

CROP CIRCULAR

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CropLife 
SOUTH AFRICA SUID-AFRIKA

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CONTRIBUTE

We are always looking for news, photographs or event updates from our members.

Please forward your contributions to elriza@croplife.co.za

WELCOME

As you read this issue of the CropLife SA Newsletter, the country will be at Level 4 of the national Covid-19 lockdown. The lockdown has been tough and on the business front necessitated not only the postponement of the CropLife SA AGM 2020, the extension of the annual Continuous Professional Development cycle for accreditation of crop advisers and the closure of the CropLife SA office, but also resulted in the majority of our member companies and their staff having to work remotely and learn the skills of conducting virtual meetings.



Rod Bell
Chief Executive Officer
CropLife South Africa

However, things could have been infinitely worse for us all.

Thankfully, the government (correctly so) classified the so-called 'agro-food sector' as an essential service and this classification has allowed the vast majority of the CropLife SA member companies to continue operating during the national Covid-19 lockdown at close to normal levels. There has been the additional effort to ensure movement permits for staff have been put in place and the hygiene rules governing the provision of essential services of course must be adhered to at all times, but the CropLife SA office has not received any reports of major incidents involving member companies operating during the lockdown period and security forces enforcing the lockdown.

If we are honest, these have been minor irritations when the bigger picture is considered. We all have family members or friends who work in industries considered non-essential until now (and many remain so at level 4 lockdown) and we know exactly how desperate these people are becoming as incomes are reduced or disappear and the lockdown continuation means no relief for their daily hardships in the short term.

At the start of the national lockdown process last month, we shared a letter with all CropLife SA member companies from the association's chairperson, Marius Boshoff, in which Marius urged all member companies to consider supporting the Covid-19 Solidarity Fund. In the interim, many other charitable associations have 'come to the party' especially with efforts to feed the millions of those less fortunate than us. Whatever you managed to afford to contribute, and whichever charity you have supported during these tough times for millions, I acknowledge and congratulate you for 'doing the right thing'.

Stay safe and the CropLife SA team and I remain at your service to assist member companies where we can within the confines of the lockdown regulations

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A new way of doing things

COVID-19 has influenced every aspect of our industry and we quickly had to find new ways of conducting our day to day business activities. After the President declared a National State of Disaster on 15 March 2020, the CropLife SA AGM, originally scheduled for 17 March 2020, was postponed accordingly.

Soon after, the lockdown was announced, and the industry jumped into action to ensure the seamless continuation of the essential services our members provide. Communications regarding the lockdown regulations are forwarded to our members as they become available, largely due to the excellent support from AgBiz. These communications, tools and documents are also available on the member portal for our members to reference as needed.

In addition, a poster and infographic has been created for farmers and farm workers to assist them with communicating the do's and don'ts in their daily activities while attempting to curb the spread of COVID-19.* The poster is available on www.croplife.co.za/resources.

As the CropLife SA team adjusted to the new way of doing business, options to convene the AGM via teleconference were explored and the most suitable solution appears to be Microsoft Teams. The AGM is now scheduled for 18 May 2020 and the details have been communicated to the relevant member company representatives. If you have not received the necessary information, please contact elriza@croplife.co.za.

Although the CropLife SA physical office is closed, it's business as usual for the team, so please feel free to contact any member of the team directly for assistance (contact details on the last page of the newsletter).

**The COVID-19 poster and infographic were developed by CropLife Latin America and edited specifically for CropLife SA.*

New AGM Details

Date: 18 May 2020

Time: 09h15 for 09h30

Platform: Microsoft Teams

CropLife appoints Lead for Plant Biotechnology

CropLife International, the voice and leading advocate of the plant science industry, has announced that it is transitioning its biotechnology programmes in Southern Africa to CropLife South Africa.

Following trends from elsewhere in the world, the consolidation will bring plant biotechnology and crop protection activities under one organisation, CropLife South Africa, with a goal of capitalising on synergies between the two technologies in delivering integrated pest management solutions. The transition includes the appointment of a lead for plant biotechnology at CropLife South Africa. The purpose of the position is to support the ongoing successful commercialisation of plant biotech products as well as trade of biotech commodities into and out of South Africa.

Heading up this exciting position is newly appointed Chantel Arendse, who will take up the role in June of this year. Arendse is no stranger to the industry and has over two decades of experience in the agricultural sector. She has held positions at the Agricultural Research Council (ARC), the National Department of Agriculture (NDA), the Department of Agriculture, Forestry and Fisheries (DAFF), and more recently, the United States Department of Agriculture - Animal and Plant Health Inspection Services (USDA-APHIS). She holds a M.Sc. Plant and Soil Science (Cum laude) from Tuskegee University and a B.Sc. Honours degree in Microbiology from the University of Cape Town.

“I am delighted that we have been able to attract a talent such as Chantel into the CropLife SA family. CropLife SA member companies strive to offer balanced pest control solutions to South African farmers, so it is a logical progression to combine traditional plant protection offerings with new technologies, like plant biotechnology, in order to achieve the goal of providing sustainable and integrated pest control solutions for local farmers. As the industry association representing most companies providing such integrated plant protection offerings, CropLife SA needs to continually adapt its mandate and activities in order to support its member companies equally”, says CropLife SA chief executive officer, Rod Bell.

The plant biotechnology industry in South Africa compares well with international trends. Although climatic conditions have been challenging since 2014, South Africa is still ranked as the World’s 8th largest producer of biotech crops based on the 2018 figures, with an 87% adoption of biotech maize, 95% adoption of biotech soybean and 100% adoption of biotech cotton.

