in time for the new summer-growing season.

It will be a phased approach, starting with products that are low in specific gravity, but high in volume. Complete changeover to this sustainable solution is envisioned for March 2023 – for the winter growing season. A complete reduction in single-use plastic is the first step towards an ethos of zero-waste; an ever-sustainable growing environment.”

IPACKCHEM will initially include PCR in their 20L drum offering with the intent to include PCR across their entire range over time.

Customer specific blend rates are easily accommodated through IPACKCHEM’s technically advanced machinery with the possibility of higher levels of PCR content coming soon.



## Call for the control and management of Fall armyworm in South Africa during the 2021/2022 crop production season

Cropwatch Africa and FABI have partnered to perform pest surveillance in Mpumalanga, Limpopo, North West, Free State, KwaZulu-Natal and Eastern Cape for economically important maize pests, including *Busseola fusca*, *Chilo partellus* and *Spodoptera frugiperda*. Placement of pheromone-based traps started in November 2021 and the survey programme runs until end of May 2022.

Please follow the link below, each hexagon represented in each of the maps has a radius of approximately 15 kilometres and contains the total number of insect pests collected in that area.

[www.fabinet.up.ac.za/maizepests](http://www.fabinet.up.ac.za/maizepests)

For more information on the data collected in the field, the expected outcomes, partnering on this initiative or access to the data sets, please contact Prof. Bernard Slippers [bernard.slippers@up.ac.za](mailto:bernard.slippers@up.ac.za).

# THE EIGHTH PLAGUE

Dr Gerhard H Verdoorn  
Operations and Stewardship Manager



**Back in 2020, just a few months before South Africa entered the first drastic lockdown for Covid-19, we saw the warnings of another catastrophe after the central and Eastern Karoo had the best rain in many decades. It was welcome after a seven-year debilitating drought, but as we know, rains catalyse a resurgence of life where signs of life were eradicated by the drought, and the first thought in November 2019 was that we would be heading for a locust outbreak. Barely a month before the lockdown began, the reports of brown locust outbreaks were pouring into the CropLife SA emergency line, and we knew that the 8<sup>th</sup> plague was upon us. While 2020 was quite manageable with small swarms all over the Karoo, 2021 became a bit more challenging because swarms were increasing in size.**

During the April school holidays, I was in the Karoo National Park outside Beaufort West in the Western Cape and for days on end swarms of locusts were flying eastwards through the park. They were everywhere and the concern was that they may reach the crop farming areas of the western Free State and Eastern Cape. It eventually happened: early in May 2021 a swarm that was estimated to be larger than 20,000 hectares moved from Kimberley in the Northern Cape to Bothaville within a week. That night, when the swarm settled close to Bothaville, farmers unleashed all they had at their disposal on the locusts. My concern was lingering because on the 16<sup>th</sup> of June 2021 I passed through the small Karoo village of Jansenville in the Eastern Cape and despite the cold conditions, there were locusts flying around the town.

When the summer arrived in 2021 all signs were there for a massive outbreak. Namaqualand, Bushmanland and the Karoo had exceptionally good rains and when temperatures warmed up, the outbreak began. By December, it was the largest outbreak I have ever experienced and by February 2022 clouds of locust were reported from everywhere. On Saturday 26 March, en route to Gauteng from Gqeberha, I was hoping to see locusts, and what a surprise I had! Twenty kilometres south of Jansenville, one could see the brown bands of flyers all over. It stretched as far as the eye could see and I estimated the area of infestation at about 5,000 hectares. Through Jansenville and past Graaff-Reinet was one long journey of locust swarm after locust swarm. Calls to the CropLife SA emergency line were close to sixty on some days from farmers who were desperate for control measures. The available insecticides ran out of stock, and nothing could be done to protect crops and grazing.

A question was posed to me by the media whether the locust outbreak was a risk to food security. It was a difficult question, but my firm belief was that national food security was not at risk. The Karoo had such a wealth of vegetation that the locust impact was hardly visible. The problem was the livelihoods of individual farmers who planted small patches of vegetables or had fruit orchards as cash crops. They suffered anything from severe damage to total crop losses because locusts swarms descended upon their farms at the time when no stock of the registered pesticides were available. The summer of 2022/2023 is lingering in the near future. What the locusts will do, is uncertain. There will be locusts but it is impossible to predict how large the outbreak will be. Individuals are spotted in Gqeberha, while massive swarms invaded the areas of Kirkwood and Patensie in April. If these flyers laid eggs, we are in for a hard time in the coming months.



# Responsible use training for state agencies and farmers

Dr Gerhard H Verdoorn  
Operations and Stewardship Manager

## Responsible use of pesticide is everyone's mandate

It is not only CropLife SA and its members that have a mandate to advocate the responsible use of pesticides, but also that of state agencies such as the Department of Forestry, Fisheries and the Environment (DFFE), Department of Agriculture, Land Reform and Rural Development (DALRRD), and the Department of Health (DoH). These departments have a constitutional obligation to promote chemical safety across the wide spectrum of chemicals that are used, and the link between them and CropLife SA is with pesticides.

## A partnership for the better

CropLife SA formed an unsigned, but valuable, partnership with DALRRD and DFFE by offering intensive and high-level training to 65 national and provincial officials on 30 November and 1 December 2021. The success of the training session prompted Gordon Khauoe of DALRRD and Noluzuko Gwayi of DFFE to request another training session on the responsible use of pesticides. The second training session was presented to more than 350 national and provincial officials as well as farmers on 19 and 20 April. It was a very lively training session with lots of comments, questions and suggestions from participants.

## Escalating chemical safety to a higher level

Pesticides, which include agrochemicals and biological substances, are hazardous by nature, but the risks can be managed down to acceptable levels if people using these commodities are trained and made aware of the safe use principles. The CropLife SA course covered all aspects of safety namely hazards versus risks, safe storage, safe transportation, personal protective equipment, safe decanting and mixing, safe application, personal decontamination, spill management, store management, record keeping, post application equipment decontamination, safe storage of equipment, triple rinsing and recycling of empty pesticide packaging, and management of poisoning with pesticides. The training module was shared with the state officials who will perpetuate pesticide safety advocacy using some or all of the training module.

## Plans for the future

CropLife SA will likely offer the same course to agriculture extension officers at provincial level over the next twelve months to build a wider knowledge base on pesticide safety. Apart from offering the training to officials and farmers, responsible use posters, personal protective equipment posters and triple rinse posters were also shared with the attendees.

# At the retailer on a Saturday morning

Dr Gerhard H Verdoorn  
Operations and Stewardship Manager



Saturday mornings in the Eastern Cape city of Gqeberha is "spy time". Spy on street vendors for illegal pesticides and spy on retailers for compliance with the stewardship principles of pesticide sales. Nurseries, hardware stores, food chain stores and small general stores offer good entertainment, but sometimes also reveal shocking revelations of how some retailers offer incorrect advice to clients.

It was therefore very pleasant to enter the main branch of Builders Warehouse in Gqeberha on a recent Saturday to find two young ladies from Protek and Efekto at the garden section. Melissa Max is employed by Efekto and is a regular at this branch, while Bianca Mains is a Protek merchandiser also based in Gqeberha.

One of the CropLife SA Small Pack Forum's main objectives over the past four years was to flood the consumer market with the responsible use of rodenticides message. Part of the message is to convince consumers to always use bait stations for rodenticide applications. Well, unsurprisingly, both Melissa and Bianca agreed that we do not send a customer to the checkout points without a bait station if they buy a rodenticide of whichever brand.

It was heartening to listen to the ladies engaging with clients and I found their professional approach and strict label directed advice very encouraging. This is exactly what South Africa needs at every retailer that sells pesticides: a team of well trained, well-spoken and professional people who guide consumers on the safe and responsible use of pesticides. Well done, Melissa and Bianca!