In order to provide our farmers with the best possible plant protection tools to grow these healthy crops, CropLife promotes the principles of integrated pest management which involves using the best combination of cultural, biological and chemical measures for particular circumstances, including plant biotechnology. For this reason, the convergence of traditional crop protection strategies and plant biotechnology is essential in providing sustainable agricultural solutions.

Pesticides and pollinators

Pesticides and pollinators. Is it possible to ever use these two words together without a mass debate ensuing? On a rudimentary level it appears that only two groups are involved in this debate, and it seems as if they are on polar ends of the “saving the pollinator” spectrum. The scenario is often illustrated as the proponents of bee health lobbying for certain pesticides to be banned because it has been shown in some laboratory tests to be hazardous or it has been banned elsewhere, while the pesticide industry refuses to take their products off the market due to a lack of evidence of the so-called risk of their products. Unfortunately, it’s not as simple as that and this picture does not cover the entire story.

We have been hearing stories about a bee-apocalypse for many years, notably in Europe since the 1990s and, to some extent, with cases of so-called “colony collapse disorder (CCD)” in the US since 2006. It makes a great headline. It is unfortunate that the facts get lost amid the controversy. The European Commission’s own report on National Apiculture Programs in the European Union shows a steady increase in the number of beehives from 11 million in 2004 to 17 million in 2018. Bee colonies die off over winter, sometimes losses are as much as 20%, and numerous other factors including weather conditions, parasites and diseases can also play a role.

So how then does one go about getting the facts straight? The answer lies in the simple, yet significant concept of context. Let us use the example of the group of agricultural remedies collectively known as neonicotinoids. Neonicotinoids (or “neonics”) and pollinators have been getting a lot of attention lately as recent reports have shown neonics to be harmful to beneficial insects. There are plenty of considerations that contribute to showing why context is important in this regard, however for the purpose of this article, we will focus on only three of these. The first is to put the research environment into context, second the concept of hazard versus risk and thirdly, to examine regulations and the agricultural environment.

Let’s start off with the research environment. Numerous laboratory studies have shown that neonics can cause various adverse effects on bees under particular conditions. But how relevant are those conditions in real life? In fact, there are no studies that show such negative impacts of sub-lethal effects of correctly applied neonicotinoids on honeybee colonies under field-realistic exposure conditions. For scientists to draw conclusions or extrapolate results from laboratory exposure studies and assuming they reflect behaviour following field use, or not testing their hypotheses of toxicity in field conditions, is not scientifically plausible. It would be the same as saying, for instance, in these laboratory tests it was shown that bleach is highly toxic to humans, therefore, the use of bleach kills humans. Some would even go as far as saying the bleach industry is making millions by selling bleach that kills humans. See the difference? This example nicely leads us to the next consideration, namely hazard versus risk.

The difference between hazard and risk is that hazard refers to the possibility of something causing harm while risk is the probability of harm occurring. Imagine sitting in front of the fireplace on a cold, rainy evening, enjoying a bottle of your favourite red wine. Sorry to burst your bubble, but alcohol is a class 1 carcinogen, similar to arsenic, making it a hazard. However, it only becomes a risk if you regularly guzzle down litres of the stuff, or if you become intoxicated and do something stupid. A car is a hazard, driving it like a formula one racer in an urban area is a risk. Standing on the edge of a cliff is a hazard, jumping off it is a risk. The issue of pesticides in the South African context, as well as the regulation thereof, is based on a risk approach, and not a hazard approach. Which brings us to our last point.

Although a pesticide is categorised as hazardous, it does not mean its use should be banned. If it's been proven safe in local assessments and does not pose a non-manageable risk to human health and the environment, which includes pollinators, then farmers should be able to use the products to effectively manage pests. The European Union recently placed heavy restrictions on some neonics so that they cannot be used outdoors. The basis for these restrictions was the application of a "Bee Guidance Document" which has yet to be ratified by EU Member States, some seven years after it was first drafted by EFSA (the European Food Safety Authority). This Guidance Document is now being revised, not least because it places conditions on field trials that cannot be met, meaning that field trials that have been done over many years to EPPO standards, are not accepted. Even when applying such a conservative Guidance, EFSA did not find any unacceptable risks to honeybees after examining hundreds of different use scenarios for some of the neonics they assessed. However, the political pressure in the EU was so high that the Commission adopted a very precautionary approach and imposed the near-total ban. Regulators in other regions, including US, Canada, Australia, and Brazil continue to apply a risk-based approach and apply restrictions only in cases where safe use of the products cannot be ensured.

In conclusion, it is important to understand that there are many factors impacting bee health, including diseases caused by viruses, bacteria, fungi, and mites, poor nutrition, adverse climatic conditions, lack of genetic diversity and lineage, incorrectly applied veterinary treatments, poor beekeeping management and of course, irresponsible use of pesticides (emphasis on irresponsible). Isolating one specific factor as the main cause of the decline in bee health is just implausible.

It's understandable that many people want to find a scapegoat for the stories that bees are in danger, it would make finding a solution so much easier and pesticides are an easy target. But real life is a bit more complicated than that and we all need to work together to ensure the safety of our pollinators. And, before jumping to any conspiracy theory conclusions, it might help to remember that for agriculture to continue, we need pollinators, and no one is more aware of this than the farmers and the pesticide manufacturers. It is in all our interests to protect pollinators, not to put them at risk. No one, no matter which country, region or industry they are in, wants to go hungry.