# Joint news release issued by AgBiz, SANSOR and CropLife SA on the industry appeal lodged against South Africa's regulatory approach to classify and regulate all new breeding techniques (NBTs) under the Genetically Modified Organisms Act 15 of 1997

**In October 2021, the National Department of Agriculture, Land Reform and Rural Development (DALRRD) announced that a diverse and evolving group of products derived from new breeding techniques (NBTs) will be evaluated under the risk assessment framework that exists for Genetically Modified Organisms (GMOs) under the Genetically Modified Organisms Act, 1997 (Act 15 of 1997, GMO Act).**

South Africa's decision to regulate all products derived from NBTs as GMOs will have widespread implications, not only in South Africa and on South African innovators, but also with regards to international trade of commodities that may contain products derived from NBTs. Asymmetric regulation may cause food insecurity and create significant barriers between South Africa and its trading partners. The current regulatory approach for NBTs will also discourage the development and uptake of the technology by all actors in the South African innovation and research space, including South African-owned seed companies, public and academic sector research organisations and small to medium-sized innovation enterprises.

At the end of November, the agricultural industry lodged an appeal under section 19 of the GMO Act particularly in support of the South African bioeconomy and local innovation and is looking forward to furthering communication regarding the next steps in this process.

In the appeal, under the umbrella of the Agricultural Business Chamber, industry partners suggested that South Africa proactively promote science-based regulation for products derived from NBTs. The broader agricultural value chain is committed to engaging in this process in good faith and to provide more detail to substantiate the points stipulated in the appeal. Agricultural Business Chamber also welcomes joint action with DALRRD and the Executive Council of the GMO Act, to remove any deemed obstacles and to facilitate effective, efficient, and evidence-based regulation of products derived from NBTs.

The South African regulator's interpretation of the GMO definition goes against the widely accepted principle that NBTs should not be regulated differently if they are identical to, or indistinguishable from products that could have been obtained naturally or through conventional breeding methods. This principle is upheld even in countries that use the living modified organisms (LMO) definition of the Cartagena Protocol on Biosafety, that are party to the Protocol, such as South Africa.

Because it would be nearly impossible to ascertain or uniquely identify whether genetic changes have been created by conventional breeding, random mutation, or an approach considered to be an NBT, it would be

difficult to classify and test new products. This will create unsurmountable challenges for the reliable enforcement of any possible asynchronous decisions amongst trading partners, as it is not likely that a comprehensive list of products in the global supply chain that has been developed using certain NBTs, will be available.

This decision will risk the ability of South African farmers to access the latest innovative technologies that could further enable them to sustainably produce food with minimal environmental impact, as well as denying consumers access to better end-products.

It is also important to consider that companies who wish to supply products derived from NBTs in South Africa will have to incur additional costs to access the South African market. At worst, international suppliers may bypass South Africa due to time delays and additional regulatory and registration costs. There is also a significant reputational risk for companies if their products are deemed GMOs in South Africa whilst the very same products are not deemed GMOs in the rest of the world. This may result in domestic value chains only having access to outdated technology.

As agricultural challenges continue to grow in the face of climate change, increased pest and disease pressure, and a growing global population, it is imperative that innovative technology such as NBTs be part of the solution to help meet national commitments in terms of food security, climate mitigation and sustainability goals. Our agricultural sector must continue to remain competitive in the international playing field.

While we differ from the decision regarding the regulatory approach for NBTs in South Africa, SANSOR and the broader industry remain committed to engaging with the relevant decision-makers and government departments to create a regulatory environment that promotes innovation and competitiveness, whilst addressing any potential risks in an evidence-based manner.

In doing so, the industry will bring these concerns to the attention of decision-makers when the decision on NBT regulation is being reviewed. As an industry collective, we view the department and all relevant regulators as critical partners in this process and look forward to working closely to find a mutually acceptable solution.



# CROPLIFE SA IN THE MEDIA

## Emergency alert: Resistant Palmer amaranth is spreading around the summer rainfall region of South Africa

### Palmer amaranth invaded South Africa in 2018

One of the most aggressive weeds that has ever invaded South Africa, the Palmer amaranth (*Amaranthus palmeri*), has been confirmed on a maize farm in the Potchefstroom district of the North West province. This weed, which is also known as the Palmer pigweed, is related to other indigenous *Amaranthus* species.



Figure 1. Mature Palmer amaranth plants in full bloom

The threat posed by this weed compared to its indigenous relatives, is that it is resistant to at least six herbicide modes of action and cannot be controlled, for example, with glyphosate (amongst others). The weed was discovered in the Douglas district of the Northern Cape in 2018 and initially identified by weed scientist Prof Charlie Reinhardt with the aid of DNA analysis. Weed scientists from various academic institutions, the Agriculture Research Council, CropLife SA supply members and the Herbicide Resistance Action Committee (HRAC) drafted identification bulletins (<https://croplife.co.za/HRACPalmerA>) and an emergency eradication plan (<https://croplife.co.za/PalmerAmaranth>). An Afrikaans guide for identification was also developed by SAHRI (<https://croplife.co.za/PalmerIDGids>). This was widely circulated in

2018 to catalyse a response from crop farmers in the summer rainfall region of South Africa. CropLife SA also engaged the Department of Agriculture, Land Reform and Rural Development by requesting the Minister in writing (September 2018) to declare the Palmer amaranth as an invasive species under the Conservation of Agriculture Resources Act, 1983 (Act No. 43 of 1983), involving officials in the Palmer amaranth action committee, and following up with written communications. A draft regulation to this effect was published on 24 December 2020 but the department has not yet formally promulgated the regulation to put control measures into effect.

### The weed is spreading to other areas

During 2020, researchers discovered populations of this dangerous weed in the Limpopo Valley close to Pafuri and Mapungubwe, and Howick in KwaZulu-Natal. There is also a strong suspicion that the Palmer amaranth has hybridised with local *Amaranthus* species like *Amaranthus hybridus*; the hybrids do not resemble the Palmer amaranth, but DNA analysis confirmed that the plants that expressed strong resistance to herbicides, are most likely hybrids of *A. hybridus* and *A. palmeri*. The most recent discovery of the Palmer amaranth in Potchefstroom is of serious concern because it means the summer rainfall grain farming areas are likely to be invaded by this weed that will jeopardise crop production.



Figure 2. Palmer amaranth in maize. George Prinsloo

### Decisive action is critical

CropLife SA urges all crop farmers and crop advisers to expend all efforts to eradicate the Palmer amaranth and all other *Amaranthus* species that occur on farms. The reason for such drastic measures is that the Palmer amaranth



hybridises with other Amaranth species and transfers its herbicide resistance to such hybrids.



Figure 3. Stands of young Palmer amaranth plants. George Prinsloo

The Palmer amaranth also progressively develops resistance to herbicide modes of action that have been used successfully thus far, and therefore leaves farmers with little options to combat the invasion. Maize farmers are at severe risk of losing their crop fields to this weed if they do not take immediate action to eradicate the weed and to prevent it from seeding. Refer to the emergency eradication plan and implement all the elements of the plan. Failure to eradicate the Palmer amaranth at farm level will result in devastating weed impacts on crop production.

Farmers are also cautioned against buying animal fodder from areas where the Palmer amaranth is present because seeds may be present in feed that will infest Palmer amaranth free areas with the weed. It is a known fact that many Amaranth seeds are not destroyed by the ruminant digestive system and are able to pass through unharmed and remain viable, hence the common Afrikaans name “misbredie”.

#### **Quotes from industry leaders and researchers about the Palmer amaranth**

Chairman of the South African HRAC, Cullen Botes, said from international experience, that the Palmer amaranth is one of the most noxious weeds and one of the weeds with the most confirmed resistance against the largest number of different herbicide modes of action. He said that the resistance of the Palmer amaranth against such a vast number of herbicide modes of action, is of serious concern. He warned farmers that it may not be possible to produce soybeans, dry beans and peanuts if the weed invades these production areas because very few herbicides are registered, especially for post-emergent broadleaf weeds, in these crops. It is unlikely that these crops will survive the onslaught of the Palmer amaranth. International data shows that the Palmer amaranth is present as a serious invasive plant in six countries and is resistant to 36 active ingredients of nine herbicide modes of action.

CropLife SA CEO, Rod Bell, said that the Palmer amaranth may destroy crop farming in summer rainfall areas if farmers do not expend all efforts to curb the spread of this aggressive weed. This was echoed by Chris Thompson of Laeveld Agrochem whose distribution company and crop advisers confirmed the presence of Palmer amaranth in the Potchefstroom district with the assistance of weed Professor Charlie Reinhardt. Professor Juan Vorster of the University of Pretoria already warned of Palmer amaranth spreading from the Northern Cape into other areas in 2020. He strongly suggested that this weed can potentially hybridise with indigenous Amaranthus species which will make crop farming extremely challenging if radical action is not implemented immediately.