CropLife Africa Middle East calls for functioning Agro Input Markets despite lockdown measures related to the COVID-19 Crisis

Dr. Samira Amellal
Director General:
CropLife AME

The effect of the COVID-19 pandemic will have an impact, including the pesticide industry in the Africa and Middle East region.

Various countries are faced with partial to total lockdown which is having an effect on the ease of doing business and on agricultural production as a whole. Although it is too early to measure the actual impact, discussions with the national associations in the region indicate growing disruptions in the agricultural sector which employs an average of 60% of the population. The challenges faced by Africa Middle East countries will impact global supplies in the future and is therefore something of global interest.

Together with health workers who are at the forefront of this crisis, farmers and the agricultural sector have a key role to play in this COVID-19 crisis management by assuring continued food supply especially for the local population. With often above 50% food imports and at times stock levels of a few weeks only, local production and its national distribution may become more important in the coming months. Regardless of the measures to enforce quarantine and social distancing, people will need reliable and regular food supply just like they will require medical supplies.

Pesticide imports and interstate movement of pesticides are critical factors for crop protection products to reach distributors and eventually farmers. The free flow of inputs is essential in countries such as Uganda, Tanzania, Kenya and Ethiopia, countries which are soon going into peak planting and growing season.

The East Africa region has also seen an upsurge of locusts especially in Kenya, Ethiopia and Somalia. Disrupted distribution of the required products will be a major setback in locust control. Similarly, Fall Armyworm (FAW) control continues to be a challenge in the Southern Africa countries. Similar concerns exist in countries in West Central Africa where the planting season is approaching for cotton and staple foods. In addition, the main export crop cocoa will require the annual plant protection products to control pests and diseases in the coming months.

Farmers and farm workers are in the frontline of providing the world with a stable food supply. Now they will be instrumental in keeping a health crisis from turning into a hunger crisis.

While non-essential travel restrictions have been an important way to prevent the continued spread of COVID-19, we must ensure the uninterrupted and timely supply of crop protection products, seeds and fertilizers so farmers can continue to maximize yields and ensure high quality harvests. Any delay within the agricultural input supply chain could put food supplies within the region at risk.

Realising that this is a challenge for all to overcome, CropLife Africa Middle East member companies are working hard to continue providing the farming communities with the needed tools and inputs to maintain a stable food supply and will look to governments to continue to treat food production as an essential service in the response to COVID-19 and to ensure that food insecurity does not further increase this challenge.

As the regional association representing the plant science industry, we are committed to supporting the national association network with information and expertise on how different countries succeed to maintain a functioning agro-input market and sustainable agricultural production also under the challenging COVID-19 situation.

We appeal to governments in the region to consider agricultural inputs as essential goods so as to ensure farmer access to these inputs, under strict observation of health guidelines (social distancing) to ensure safety for all. Food security in the coming months can only be secured if farmers can access these inputs on time and in the right quantities.

Revised Emergency Registration Protocol

CropLife SA, along with representatives from member companies, has revised the Emergency Registration Protocol and submitted it to the office of the Registrar.

The insignia of DAFF remained in the document as the department has not amalgamated with Land Affairs and Rural Development, however, reference is made to DALRRD in the document.

The principles of the protocol have not been altered. The clause of interim reporting on field trials after twelve months was taken out as it has never been enforced and it is not anticipated to be enforced in future.

In addition, the wording for the submission of field trials was changed to a time frame stipulated by the Registrar as that is his mandate and a registration holder is duly informed by him in the notification of the emergency registration.

The notification by a requestor (for emergency registrations) was changed as well so that the requestor must submit it to the Registrar and inform CropLife SA and SABO about such notification to ensure a smoother process with a quicker turnaround.

The clause that applications for emergency registration will only be entertained for pesticides that are already registered in RSA but exempted pheromones and semiochemicals for monitoring and trapping insects remains as such products are seldom existing in RSA and have no human or environmental risk (no toxicological evaluations required by DoH).

A sincere thank you to the following individuals who assisted CropLife SA in revising the protocol:

1. Hanna-Let Rautenbach of Insect Science
2. Dr Mari Judd of FMC Chemicals
3. Dr Meshack Ndou of Meridian Agritech
4. Roleen la Grange of Villa Crop Protection
5. Mariana van Jaarsveld of Villa Crop Protection
6. Noleen Odendaal of Nulandis
7. Desireé van Heerden of Syngenta

Your time and dedication is greatly appreciated by the industry.

Chair in Crop Health at Stellenbosch University to train students and qualified agriculturalists alike

Engela Duvenhage
www.sun.ac.za

The New Year saw the establishment of a Chair in Crop Health at Stellenbosch University (SU), thanks to funding of R10.5 million provided by Villa Crop Protection. It endeavours to focus on research driven by the needs of industry, the education and financial support of students and the provision of further skills training for employees in the agricultural sector. Prof Nick Kotze, chair of the SU Department of Agronomy, leads the initiative.

The Chair in Crop Health is a first for South African agriculture. The local crop protection industry is worth around R9 billion at wholesale level. Villa Crop Protection is one of the leading suppliers of crop protection solutions to distributors in South Africa.

At an event signalling the signing of a three-year contract between SU and Villa Crop Protection, Prof Eugene Cloete, SU vice-rector: research, innovation and postgraduate studies, said that such industry support helps to create an environment of hope and excellence for students and for South Africa alike.