Figure 4. Young Palmer amaranth plants showing signs of resilience against herbicides. George Prinsloo

Dr Maryke Craven of the Agriculture Research Council who assisted with the drafting of the information bulletins on the Palmer amaranth, expressed her fear for summer grain farmers if this aggressive weed is not rapidly brought under control. The spread of this weed to the summer production areas of South Africa will change the agricultural landscape of glyphosate tolerant crop technology in South Africa forever. It may sound excessive to call for eradication, but there is no other option than to remove the species completely from the South African agricultural sector - if not to secure and protect own production fields, then to protect those of neighbours. South African farmers can ill afford to ignore this dangerous weed and must collectively explore all possible avenues to rid the country of a species that spells doom for row crop farmers.

CropLife SA urgently requests that all farmers in the summer rainfall areas, especially those that grow maize, lucerne, cotton and beans do not leave any Amaranthus weeds unattended and eradicate such plants with mechanical means and the correct combination of herbicides as advised in the emergency eradication plan. Seedlings are the most vulnerable to the recommended herbicides, but once plants start flowering, they become increasingly difficult to control. Farmers need to act immediately or face extremely difficult weed infestations if they do not follow the advice of the plant science industry and weed scientists.

For more information, please contact:

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# Pollinator safety – just bee responsible

Elriza Theron, Marketing and Communications Manager  
SA Grain – February 2022



**The crucial role of pollinators in agriculture is well-known, but is it well-known enough, or rather adequately conceptualised by those whose actions could negatively impact these pollinators? When looking at some of the incidents that occurred over the past few years, incidents that could so easily have been avoided, it makes you wonder. Although there are many factors that impact bee health, such as diseases, poor nutrition, adverse climatic conditions or lack of genetic diversity and lineage, the irresponsible use of pesticides (emphasis on irresponsible) should certainly not be one of them.**

There are many ways to ensure that crops are protected from the diseases, weeds and insects that threaten them, while at the same time safeguarding pollinators from the possible risk of these products. Some of these considerations when planning a spray programme are discussed below.

## **Follow the label...always**

Just because a product is toxic to pollinators in a laboratory environment, does not mean that it cannot be applied safely with minimal risk in the field, provided of course that all the necessary instructions are followed. Registered pesticides in South Africa have undergone stringent toxicological and safety reviews, including impacts on human and environmental health, which is why products that are hazardous to pollinators come with a pertinent warning on the label, along with exact instructions to ensure the risk is mitigated. If these instructions are not followed, it is a contravention of Regulation No. R1716 of 26 July 1991 under Act No. 36 of 1947, meaning the application is illegal.

The label is also the first port of call to see if the intended product is indeed registered for that specific use, including application method and target crop. If producers are unsure about the product label, or if they would like the option to specifically search for registered products by crop, pest or active ingredient, they could consider subscribing to Agri-Intel ([www.agri-intel.com](http://www.agri-intel.com)), which contains the label information of most of the registered crop protection products in South Africa.

## **Good agricultural practices**

There are a number of basic agricultural principles that can be followed to ensure pollinator safety when applying crop protection products. The first is to practise integrated pest management, which means combining a variety of cultural, mechanical, biological and chemical crop protection methods, and only applying pesticides when absolutely necessary. Once it is established that chemical pest control is the most viable method, producers must use application techniques that ensure minimal spray drift, such as applying

directly onto the target, avoiding application in windy conditions and avoiding night-time application when inversion conditions could prevent successful deposition of the product.

The best application time with regards to pollinators is probably either early evenings when bees have returned to their hives or early mornings before the bees start work, but under no circumstances should application take place while bees are active in the field. Remember that once pesticides are dried off, they pose very little risk to bees, so the aim is to avoid any direct contact, or risk of contact such as when crops are in bloom, when applying these products. Scouting and monitoring are not just good for knowing whether there are any pollinators active in the area, but also for identifying problem pests at an early stage, which could prevent the need for pesticide application during bloom.

Another good practice is to know the products that you are using well, including the residues and amount of time that the product might still be toxic to bees, for example systemic insecticides have longer periods of residual activity. For obvious reasons, pesticides should never be mixed with substances that could be a lure for pollinators.

There are some resources available on the CropLife SA website (<https://croplife.co.za/crop-protection/#marketing>) that summarise these, including a poster which may be distributed on the farm as well as a short video.

## **Communication is key**

Strangely enough, many instances of pollinators being adversely affected by pesticides occur because of a basic lack of communication between farmers and beekeepers. With the enormous amount of communication methods and platforms available today, informing beekeepers of intended application activities is a simple exercise, and vice versa for beekeepers to inform farmers when their bees are busy in the fields. Remember that no environmental system operates in a void and actions always have reactions, whether intentional or not, therefore the simple act of communication can go a long way in avoiding any unintended consequences.

This is why the crop protection industry, together with a number of grower and beekeeping associations, have committed to ensuring that their activities are conducted in such a way that pollinator safety is a key priority in the form of a charter. The charter can be viewed at <https://croplife.co.za/PollinatorCharter> and CropLife South Africa encourages anyone who is involved in any activity that could affect pollinators, to adhere to the commitments set out in the document.



# Die stand van sake met die bruin sprinkaanuitbraak

Dr Gerhard H Verdoorn  
Bedryfs- en rentmeesterskapbestuurder  
AgriAbout – Januarie 2022

## In die begin

**November 2019 was 'n keerpunt in Suid-Afrikaanse weersomstandighede toe reën alreeds oor baie groot dele van die land se somerreënvalgebiede uitgesak het en steeds voortgeduur het. Die Karoo wat deur die ergste droogte in meer as 100 jaar amper vernietig was, het ook die seëning van die milde reëns ontvang. Saam met al die blydschap was daar egter ook die vermoede dat die sluimerende bruin sprinkane van die Nama-Karoo bloom hulleself sou gereedmaak vir 'n redelike stewige uitbraak. Alles was in plek: nat grond, lekker warm lugtemperatuur en voortdurende reën. Die voorbodes van sprinkaanuitbrake is soos grafure in ysterklip: vogtige grond, gemiddelde dag- en nagtemperatuur van nie minder as 16 grade Celsius nie en humiditeit wat raak aan 30%. Dit is die goue reëls vir die bruin sprinkaan se eierpakkies om uit te broei. Die eierpakkies kan vir jare dormant in die grond lê en wag vir die regte klimaatomstandighede en dan uitbroei om die wêreld met swerms van biljoene insekte te besaai.**

Net voor die Covid-19 pandemie wêreldwyd geïdentifiseer is, het die eerste oproep uit die Karoo CropLife SA bereik: dit was 3 Februarie 2020. Ons het onmiddellik opgevolg met noodwaarskuwings want CropLife SA het reeds in November 2019 voorspel dat daar 'n stewige uitbraak gaan wees. Dit het nie lank geduur voordat klein swerms van oral uit die oostelike dele van die Noord-Kaap se Karoo aangemeld is nie. Daar was selfs enkele berigte uit die Kalahari rondom Upington en selfs verder Noord, maar dit was nie asof swerms die aarde oorgeneem het nie. Sprinkaan uitbrekings begin gewoonlik die eerste jaar met klein swerms wat meestal deur die beheeraksies uitgewis word.

## Die tempo neem toe

Die na-winter van 2020 het skokkende nuus gehad: sprinkane het reeds vroeg in Augustus begin uitbroei en dit het niks goeds vir die somer van 2020/2021 voorspel nie. Boere en die Departement van Landbou is effens onkant gevang met die vroeër as verwagte uitbraak, maar steeds was dit nie of die swerms die hele Karoo oorgeneem het nie. Daar is wel groot swerms veral vanaf die N1 ooswaarts van Colesberg aangeteken en plekke soos Graaff-Reinette het redelik baie sprinkane gehad. Oor die Kerstyd van 2020 het die swerms begin vlieg en weereens was die reën 'n katalisator vir nuwe eiers wat gelê is en orals uitgebroei het. Bruin sprinkane is sover as Askam in die Kalahari aangeteken en die aanduidings was sterk dat hulle uit Namibië en die suide van Botswana oorgespoel het. Rondom Maart en April was streke soos Beaufort-Wes, Aberbeen, Graaff-Reinet en Jansenville oortrek met sprinkaanwerms maar die goeie plantaanwas in die Karoo het die druk van die miljarde bekke goed hanteer. Die groot skok het in Mei 2021 gekom toe boere by Bultfontein 'n magtige swerm ontdek het. Die geskatte oppervlakte wat deur die swerm gedek was, was meer as 20,000 hektaar.

Die swerm het sterk ooste toe beweeg en het by Bothaville homself in die landbougemeenskap en die Departement Landbou vasgeloop wat in twee dae se tyd die swerm so te sê uitgewis het; dit was 'n noodsaaklike aksie om te voorkom dat die diersies eiers lê wat die somer se mielie-aanplantings kon bedreig. Wat my gepla het was die sprinkane wat ek 16 Junie 2021 in die middel van die winter in Graaff-Reinet waargeneem het. Dit was 'n teken dat die groot verdriet oppad was, maar dit het stil geraak, tot in Oktober 2021 toe die sprinkane ontplof het. Die Kenhardt-Van Wyksvlei area waar sprinkane tradisioneel uitbroei, het reën gekry en ongekende reën het oor die



grootste deel van die Karoo en Kalahari geval. Alle toestande was ideaal vir 'n massiewe sprinkaanuitbraak en die eerste gevaartekens was aanmeldings in Cookhouse en Cradock wat selde of ooit sprinkane beleef. Daar was selfs klein swerms naby Kirkwood in die Oos-Kaap aangeteken.

### **Die groot golf sprinkane**

Foto's en video's van sprinkaanswerms orals oor die Karoo en Kalahari het die selfoonnetwerke in Desember warm gehad met mense wat paniekerig rondgeskarrel het vir inligting oor die beheer van die plaag. 'n Reuse swerm sover as die oog kon sien was rondom Colesberg deur verskeie reisigers en inwoners aangemeld. Dit was onmoontlik om die swerm se werklike grootte te skat maar dit moes duisende hektare gewees het. De Aar se inwoners het ook deurgeloop terwyl Upington op die Gariëp deur 'n golf vlieënde sprinkane ingeval is. Verder noord na Askam en Van Zylsrus het die sprinkane ook in massas opgedaag, gevreet en eiers gelê. Gelukkig was die sprinkaanbeheerspanne op volle sterkte en het die swerms goed geknou. Dit was seker een van die grootste uitbrake in dertig jaar. Dit raak nou weer rustiger maar die volgende vlag is waarskynlik alreeds aan die uitbroei en swerms kan tot so laat as einde Mei van 2022 nog voorkom.

### **Skade voorsaak of nie?**

Daar is kolle veld net suid van Graaff-Reinet waar ek kon sien hoe die sprinkane die veld omtrent 20% geknou het maar die nat veldtoestand sal daardie plante vinnig laat herstel. Sover ons kennis strek, was daar tot en met einde Januarie 2022 geen gewasskade aangemeld nie, alhoewel sprinkane bitter naby aan die somergraangebiede uitgekom het. Die veldskade is onbeduidend die sprinkane se mis, plus die wat in die slag gebly het tydens beheeraksies, voed weer die veld met bemestingstowwe. Suid-Afrika kan dankbaar wees vir die uitsonderlike goeie reën want dit het die veld gered.

### **Beheeraksies**

Die staat, by name Departement Landbou, het 'n mandaat om die bruin sprinkaan en die rooibekvink te beheer. Dit beteken dat die staat alles in sy vermoë moet doen om te keer dat sprinkaanuitbrake nie katastrofies raak nie. Daar is 'n netwerk van distriksprinkaanbeamptes met spuitspanne wat met die korrekte newelblasers toegerus is en van die twee geregistreerde piretroëdinsekdoders voorsien word. Die mandaat om sprinkane aan te meld, lê by grondeienaars maar CropLife SA het die publiek ook gekataliseer om sprinkane aan te meld sodat die plaag se omvang en ontwikkeling so noukeurig as moontlik aangeteken word. Wanneer grondeienaars of lede van die publiek sprinkane aanmeld, word die kennisgewing dadelik na die kantore op De Aar en Upington gestuur waar die sprinkaanbeamptes dan die distrikte aktiveer om die nodige aksie te neem. Wat nogal bemoedigend is, is dat baie grondeienaars die nuwe uitbroeisels met wildtroppe en veetroppe laat vertrap, wat seker die mees omgewingsversoembare metode van beheer is. Ander grondeienaars het hul eie spuittoerusting aangekoop en gebruik dan die insekdoders wat deur die staat voorsien word.

Die afgelope drie maande was daar ook 'n groot bydrae van Moeder Natuur om die sprinkane te demp. Derduisende klein swartooievaars en witoeievaars is oral waar sprinkane was opgemerk en mens kan net indink hoeveel tonne sprinkane deur 'n swerm van etlike duisende ooievaars opgevreet word. Gelukkig is die piretroëde se giftigheid vir voëls baie laag en daar word nie eers 15 gram van die aktiewe bestanddeel per hektaar gebruik

nie. Die risiko vir voëls en ander werweldiere is baie laag.

Die Departement Landbou en die boere het ook besef dat die beste beheer verkry word as die sprinkane vroegoggend, laatmiddag of snags bespuit word waar hulle in digte kolle op die grond en plantegroei rus. Dit beteken dat die insekdoders teikengerig aangewend word en baie effektief is.

### **Die vooruitsigte**

Dis haas ondenkbaar dat die sprinkane bloot in die volgende paar maande gaan verdwyn. Die kans dat die plaag tot in 2023 gaan voortduur is baie goed omdat die Karoo se klimaat gunstig vir opvolg generasies is. Almal het 'n verantwoordelikheid om sprinkane aan te meld en die maklikste is om 'n boodskap per WhatsApp na CropLife SA se inligtingsnommer te stuur by 082 446 8946 vanwaar die inligting direk na die Departement van Landbou gestuur sal word. 'n Woord van waarskuwing van CropLife SA se kant aan grondeienaars is om nie los te trek met eie tuismengsels van gewone piretroëde en diesel nie, want dit is soos 'n kernbom in die ariede ekosisteem. Diesel is nie alleen giftig vir plante en dierelewe nie maar verdamp ook baie stadig wat die effek daarvan op die omgewing vir jare laat voortduur. Wees verantwoordelik en volg die reëls: maak slegs gebruik van die middels wat deur die staat voorsien word want dit is spesiaal geformuleer om sprinkane met so min as moontlik daarvan uit te wis. Meld ook enige uitbrake by CropLife SA aan sodat die sprinkane reeds in die voetgangerstadium beheer kan word en nie in vlieërswerms ontwikkel nie. Die kontakbesonderhede vir die De Aar sprinkaankantoor van die Departement van Landbou is 053 631 3621 en Upington is 083 326 7773.



# Producing more with less: How innovation in agriculture is making every drop count

Chantel Arendse

Lead: Plant Biotechnology

AgriAbout – February 2022



**The world's water supply is fast becoming a scarce and precious resource. A recently released FAO report provided details on the deteriorating state of Earth's land and water resources, highlighting the challenges that farmers face to sustainably feed a growing world population expected to reach 10 billion by 2050. It is no secret that agriculture accounts for up to 70% of global water use. On average, it takes 3,000 litres of water to produce the food requirements of just one person per day and up to 17,000 litres of water to produce just 1 kilogram of chocolate. These staggering statistics highlight the huge responsibility of agriculture and most especially, our farmers, to conserve water and protect this life-giving resource. As the impact of climate change is being felt globally with the increased frequency of droughts and extremes in temperatures, there is a growing urgency for agriculture to adapt and equip farmers with the necessary tools to produce more with less.**

Agriculture in the 21<sup>st</sup> Century has made significant strides and is technologically more advanced than ever before. Farmers have already made significant progress to reduce their water use through conservation tillage, the use of higher yielding varieties, crop protection technologies and improved irrigation techniques. Farmers' efforts to conserve water are paying off – for example cotton production today requires 50% less irrigated water compared to 20 years ago. But it's going to take an even bigger effort to improve agricultural productivity and efficiency to keep up with global food demands in an environmentally sustainable way that protects our limited water supply. Let's take a closer look at how innovative tools in agriculture are helping our farmers to minimise their water usage.