“Such private sector support helps to ensure that our university does research that is relevant, and in turn helps to strengthen industry,” he added.

“This is a major collaborative effort, and will see the integration of industry needs, industry partners and industry grower bodies with the work that our researchers and postgraduate students do,” adds Prof Kotze.

Key functions earmarked for this agreement include:

- Identifying and prioritising specific farm level grower research needs, and addressing it through targeted scientific research done by postgraduate students and their academic supervisors;
- The provision of relevant postgraduate bursaries to the tune of R1 million per year, to support the training of future agriculturalists who are equipped with the necessary knowledge tools needed by the local agricultural sector; and
- The roll-out of accredited short courses by Stellenbosch University to expand the skill levels of agriculturalists already working in the local industry.

“The education leg of this endeavour strives not only to augment formal qualifications, but also to ensure continuous training options for agriculturalists and others already working in the local industry,” says Dr Andre Schreuder, on behalf of Villa Crop Protection.

The envisaged accredited short courses to be presented through the Chair in Crop Health will build on short courses, certificate and diploma courses previously developed by the Villa Academy. Lecturers from Stellenbosch University will be supported by others previously contracted by Villa Academy, as well as international colleagues from leading universities overseas.

Prof Kotze hopes to be able to facilitate the set up a Crop Protection Diagnostics hub in the near future, which will see the pooling of resources by plant pathologists, entomologists, virologists, and weed experts in the SU Faculty of AgriSciences and beyond.

The initiative will be supported by an advisory board.

Reminder: The extended cycle for obtaining enough CPD points in order to qualify for a CropLife SA crop adviser card ends at midnight on 30 April 2020.

SDFs are encouraged to upload the latest data into the CPD system as soon as possible, and no later than 8 May 2020.

Agbiz announces appointment of new general manager for Agbiz Grain

Agbiz press statement
21 April 2020

Agbiz is pleased to announce that Wessel Lemmer has been appointed as the new general manager of Agbiz Grain, a fully-fledged and dedicated desk under the Agricultural Business Chamber (Agbiz).

He will assume responsibilities in July 2020 and will succeed Mariana Purnell, who is retiring at the end of June. Purnell has led Agbiz Grain since it was established by the 12 largest commercial grain-handling and storage companies in South Africa in November 2014.

Lemmer has a long track record in the agricultural industry gained over more than 30 years. He has been part of the Absa Bank team since May 2015 in the position of senior agricultural economist before being promoted to head: sector economics in Absa Retail and Business Bank. During that time his key responsibilities spanned across sectors including agriculture, wholesale, retail and franchise, manufacturing, renewables and tourism.

During his eight-year tenure at Grain SA as senior agricultural economist, he gained first-hand experience in the grain industry, focusing on research in the marketing environment, and negotiating and influencing actions and policies which affect the marketing and trade environments.

“We are excited to welcome Lemmer to the Agbiz family,” Agbiz CEO Dr John Purchase said. “His track record, vast experience in the agricultural space and in-depth industry knowledge make him the ideal candidate to build on the work and achievements of Mariana Purnell and the Agbiz Grain team.”



This is a reminder for CropLife SA supplier members to submit any product additions or amendments of product labels to chana@croplife.co.za to be included in the Agri-Intel database.

Many producers and crop advisers use Agri-Intel to develop their crop protection programmes for the season, therefore it is in your best interest to submit your products timeously so that they can be displayed.



Coming This Summer



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With the global pandemic prohibiting in-person events in South Africa, we're pleased to announce this new and innovative virtual conference.

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- Make the most of advanced virtual networking opportunities with influential stakeholders.
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Taking on Kilimanjaro

Niel Kruger
Marketing Director
Inteligro

The Emergency Centre at Red Cross War Memorial Children's Hospital is the only dedicated children's emergency unit in South Africa and is children's best hope of surviving acute injuries or other potentially life-threatening medical conditions.

Operating 24 hours a day, 7 days a week, the primary function of this area is to provide high quality, evidence based medical, surgical, nursing and paramedical services to the thousands of children needing access to emergency and acute services. A child and user-friendly environment are critical to maintaining the high standard of care needed to minimise hospitalisation and facilitate the child's early return to their family.

To ensure that more children receive the best possible life-saving care and to improve their chances of recovery and rehabilitation, the Children's Hospital Trust has launched a project to upgrade and expand the Emergency Centre. Designed in partnership with the EC Clinical team, improvements will include an upgrade of medical resuscitation and trauma areas, and an increase in the number of consultation and procedure rooms. The project will also add new areas to the centre, including: a burns room, a calm room, a child protection room and family friendly waiting areas.

Read more HERE <https://www.childrenshospitaltrust.org.za/>



A team from the **InteliChem** group of companies climbed Kilimanjaro in January 2020 to create awareness and assist the Children's Hospital Trust in raising much needed funds to upgrade and expand the Red Cross Children's Hospital's Emergency Centre.

Meet the Team



Gideon Hefer

Chief



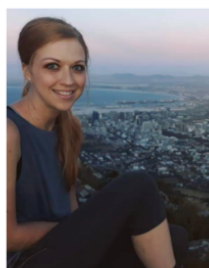
Johan Hanekom

Managing



Niel Kruger

Marketing



Tanja Potgieter

Human



Rob Dawson

Managing



JJ Nienaber

Regional

We as a team feel very blessed and humbled by the Kilimanjaro experience and to be part of this amazing adventure, but also for the opportunity to raise awareness and assist with fundraising for the Red Cross Children's hospital.