## **Plant biotech traits ensuring more crop per drop**

Over the past 25 years, farmers in both developed and developing countries have widely adopted biotech varieties in key crops such as maize, soybean, cotton and canola. The global uptake of biotech crops has been dominated by insect resistant and herbicide tolerant traits and have indirectly contributed to farmers' efforts to sustainably produce more food with less water. The planting of herbicide-tolerant crops has facilitated the use of less toxic herbicides, better weed control and the adoption of no till farming (conservation tillage). These practices have assisted water conservation efforts by reducing weeds from competing with crops for water and encouraging zero tillage of soil, leading to significant improvements in soil moisture content.

The adoption of insect resistant crops, offering built-in protection against targeted pests, have helped to reduce crop losses due to insect damage and the need for pesticide applications. In this way water resources are conserved by limiting water wastage through production losses and reducing water requirements associated with pesticide applications. South Africa, being a water scarce country, has fortunately been an early adopter of biotech crops with herbicide tolerant and insect resistant traits. With the majority of South African farmers opting to plant biotech cotton, maize and soybean, they too have been able to play their part by farming with technology that promotes efficient utilisation of the country's precious water resources.

Other more direct ways that plant biotech traits are helping to meet global food demands with less water is through the deployment of drought tolerant crops. Drought tolerant varieties enable plants to utilise water more efficiently by stabilising crop yields under moderate drought conditions. Drought tolerant technology is already commercially available in South Africa. In sub-Saharan Africa, which is generally more prone to drought and dependent on rainfall for crop production, drought tolerant varieties are being rolled out through a public private partnership known as the TELA maize project. This initiative is working towards making transgenic drought tolerant and insect protected maize varieties available royalty free to smallholder farmers in selected countries in Africa to help boost food security during times of drought.

## **Maximising plant breeding innovation to reduce water use**

Groundbreaking innovations in plant science over the past decade have given us novel plant breeding tools. These breeding tools consists of various genome editing techniques, such as CRISPR (clustered regularly interspaced short palindromic repeats), that is widely being used in agricultural research applications to address a number of key challenges. What sets genome editing techniques apart from older genetic engineering technology, is that these tools enable targeted genetic improvements in crops, in a more precise, cheaper and faster way without the need for introducing foreign DNA. The accessibility and advantages of genome editing tools offer exciting prospects for present and future agricultural innovation, including providing farmers with sustainable solutions to counter the myriad of challenges they face due to climate change and the declining availability of resources. While there are no gene edited crops with water efficient traits on the market yet, intensive research efforts are underway to design crops that require less water to grow.



Here are some examples of how these novel technologies are helping crops to adapt in water scarce environments.

- **Drought tolerance** in crops is a very complex trait that involves a number of genes. Genome editing tools are being used to target various drought related genes in order to improve the ability of plants to thrive during prolonged drought conditions. Technology applications for drought tolerance and durability to extreme temperatures are progressing in cereal crops such as maize, rice and wheat as well as in more traditional crops such as sorghum, yams, cowpea and bananas.
- Gene editing applications are being used to alter the genetics of rice plants to enable earlier flowering and crop maturation. These trait improvements would make rice crops more amenable to thrive under changing climatic conditions and the shortened life cycle through early flowering means that less water would be needed for growth.
- **Water-use efficiency** in plants is also part of the innovation pipeline. Based on our understanding of how photosynthesis works in plants, with the use of gene editing tools, researchers have successfully managed to modify a single gene in tobacco, that tricks the plants into

closing tiny pores (stomata) on the surface of its leaves to minimise water loss. The end result is tobacco plants with up to 25% better water-use efficiency i.e. less water absorption from the soil. The demonstrated success with water-use efficiency in tobacco is currently being tested in other important food crops such as maize and soybean.

#### **Protecting our water to secure our future and our food**

Every single day, farmers around the world are using innovative tools and technologies to produce more with less. Innovations in plant science are playing a critical role in helping our farmers to conserve water and combat drought through an expanding toolbox of sustainable solutions. We can all agree that water is a precious resource that we cannot live without. Ensuring sustainability in agriculture under worsening conditions due to climate impacts, disease and pest pressure and deteriorating natural resources, places a huge responsibility on our farmers. Fortunately, technologies such as plant biotech and genome editing are lending a helping hand so that farmers strike a perfect balance between protecting agriculture's precious water resources and feeding the world's growing population.

## **Uitgebreide produsent verantwoordelijkheid - wat beteken dit vir graanprodusente?**

Dr Gerhard H Verdoorn  
Bedryfs- en rentmeesterskapbestuurder  
AgriAbout – Maart 2022

Die hele wêreld is een groot rommelhoop met letterlik miljoene tonne vaste afval wat landskappe en waterbronne besoedel. Verpakkingsmateriaal is een van die ergste besoedelaars en word bloot deur verbruikers weg gegooi sonder enige idee van die enorme risiko wat dit vir die omgewing en vir mense inhou. Ons leef in wêreld waar verpakkings dikwels oormatig is, en in sommige gevalle selfs totaal oorbodig is. Verpakkings mag egter noodsaaklik wees om sekere kommoditeite veilig te kan vervoer en daarmee handel te dryf. Plantbeskermingsmiddels moet noodwendig in stewige en ondeurdringbare houers verpak word omdat dit oor die algemeen as gevaarhoudende stowwe geklassifiseer is. Die oorgrote meerderheid van plaagdoderverpakking kan herwin en verwerk word, maar nie alle produsente onderskryf 'n herwinningskultuur nie. Daardie leë plaagdoderhouers wat nie herwin word nie, beland iewers op 'n stortingssterrein met miljoene ton ander vaste afval of word deel van veral plastiekbesoedeling wat varswaterbronne en die mariene-omgewing besoedel. Die Departement van Bosbou, Visserye en Omgewing (DFFE) het 'n geruime tyd al 'n ernstig standpunt begin inneem en 'n beleid saamgestel om die massiewe probleem van afval aan te spreek. Die afgelope twee jaar het nuwe regulasies ingevolge die Wet op Nasionale Omgewingsbestuur: Afval, 2008 (Wet No. 59 van 2008) die lig gesien om 'n nuwe bestuursraamwerk vir Suid-Afrikaanse verpakking te bewerkstellig. Die doel van hierdie nuwe Uitgebreide Produsent Verantwoordelijkheid (Extended Producer Responsibility of EPR in Engels) regulasies, is om vervaardigers van kommoditeite te verplig om strategieë en werkbare planne saam te stel om verpakking van hul kommoditeite te herwin en te verhoed dat dit in reeds oorvol stortingssterreine beland.



Verpakking bevat allerhande materiale soos polimeerplastiek, papier, karton, staal en aluminium. Dit is baie interessant om te sien wat 'n groot persentasie verpakking herwin en verwerk kan word. Een van die beste voorbeelde is PET (poliëtileen tereftalaat) koeldrankbottels waarvan ons elke jaar miljoene in Suid-Afrika gebruik. Nie een van hierdie bottels hoef na 'n stortingssterrein te gaan nie, want dit kan als ingesamel, skoongemaak en verwerk word en die materiaal kan dan gebruik kan word om nuwe koeldrankbottels te vervaardig. Daar is skaars 'n verpakkingsmateriaal wat nie herwin kan word nie. 'n Goeie idee om by te leef is "my

verpakkingsafval is iemand anders se lewensbestaan”, want daar is duisende afvalversamelaars wat uit afvalmateriaalherwinning ‘n bestaan maak.

Die DFFE het onlangs die EPR-regulasies aangekondig om die onus vir die herwinning van verpakkingsmateriaal direk in die hande van vervaardigers te plaas. Verskillende EPR-kennisgewings begin ook na vore kom om die toepaslike bestuur van verskillende afvalstrome te lei. Daar is reeds EPR-kennisgewings vir papier- en plastiekverpakking.

### **Wat van plaagdoderverpakking?**

Die DFFE het besef dat gevaarhoudende stowwe en hul verpakking ‘n ander benadering tot herwinning van die normale verpakking benodig. ‘n Plaagdoderhouer hou intrinsiek ‘n sekere gevaar en risiko in terwyl ‘n PET-koeldrankhouer nie gevaarlik is nie en van baie lae risiko vir mense is, maar as dit nie herwin word nie, hou dit ‘n langtermynrisiko vir die omgewing in. Die materiaal van leë plaagdoderhouers kan nie in dieselfde kanale as ander verpakkings vir herwinning gekanaliseer word nie uit vrees vir die besoedeling van materiale wat bedoel is vir verbruikbare goedere se verpakking. Daar is dus deur die DFFE besluit om ‘n plaagdoder-EPR-kennisgewing te promulgeer om plaagdoderverpakking afsonderlik van enige ander verpakking te hanteer. CropLife Suid-Afrika het baie nou met die Hoofdirekoraat: Gevaarhoudende Afvalbestuur en Lisensiëring van die DFFE saamgewerk om die kennisgewing saam te stel. Die plaagdoder EPR-kennisgewing sluit verdermeer verouderde plaagdoders in, insluitend om alle plaagdoderverpakking aan te spreek.

### **Die wieg-tot-graf beginsel**

Die rentmeesterskapbeginsels van CropLife Internasionaal, wat ook deur CropLife SA onderskryf word, bepaal dat die verskaffer van ‘n plaagdoder verantwoordelikheid neem vir ‘n plaagdoder, vanaf die ontdekking van so ‘n entiteit, tot aan die einde van sy lewensiklus. Dit is 100% in ooreenstemming met die gees van die plaagdoder EPR-kennisgewing wat die vervaardiger verplig om te sorg vir die herwinning en wegdoening van enige leë verpakking en uitgediende materiale. CropLife SA se verskafferslede is ten volle bewus van hierdie verantwoordelikheid en omhels dit in die breë.

### **Afvalskepper teenoor verskaffer: wie is verantwoordelik?**

Ons koop almal kommoditeite in verpakking en skep noodwendig afval daaruit. Goeie burgerskap beteken dat ‘n afvalskepper, hetsy in die dorp of op ‘n plaas, op sy of haar vlak die beste sal poog om sulke afval te herwin, nie die omgewing te besoedel of ‘n risiko vir mense in te hou nie. Die groot vraag is wat die afvalskepper met die leë verpakking moet doen? Dit is presies waarvoor die plaagdoder EPR-kennisgewing handel: die uitreiking van ‘n mandaat aan alle plaagdodervervaardigers om meganismes te vestig vir boere om van enige plaagdoderverpakking en uitgediende materiaal wettig en verantwoordelik ontslae te raak volgens die afvalbestuursregulasies, Nr. R634 van 23 Augustus 2013. Die onus vir afvalbestuur is dus ‘n gedeelde verantwoordelikheid tussen afvalskeppers en produkverskaffers.

### **Verskillende rolle en verantwoordelikhede**

Die vervaardigers van plaagdoders moet werkbare planne en infrastruktuur hê om voorsiening te maak vir die versameling en wegdoening en/of herwinning van plaagdoderhouers. Die EPR-regulasies maak voorsiening vir bedryfslede om gesamentlik te werk deur ‘n “Product Responsibility Organisation” (PRO) te stig wat die proses namens sy lede bestuur. CropLife SA is die de facto PRO vir plaagdoderverpakking (maar nie noodwendig alle vervaardigers is verteenwoordig nie) en sal dus verantwoordelik wees vir

die bestuur van die versameling en herwinning van plaagdoderverpakking namens die lede van die PRO. Dit beteken dat CropLife SA die infrastruktuur en middele sal moet hê vir boere om met die minste moeite van hul leë plaagdoderverpakking ontslae te raak. CropLife SA is in ‘n bevoorregte posisie om ‘n netwerk van meer as 137 CropLife SA-gesertifiseerde verwerkers reg oor Suid-Afrika te hê wat leë verpakking van die plaas versamel of in ontvangs neem en feitlik alles word na ander kommoditeite verwerk. CropLife SA sal ook ‘n insameling- en vernietigingstelsel vir uitgediende plaagdoders opstel.

Die eienaars van leë plaagdoderverpakking, wat boere en verbruikers is, is op ‘n ander vlak verantwoordelik as dit waar vervaardigers hulself bevind. Hul verantwoordelikheid lê op ‘n dieper vlak, naamlik op die vlak van die afvalbestuursregulasies soos hierbo genoem. Hierdie regulasies klassifiseer materiale soos leë plaagdoderhouers as gevaarlike afval en verhoog die verantwoordelikheid van die eienaars van sulke houers tot ‘n baie hoë vlak. Enige persoon wat gevaarhoudende afval stoor, vervoer en verwerk, moet aan die vereistes van spesiale lisensiëring voldoen. Daar is egter lig aan die einde van ‘n donker tunnel: die Suid-Afrikaanse Nasionale Standaard SANS10402 klassifiseer enige verpakking van gevaarlike materiale wat deur die voorgeskrewe metodologie skoongemaak word, as nominaal leeg, wat beteken dat sulke verpakking nie meer as gevaarlike afval geklassifiseer word nie, en gestoor, vervoer en verwerk mag word sonder die gevaarlike afvalbestuurslisensiëring. Die enigste vereiste wat van die nasionale wetgewing na plaaslike owerhede afgewentel word, is dat normale afval (nie gevaarlike afval nie) nie langer as drie maande gestoor mag word voordat dit verwerk of verwyder word nie.

Boere het dus ‘n paar gefokusde verantwoordelikhede, naamlik om plaagdoderhouers skoon te maak deur driemaal te spoel volgens die CropLife SA riglyne en sulke houers na CropLife SA-gesertifiseerde verwerkers te neem. So eenvoudig soos dit. CropLife SA se verantwoordelikheid is om te verseker dat boere wegdoenpunte in hul onmiddellike gebiede het waar boere driemaal gespoelde leë houers kan aflaai. Ons moet ook verseker dat die gesertifiseerde herwinners binne die wetlike raamwerk van afvalbestuur hul sake bedryf en alle plaagdoderverpakking dienoreenkomstig bestuur.

### **Sal die EPR boere enigiets kos?**

Almal is altyd bekommerd oor koste, al vaar die landbousektor finansiëel goed. Die koste vir die implementering van die plaagdoder EPR lê by die verskaffersmaatskappye. ‘n Groot voordeel tot dusver is dat die herwinners hulleself befonds en nog nooit op enige ander partye vir finansiële insette staatgemaak het nie. Boere hoef nie vir dienste te betaal nie, maar wanneer daar bevind word dat houers nie nominaal leeg is nie, sal hulle die dienste van ‘n gevaarhoudende afvalbestuursmaatskappy benodig wat die eenaar van sodanige afval sal faktureer vir die verwydering en vernietiging daarvan. Die koste kan tot R45 000 per ton wees. Dit is dus die boer se besluit: spoel ek drie keer en laai dan die skoon houers by ‘n CropLife SA-gesertifiseerde verwerker af, of bestee ek my inkomste van 15 ton mielies om van gekontamineerde leë houers ontslae te raak? Ons glo dat die antwoord redelik eenvoudig is.

Vir die nuutste lys van CropLife SA-gesertifiseerde verwerkers, sien die skakel [https://croplife.co.za/Collectors\\_Recyclers](https://croplife.co.za/Collectors_Recyclers). Die driemaal spoelriglyne is op <https://croplife.co.za/TRPoster> in plakkaatformaat beskikbaar.



# Hoe lank bly plaagdoders gevaarlik?

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SA Graan – April 2022

Alle plaagdoders word aan verskeie studies onderwerp om die effektiwiteit, plantveiligheid, omgewingsveiligheid en menslike veiligheid daarvan te evalueer. Dit is 'n vereiste wat wêreldwyd geld vir chemiese, natuurlike sowel as biologiese plaagdoders.