Thank you very much for all the contributions to this project and by doing so, also making a difference in the lives of children that are in need of medical attention and need to climb a different mountain!

The contributions were handed over to the Red Cross Children's on the 20th of February and we hope there can be more projects in the future to help assist the great work that the Red Cross Children's hospital are doing.



CropLife SA Lepidoptera Alert

Variations published in
Landbou.com
Landbouweekblad
Farmer's Weekly
AgriAbout
BizCommunity
AgriOrbit
Republikein
DAFF News

Current weather patterns in southern Africa may be conducive to the outbreak of certain insect pests. Moist air from the tropics may bring another infestation of the Fall armyworm into the Limpopo, North West, Free State and Northern Cape provinces while the current conditions in these provinces and KwaZulu-Natal are conducive to the outbreak of African armyworm in veld and grazing paddocks.

CropLife SA has been notified of massive clouds of small moths visible early evening in the northern parts of Namibia around Otjiwarongo, while a large-scale caterpillar infestation has also been reported by sunflower growers in the North West province of South Africa. Although the Karoo remains extremely dry in most parts, it is possible for the migratory locust to appear, although it is unlikely at this stage.

Crop and livestock farmers should be extremely vigilant in the mentioned provinces and scout late afternoons in cash crops, fruit orchards, grazing paddocks and natural veld for swarms of small moths as the first signs of Lepidoptera pest outbreaks. Farmers who grow non-GM maize and cotton, as well as vegetable farmers, are very vulnerable to Fall armyworm and need to make a special effort to scout for the pest. Scouting can be done visually in the early evening, but it is advisable to also use pheromone traps that are registered and available in South Africa.

Should a farmer suspect the presence of Fall armyworm or any other large-scale invasions of Lepidoptera pests, they are urged to take good quality, close-up photographs of the moths, caterpillars and egg parcels and send it via WhatsApp to +27 (0)82 446 8946 (dr. Gerhard Verdoorn, CropLife SA) for assistance with identification. Farmers are also encouraged to contact CropLife SA for advice on the effective control of any such large-scale outbreaks. In addition, the Resources section of CropLife SA's website www.croplife.co.za contains guidelines for managing specific pests, including Fall armyworm.



Alert: Fall armyworm confirmed in South Africa

Excerpts featured in
SA Grain
BizCommunity
Farmer's Weekly
Landbouweekblad

CropLife SA has learned about the outbreak of the dreaded Fall armyworm (FAW) in maize in the area between Badplaas and Carolina in Mpumalanga. It is likely to be found in other provinces such as North West, Limpopo, Gauteng, the Free State, northern parts of KwaZulu-Natal and some parts of the Northern Cape.

Maize farmers are particularly vulnerable to this invasive pest species and should be on high alert for moth swarms late afternoon, egg parcels on maize leaves and caterpillars.

Farmers are advised to read the CropLife SA position statement on www.croplife.co.za/FAW as well as the IRAC (Insecticide Resistance Action Committee) document on www.croplife.co.za/IRAC_FAW.

Farmers who suspect that they may have FAW in their crops should take good quality photographs with their smartphones and send via WhatsApp to dr. Gerhard Verdoorn of CropLife SA on 082 446 8946. Vegetable farmers and cotton farmers should also scout for FAW moths late afternoon. Pheromone traps are very useful for scouting and can be used effectively for early warning of FAW invasion.

Farmers urged to scout for gerbils to prevent crop damage

Annelie Coleman
Farmer's Weekly

Widespread outbreaks of gerbil infestations have been reported in the summer grain production regions, with damage being reported in the Free State, North West and KwaZulu-Natal. This was according to Dr Gerhard Verdoorn, CropLife SA's operations and stewardship manager.

Verdoorn said various species of rodents fed on crops, depending on the nature of the crop, as well as the biome in which the crop was produced. In the summer grain production regions, gerbils posed a particular problem.

While gerbils dug up grain seeds immediately after planting, they caused the most damage when seeds began germinating.

"This is most probably due to the seeds being soft and more palatable than when newly planted. Gerbils are small rodents with short tails and long hind legs. Colonies of thousands of animals/ha are not unknown," Verdoorn explained.

Gerbils were able to dig as much as 30m away from their burrows on the edge of a crop field to reach the seeds.

Populations could be expected to explode in the first weeks after planting due to the ample food supply. It was therefore essential that producers started implementing precautionary measures as soon as possible.

“Daily scouting for gerbils is of the essence. This is the only way colonies can be timeously detected. It’s obviously much easier to manage small and isolated outbreaks [as opposed] to huge ones,” he added. Verdoorn advised farmers to only use registered rodenticides as listed in CropLife’s gerbil management plan. These rodenticides needed to be placed in bait boxes or gerbil burrows. Scattering rodenticides onto the soil surface was not only illegal, but ineffective and posed a severe risk to biodiversity, as did the use of products that were not explicitly registered as rodenticides to be used against gerbils.

“We also encourage grain farmers to create an environment that is conducive to owls and diurnal raptors, such as erecting owl boxes. These birds are valuable assets in gerbil control,” Verdoorn added.

According to the Food and Agriculture Organization of the United Nations (FAO), gerbils were nocturnal and terrestrial. They usually walked on all fours, but when alarmed, they could flee in running bounds of up to 1,5m in height and more than 3m in length. They had powerful, well-developed hind limbs and were mainly granivorous.