## Plaagdoders se lewensduur

Een van die omvattendste studies is die bestudering van die afbraakkurwe van die plaagdoder se aktiewe bestanddeel. Hier word vir eetbare gewasse bepaal hoe lank dit vir die molekule of organisme neem om so ver af te breek dat die residu van die chemiese middel of biologiese organisme onbeduidend raak wanneer dit kom by menslike gesondheid. Die interessante ding is dat 'n molekule se afbraakkurwe van gewas tot gewas verskil as gevolg van die gewas se groeipatroon; fisiese oppervlakstruktuur, asook oppervlakbedekking, soos byvoorbeeld 'n waslaag of fyn haartjies; blootstelling aan ultravioletbestraling van die son; besproeiing; natuurlike presipitasie soos reën en dou; gemiddelde atmosferiese temperatuur en gemiddelde atmosferiese vogtigheid.

Die molekule of lewende organisme (in die geval van biologiese plaagbeheermiddels) se afbraakkurwe sal bepaal hoe lank na die laaste aanwending die gewas gelaat moet word voordat dit geoes en/of benut mag word. Dit het bitter min met die toksisiteit of giftigheid van die middel te doen. Sommige uiters giftige middels, soos metomiel, het dikwels 'n baie vinniger afbraakkurwe as wat 'n matig giftige middel, soos sipermetrien, het. Studies in veldtoestande word benodig om die middel se afbraakkurwe vir elke gewas te bepaal. Daardie kurwe sal bepaal wat die vooroes-interval of onttrekkingsperiode moet wees – soos wat bo verduidelik is – en sal ook afhang van die maksimumresidulimiet (MRL) op elke gewas. Die MRL is daardie toegelate hoeveelheid van die middel wat tydens oes op die gewas teenwoordig mag wees ten einde nie 'n risiko vir mense of diere in te hou nie.

Tabel 1 dui aan hoe drasties die vooroes-intervalle (VOI) van verskeie middels op verskillende gewasse van mekaar verskil. Alle data is vanaf geldige etikette van geregistreerde middels verhaal, soos aangedui op Agri-Intel ([www.agri-intel.com](http://www.agri-intel.com)). Die vooroes-intervalle moet altyd op etikette aangedui word en is meestal onder die voorsorgmaatreëls vir alle gewasse gelys.

**1 VOOROES-INTERVALLE VAN VERSKILLENDE AKTIEWE BESTANDDELE VIR GEWASSE.**

AKTIEWE BESTANDDEEL/ GEWAS	DELTAMETRIEN IN DAE	CHLOORPIRIFOS IN DAE	INDOKSARB IN DAE
Droëbone	7	32	3
Mielies	14	32	3
Perskes	21	*	28
Koring	21	32	42
Sitrus	*	60	*
Koolgewasse	3	7	3
Tamaties	2	4	28

\* Middel is nie vir die gewas geregistreer nie.



## Die verwantskap tussen VOI, dosis en MRL

Die VOI is direk verwant aan die voorgeskrewe dosis. As die dosis soos aangedui op die etiket oorskry word, is die kans 100% dat die VOI te kort sal wees om die middel kans te gee om af te breek tot by of onder die toegelate MRL. Dit beteken dat oordosering veroorsaak dat eetbare gewasse hoër residue van plaagdoders as die MRL het.

Vir elke gewas bestaan daar 'n regsgeldige MRL wat volgens regulasie deur die Departement van Gesondheid ingevolge die Wet op Voedselstowwe, Kosmetiese Middels en Ontsmettingsmiddels, 1972 (Wet Nr. 54 van 1972) gepubliseer word. Wanneer daar nie 'n gepubliseerde MRL vir 'n middel is wat wel vir 'n gewas geregistreer is nie, geld die verstek-MRL (0,01 mg/kg) totdat 'n MRL in die regulasie gepubliseer is.

## Gevare en risiko's van ignorering van die VOI vir eetbare gewasse

Plaagdoders het almal een gemeenskaplike eienskap en dit is om organismes óf dood te maak óf sodanig aan te tas dat hulle nie normaal kan funksioneer nie. Daar is geen plaagdoder wat as totaal veilig vir mense of die omgewing geklassifiseer kan word nie, alhoewel sommige baie minder risiko as ander inhou. Dit maak nie saak hoe hoog of hoe laag 'n plaagdoder se gevaarlikheidsklas is nie, dit moet altyd streng volgens die etiket se instruksies toegedien word ten einde risiko te verlaag of uit te skakel.

Wanneer 'n produsent dus nie streng by die VOI van 'n plaagdoder hou nie, bestaan daar 'n wesenlike moontlikheid dat die hoër as toegelate residu van die plaagdoder mense wat die gewas eet, sal aantast. Neem kennis dat mense net soos ander lewende organismes almal biologies verskillend van mekaar is. Dit kan wees dat 'n persoon wat hipersensitief vir plaagdoders is, daardie kommoditeit wat meer as die toelaatbare MRL van 'n plaagdoder bevat, eet. Dit kan mense baie siek maak en selfs hospitalisering vereis.

## Die goue reël: Volg die etiket se instruksies

Daar bestaan slegs een geldige regsdocument vir elke plaagdoder – die etiket. Enige ander voorskrif, aanbeveling of aanduiding wat strydig met die etiket is, is regstegnies ongeldig en is strydig met die beginsels en regulasies van Wet Nr. 36 van 1947. Soms vergeet mense dat die waarskuwings en voorsorgmaatreëls ook deel van die etiket is en ignoreer dit met slegte nagevolge vir mense en die omgewing. As die etiket dus aandui dat die VOI vir deltametrien op mielies 14 dae is, mag die mielies nie geoes en geëet word voor 14 dae na die laaste aanwending van die middel nie. Vooroes-intervalle en MRLs word ook op die Agri-Intel-databasis aangedui.



# What does the CropLife SA CPD programme mean for farmers?

Elriza Theron, Marketing and Communications Manager  
AgriAbout – April 2022

**Anyone who works in agriculture knows that doing business is based on more than just a monetary exchange or making a profit, it's based on building relationships and trust. Crop protection plays a vital role in this value chain, and trust and responsibility are of utmost importance because of the nature of the products, which could pose a risk not only to a producer's entire harvest, but also to consumer and environmental health. Crop protection is such a crucial part of a successful yield, and many years are spent on research and development by agrochemical manufacturers to provide a producer with products that comply with exceptional standards, but have you ever stopped to think about who you are buying these products from?**

It goes without saying that someone who is in a position to sell and recommend these potentially hazardous products, should be qualified and abide by the highest ethical standards, but how can a producer be assured of this?

CropLife South Africa embarked on a journey some years ago to establish a continuous professional development (CPD) programme that ensures agrochemical sales agents of member companies participate in learning activities that maintain and enhance their professional competencies and knowledge. The programme aims to advance and promote the status of the sales agent to become a crop adviser, acting in the interest of the environment, community and the producer.

CropLife South Africa is the accreditation body for its members and is responsible for the administration of this accreditation based on SANS1606:2014. This National Standard was developed to cover the elements of an accreditation system. The standard prescribes a primary qualification

to become accredited in the industry, which, for our members, is the CropLife SA Basic Crop Protection course, as well as participation in and compliance with the minimum requirements of the CPD programme to maintain accreditation. These minimum requirements mean that a participant must obtain a certain number of points in three respective categories, namely technical training and learning activities, business management training and learning activities and, safety and legal related training and activities.

Once an agent has obtained the required number of CPD points, he/she is issued with a digital CropLife SA accreditation card and earns the title 'Crop Adviser'. Before the card is issued, the crop adviser must acknowledge that they will adhere to the CropLife SA code of conduct and that they will only recommend and sell crop protection products that are registered in accordance with Act No.36 of 1947. For a producer, this means that he/she can have peace of mind when buying from a CropLife SA accredited crop adviser because they know the person is qualified, up to date with industry knowledge and has agreed to conduct their business according to a certain standard. And for an export producer, this is particularly important for auditing purposes such as GLOBAL.G.A.P.

CropLife SA encourages all producers to insist on this accreditation before purchasing agrochemical products. That being said, a producer must always ensure to only use products that are registered in South Africa for the intended purpose, which refers to a specific pest, crop and application method as well. An easy way to verify this is to subscribe to [www.agri-intel.com](http://www.agri-intel.com) and view the label information of the product in question. The responsibility lies with each player in the value chain to ensure that the trust we hold so dearly in agriculture, is maintained.