Pesticides and water: Compatibility and safety aspects

Dr. Gerhard Verdoorn
Published in AgriAbout

The most recent drought which has brought a large section of South African farmers to their knees, is still not broken in the western arid regions of the Northern Cape. A drought like this is a solid teacher and the lesson learnt is that water is life. Without water there is no life. That ends the debate.

Hopefully the aftermath of the terrible drought is a renewed awareness in society of the incredible importance of rain and water, yet we seem to quickly forget how important this valuable natural resource is.

Plant protection products are a given for modern agriculture and even for gardens and homes where they are used to control undesired pests, weeds and plant diseases.

Despite all the lobbying of the anti-pesticide fraternity, the sensible and pragmatic people understand that pesticides add value to crop production and public health, but it should be noted that our responsibility when it comes to handling and using pesticides, is seriously lacking.

Back in the olden days, old and expired pesticides were often simply dumped in the river or buried on the farm without considering what it does to aquatic organisms or the quality of ground water.

Most insecticides are totally undesired to be present in water bodies due to the sensitive nature of aquatic organisms to insecticides. Fungicides are less harmful than insecticides to aquatic organisms while herbicides are even less harmful.

It is fatally flawed to make a blanket statement, though, on the possible effects of pesticides on aquatic organisms because every compound is unique in its aquatic organism toxicity.

It is also well known that some pesticides which are of very little concern to warm blooded creatures may be extremely toxic to aquatic organisms. The water solubility of pesticides is also a factor to consider because the more soluble a compound is, the higher the risk for potential negative impact.

The organisms used globally to gauge the aquatic toxicity of chemical compounds are *Daphnia*, various fish species like trout and blue-gilled sunfish, and certain aquatic algae. A general rule of thumb is that an aquatic toxicity (LC_{50} over 48-hour exposure period) of more than 100 mg/l is of low or no concern.

The lower this figure is, the higher the toxicity and aquatic hazard of the compound. This is not the only criterion that must be used; the physical chemistry must also be considered. Compounds that bind the clay in sediments irreversibly become biologically unavailable and are thus rendered “inactive”. Fortunately, the aquatic environment is conducive to decomposition of most compounds except the hardcore organochlorines that decompose very slowly over very long periods of time.

It is highly unlikely to not find DDT and its metabolites in water bodies even though the product was last used in agriculture more than 4 decades ago.

Getting back to the organisms: although toxicology data for amphibians is very rare, it is an indisputable fact that frogs are hypersensitive to chemical pollutants like pesticides. In ecology it is often mooted that apex species like vultures are good indicators of environmental health, but that is a fallacy because they are at the end of the food chain or on top of the food pyramid.

Frogs and other amphibians are much better bioindicators because of the extreme sensitivity to changes in the environment. A few drops of a pyrethroid insecticide into a pond will make short work of the frogs in the pond.

While not all pesticides share the same threat level to frogs, it nevertheless makes sense to avoid unnecessary contamination of water with pesticides at all costs. There are situations where pesticides are used in water, such as to eradicate aquatic weeds or mosquito larvae.

The question is whether this will have a devastating impact on the *Daphnia*, fish and frogs. With careful planning and using registered pesticides, such aquatic pests may be successfully eradicated with minimal impact on aquatic life.

For the agricultural sector we have a few simple guidelines to safeguard the water bodies and all their life forms against pesticide contamination and impacts. These include:

- Never spray pesticides of any kind within 50 meters of water bodies unless the pesticide is designated to be used for a water body type of application.
- Check wind direction and wind velocity to prevent spray drift onto water bodies.
- Do not apply herbicides for alien and invasive species control in the riparian zone when there is a potential for the active ingredients to move from the treated

plants into soil and disperse laterally. This may not only kill other indigenous trees near the treated plants but also pollute water that may be used for irrigation and result in serious crop damage.

- Never rinse empty containers in water bodies or decant rinsate into water bodies. Rinsate must be decanted into spray tanks and used on the crops.
- Never leave full or empty containers close to water bodies as an accident with such may result in contamination of the water with pesticides.
- If aquatic weeds must be treated with herbicides, do not treat the entire water body at once. Divide it into eight sectors and treat two sectors on opposite sides at a time. This is not because of pesticide impact on the aquatic organisms, but to maintain water health. Aquatic weeds that die off after herbicide treatment sink below the water surface and the decay of such plant matter deoxygenates the water. If the entire water body is treated at once the water is totally deoxygenated and the aquatic organism will be severely affected.

It is worthwhile to take note of pesticides that should be avoided close to water bodies. Pyrethroids and diamides are very toxic to fish and amphibians although their impact on birds and mammals is negligible. Take special care when having a need to treat crops with these groups of insecticides.

Picloram and bromacil herbicides leach very easily and damage plants far off the target area, so stay away from the riparian zone and particularly when the water is used for irrigation. Be very careful with hormonal type herbicides like the synthetic auxins close to water bodies. These molecules are very soluble in water and may leach from crop fields into water bodies where high levels of it may cause havoc with aquatic organisms. Triazole fungicides may also not be very good for aquatic organisms. All in all, the message is to steer clear of water bodies and to use all pesticides strictly according to their label instructions.

CropLife SA's Agri-Intel lists virtually all the pesticides that are registered in South Africa. Labels can be drawn down for a quick scan while under Industry Resources a toxicology database is available for downloading to check for aquatic organism toxicity of the active ingredients. Be informed and be a water wise and water safe farmer!

Buy agrochemicals from an accredited crop adviser

Elriza Theron
Published in
SA Grain

Agriculture in South Africa is based on more than just a business exchange or making a profit – it is based on human relationships and trust. However, if something goes wrong, it shakes these very foundations to the core and can leave a producer exposed – and often without recourse.

Crop protection plays a critical role in this value chain. One could even say that trust is necessary in this area more so than any other, considering that these important substances are potentially hazardous and could pose an extreme risk not only to a producer's entire harvest, but also to consumers and the environment.

Would it not make sense then, to buy from someone who is qualified and who has committed to abide by the highest ethical standards?

This is why CropLife SA embarked on a journey some years ago to establish a continuous professional development (CPD) programme that ensures agrochemical sales agents of member companies are provided with a range of learning activities that maintains and enhances their professional competencies and knowledge. The programme aims to advance and promote the status of the agent as a crop adviser, acting in the interest of the environment, community and the producer.

It requires that a participant reaches a certain number of points in three respective categories, namely technical training and learning activities, business management training and learning activities as well as safety and legal-related training and activities.

In addition, they must complete the Basic Crop Protection course as a minimum requirement for participation. Once an agent has obtained the required number of CPD points, he/she is issued with a CropLife SA accreditation card and earns the title of crop adviser. At the moment it is a physical card, but soon it will be available as a digital card on an Android or iPhone device.

This means that producers 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 adheres to CropLife SA's code of conduct. For exporters of crops, this is particularly important for auditing purposes such as GLOBALG.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 register on 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 that is held so dearly in agriculture, is maintained.

Climate change and agriculture: A challenge for pest management

Dr. Gerhard Verdoorn
Published in AgriAbout

Climate change is a reality whether one believes it is a cosmic occurrence or the effects of human society on earth. Fact is that we live in challenging times with weather patterns that are abnormal, extreme weather events and a bleak look for the future. The earth is warming up at an alarming rate, dry spells last very long, floods are devastating, hurricanes reach disaster level five with ease and seasons are shifting to later than what people are used to.

Everything alive on earth is linked to climate, either at the regional level, local level or microlevel. Climate is about moisture in the form of humidity and precipitation (dew, rain and snow), air movement (wind) and temperature (from extremely cold to extremely hot). Living organisms have evolved (slowly adapted) over millennia to specific climatic conditions and their survival depends on the climate of the day.

Humankind has managed to cultivate agricultural crops and breed livestock and poultry to be productive in conditions which would normally not suit such crops, livestock or poultry.

Despite humankind's sterling success with high yielding crops, we are faced with the realities of climate change. It is generally agreed that summers arrive later and last longer into the calendar year, but it spells doom for summer crops because the growth season is often hampered by the very late arrival of rain and by dwindling daylight times, late in the season, that do no good for the successful production of high yielding crops.

Not only does it hamper planning of a production season, but it also often prevents the farmer from planting a staple crop like maize that needs a long growth period. Rain that arrives too late in the season may also hamper pollination and seed formation which can be devastating for a crop like maize. Some crops like stone and pome fruit (peaches, plums, apples and pears) need what farmers call "enough cold units" to successfully bloom in spring and if a winter is too warm, those cold units do not materialise and spells doom for a good crop.

Other crops like wine grapes are traditionally grown in winter rainfall areas. South African farmers have taken wine production to very hot areas like the Lower Orange River, but some cultivars simply belong in more temperate climates like the Western Cape's Mediterranean climate. It has been mooted that the winter rainfall of the Western Cape is shifting eastwards and that fifty years from now, wine may be cultivated in the George-Knysna region.

It is not only the growth that concerns us. Plant pests, diseases and weeds are also placing different kinds of pressure on crops. Warmer winters allow plant pests like insects and mites to thrive during winter instead of being destroyed by cold and frost while adding time to their breeding cycles to cater for ideal conditions for these pests to produce successive generations of headaches for farmers.

We have already experienced the dreadful impact of the Fall army-worm in South Africa and have also seen what warm winters do with this pest: it simply continues to breed and hammers high value crops like vegetables during winter months in the northern parts of the Limpopo Province.

If winters generally become warmer, such as in the maize production areas, the larvae will survive easier and outbreaks will be earlier and more devastating than expected. That warrants more time and money invested by farmers to combat such pests with scouting and pesticides.

The days of relying on freezing cold Free State winters that killed stalk borers, chilo stalk borers, black maize beetles, false wire worms and many pathogens, seem to be coming to an end, to the detriment of crop farmers. Gerbils that are a terrible menace for grain farmers are also sticking their heads out earlier than before, probably due to warmer winters, having their feasts until deep into the traditional autumn.

Livestock farmers are also at risk of climate change impacts on their farming activities. Ectoparasites like ticks, lice and mites thrive in warm weather and is a no-brainer to guess what warm winters do to the larvae of such little beasts.

Tick borne diseases may not only be more prevalent than before the era of climate change but may also spread into areas where such diseases have not been known to exist before. Midges and mosquitoes that are vectors for livestock diseases such as Rift Valley Fever (transmitted by mosquitoes) can be expected to increase also and possibly undergo range expansion. The big question is what farmers can do about climate change?