## Foute met fosfied kan fataal wees

Dr Gerhard H Verdoorn  
Bedryfs- en rentmeesterskapbestuurder  
SA Graan - April 2022

**Insekplae is nie slegs tot groeiende gewasse beperk nie, maar het ook dikwels 'n beduidende impak op gebergde landbouprodukte, soos graan, vars groente en vrugte en selfs verwerkte voedselsoorte.**

**Gebergde graan word dikwels deur kewers en motlarwes aangeval en dit kan sulke graan totaal oneetbaar vir mens en dier maak. Dit is dus noodsaaklik om gebergde graan vry van insekinvalle te hou, maar dit vereis spesialisplaagdoders wat nie deur elke Jan Rap en sy maat gebruik behoort te word nie.**



### **Doel van fosfiedmiddels in landbou**

Insekdoders wat fosfiengas afskei, is baie gewild om gestoorde graan mee te berook. Dit is maklik hanteerbaar, werk baie vinnig en graan kan in silo's of store daarmee behandel word. Produkte soos aluminiumfosfied (beskikbaar as tablette of korrels) asook magnesiumfosfied word algemeen vir graan-beroking gebruik. Die metaalfosfiede word in stoorplekke uitgeplaas en reageer dan met vog in die atmosfeer om die fosfiengas vry te stel wat tussen die graankorrels ingaan om insekte te dood.

### **Giftigheid van die metaalfosfiede**

Die mees algemeen gebruikte metaalfosfied is aluminiumfosfied – wat uiters giftig vir alle vorme van lewe is. Wanneer die aluminiumfosfied blus (met vog reageer), stel dit uiters giftige fosfiengas vry wat mense kan doodmaak as hulle dodelike dosisse inasem. Fosfiengas ruik na knoffel en wanneer 'n mens daardie knoffelreuk waarneem, kan dit reeds genoeg wees om vergiftiging tot gevolg te hê.

Die vraag is waarom so 'n gevaarlike middel vir gebergde graan gebruik word. Die antwoord is eenvoudig: Fosfiengas maak insekte baie vinnig dood, maar dit oksideer ook uiters vinnig om fosforsuur te word – wat so te sê skadeloos is. Die hoeveelheid fosfiengas wat benodig word om groot hoeveelhede gebergde graan te berook, is bitter min en dus sal die resulterende fosforsuur onwaarneembaar op die graan wees. Graan wat met fosfiengas berook is, kan bloot na 'n paar dae belug en dan sonder enige risiko gebruik word.

### **Misbruik van metaalfosfiede**

Ongelukkig gebruik mense metaalfosfiede dikwels onwettig vir ander doeleindes as waarvoor dit geregistreer is. In die afgelope vyf jaar is heelwat mense óf ernstig daarmee vergiftig óf selfs dood aan fosfienvergiftiging. Een van die grootste risiko's ontstaan wanneer die aluminiumfosfiedtablette of -korrels in huise of plafonne gebruik word om insekte, knaagdiere of vlermuise dood te maak. Fosfiengas is 'n "swaar" gas wat met swaartekrag afwaarts beweeg en dus uit die plafon sal sypel en die hele huis berook. As mense in sulke omstandighede gaan slaap, is die noodlot op pad omdat hulle nie die gas se reuk sal waarneem nie en stadig maar seker tydens die nagrus 'n dodelike dosis fosfiengas inasem.

Daar is verlede jaar twee gevalle aangeteken waar families uitgewis is omdat hulle deur die nag fosfiengas ingeasem het nadat hulle aluminiumfosfiedtablette as berokingsmiddel in hul huise gebruik het. Verskeie ander gevalle is oor die afgelope twee dekades aangeteken waar mense net-net aan die dood ontkom het nadat hulle aan fosfiengas blootgestel is. Een so 'n geval (wat die outeur self ondersoek het), was 'n egpaar in Pretoria wat die dienste van 'n plaagbeheeroperateur gekontrakteer het om vlermuise uit die plafon te verwyder. Die diensverskaffer het amper 500 g aluminiumfosfied in die plafon gegooi en vertrek. Die volgende oggend was die egpaar ernstig siek met vergiftigingsimptome, terwyl al vyf hul honde wat in die studeerkamer geslaap het, dood is. Die egpaar het vir maande daarna steeds senuweesimptome gehad as gevolg van die blootstelling aan die fosfiengas. 'n Ander ernstige fout wat mense dikwels met fosfiedtablette maak, is om klein hoeveelhede graan in groot plastiekdromme te behandel en dan vir plaasdiere en pluimvee te voer. Die beginsel is reg, maar mense oordoseer geweldig en gebruik dan die graan sonder om aan die onttrekkingsperiode

te voldoen. Die onttrekkingsperiode is die tydinterval tussen die laaste aanwending van 'n plaagdoder en die oes of gebruik van die behandelde kommoditeit. Registrasiehouers doen intensiewe navorsing en veldproewe om te bepaal hoe lank na aanwending die produsent moet wag voor die kommoditeit geoes en geëet mag word.

Die onttrekkingsperiode (ook as die vooroes-interval of VOI bekend) is gekoppel aan die maksimumresidulimiet (MRL) van die plaagdoder wat die maksimum toelaatbare konsentrasie van die plaagdoder op die gewas of kommoditeit is wanneer dit geoes of gebruik mag word. 'n Kombinasie van oordosering met fosfiedtablette en die nienakoming van die onttrekkingsperiode lei dikwels tot vrektes van perde, melkbeeste en pluimvee. Die outeur hanteer gereeld sulke navrae: Teen die tyd wat die oproep kom, is die arme diere en voëls reeds byna dood vanweë wangebruik van fosfiedtablette of -korrels.

Dit is kommerwekkend dat sommige handelaars kleinboere aanbeveel om die tablette in 'n gieter met water te gooi en dan groente daarmee te besprinkel om insekte dood te maak. Dit is uiters gevaarlik aangesien aluminiumfosfied hewig met water reageer, blitsig massiewe volumes fosfiengas vrystel en selfs 'n ontploffing kan veroorsaak omdat die gas baie vlambaar is. Die persoon sal groot volumes fosfiengas inasem – daar is al sterftes as gevolg daarvan aangemeld.

### **Simptome en nagevolge van fosfiedblootstelling**

Iemand wat aan 'n aluminiumfosfiedhouer ruik, noem gewoonlik die sterk knoffelgeur en toon geen simptome nie, maar vier uur na die blootstelling word hulle verskriklik naar, vomeer aanhoudend en raak duiselig en deurmekaar. Daar is geen teenmiddel vir fosfienvergiftiging nie, maar die simptome moet deur professionele medici behandel word. Pasiënte wat nie vinnig behandeling ontvang nie, staan 'n groot kans om te sterf. Indien pasiënte wel die dood vryspring, kan hulle senuweestelsels ernstig aangetas word en dit kan maande neem om te herstel.

Mense besef nie hoe gevaarlik blootstelling aan fosfiengas is nie. In een selfdoodpoging het die pasiënt amper die dood van die mediese dokter en suster veroorsaak. Die pasiënt het fosfiedtablette gesluk en tydens die resussitasiepogings het die fosfiengas wat uit die pasiënt se buikholte ontsnap het, die medici vergiftig.

### **Wetlike vereistes vir die verkope van fosfiedmiddels**

Alle fosfiedmiddels moet onder Wet Nr. 36 van 1947 geregistreer wees, maar die ernstiger deel lê by die vereistes van die Wet op Gevaarhoudende Stowwe, 1973 (Wet Nr. 15 van 1973) wat vereis dat die persoon wat handel dryf met fosfiedmiddels daarvoor gelisensieer moet wees. Verder vereis hierdie wet dat die verkoper streng rekord hou van alle verkope van sulke middels, naamlik die volle besonderhede van die aankoper, die doel asook die kwantiteit van die aankope. Dit beteken dat die verkoper nie die aluminiumfosfied aan 'n onkundige persoon behoort te verkoop nie. Die vraag is egter of handelaars aan hierdie bepalinge voldoen. Die antwoord is ongelukkig in baie gevalle nee. Sou die onregmatige verkope en misbruik voortduur, is daar net een gewaarborgde eindresultaat, naamlik dat die middel se registrasie vir alle registrasiehouers beëindig kan word en dat aluminiumfosfied van die mark af sal verdwyn.

# CONTACT

If you have any queries, would like to become a member,  
or if you have general feedback, we would love to hear from you.

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