Answer is simple: we cannot reverse climate change; we can only manage the effects thereof. Here are a few suggestions from CropLife South Africa:

1. Crop farmers need to be much more vigilant in their anticipation of crop pests. Scouting for fruit crops, vegetable crops, oil seed crops and all fruit crops is the best defence because an early detection means tackling the pest when it is at its most vulnerable. Scouting for especially moth pests like codling moths, various army worms and stalk borers can be done visually by late afternoon checking crop fields and orchards for moth swarms. It is also possible to develop a home-made device by putting a LED lamp in the vicinity of the crop and have a large plastic container underneath

it filled half with water to collect insects that drop down from the light. Many moths should immediately ring the alarm bells. Moths seen in crops and at the farmstead are also reason for concern. Farmers are advised to take good pictures of the moths and send it to the CropLife SA emergency number 082 446 8946 via WhatsApp for identification and advice on managing the pending pest. Scouting can also be done using the registered pheromones that are available in the market. Farmers can find details for pheromones on www.agric-intel.com, the comprehensive CropLife SA database in agricultural remedies and associated products. Pheromones are species selective, meaning a pheromone will attract mainly male moths of a single species although a small percentage of species like the main target species. It does, however, give farmers an excellent tool to gauge the prevalence of pest species in their crops.

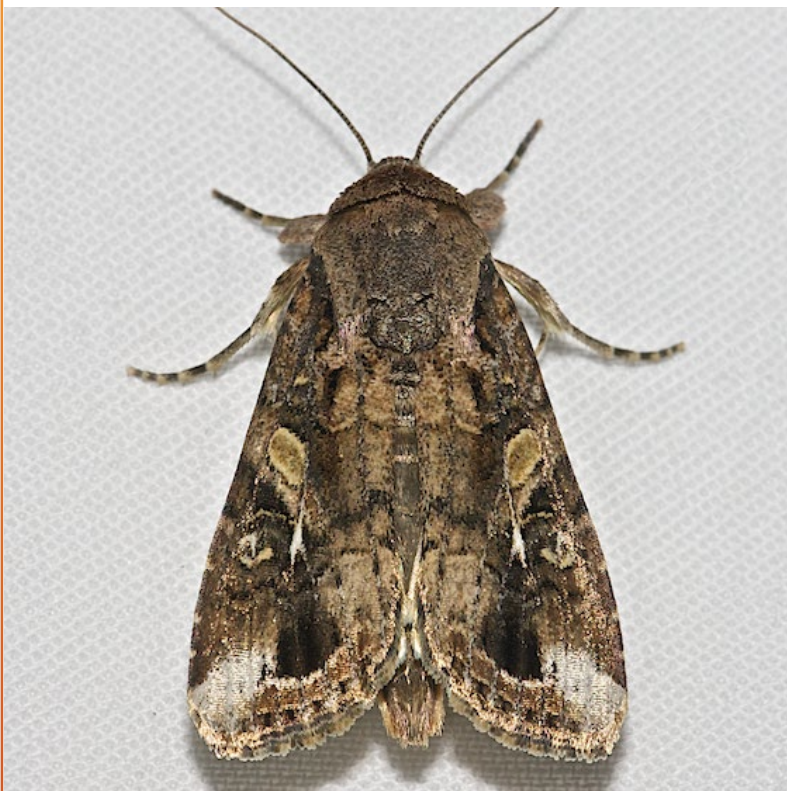
2. Early pest management is much cheaper and more effective than later responses. Most of the main pest species have larvae that cause the damage. Larvae (worms) that have just hatched are very vulnerable to insecticides because the young larvae do not have good, protective chitin layers over their bodies. As they progress through moulting into full grown larvae the protective layers are much more difficult to penetrate, and the "softer" chemistry may not have any effect on such advanced instar larvae.

During scouting farmers should look for egg parcels on leaves and if found prepare for a control action the moment these eggs hatch. Biological pesticides such as the *Bacillus* bacteria are highly effective on small larvae and despite being very “soft” on the environment, they can solve a farmer’s problem very quickly.

3. Resistance management. It is a fact of life that pest species develop resistance against certain modes of action of pesticides. The only way to overcome it is to stick to label directions meaning use the correct pesticides for the pest at the correct dosage and with the correct number of applications per season. Warmer climate makes it ideal for successive outbreaks of the same pest species which may prompt farmers to do more than the directed number of applications of a pesticide per cultivation season. If this is the case, use different modes of action to prevent the pest from developing resistance against a mode of action.

4. Keep an eye on weather patterns. There are wonderful weather tools available on the internet and as apps on smartphones. A daily check of continental weather patterns is important for farmers while scouting the ocean temperatures also helps. Moist tropical air that flows in from the Congo basin over Angola and Botswana and Namibia is a certain trigger for worm pests. It may also trigger pathogen (plant disease) outbreaks.

Again, as with scouting for insect pests, a vigilant eye on weather is critically important for farmers because weather determines not only crop success or failure but also pest, weed and pathogen invasion and infestation.



The human being is a highly adaptable organism, more so than natural organisms.

With all the technology at our disposal we can adapt to changes. Farmers need to be on the forefront of developments, thus check monitoring tools, new pest, disease and weed management tools and long-term weather forecasts.

Be prepared and don’t let climate change get the better of your farming practices.

Gehaltebeheer in die vervaardiging van landbouchemikalieë

Elriza Theron
Gepubliseer in
SA Graan

Gewasbeskerming speel 'n deurslaggewende rol in landbouproduksie, hetsy chemies of biologies. Produsente spandeer baie tyd, moeite en geld om veilige en gesonde gewasse te verseker.

Natuurlik sal 'n produsent dieselfde toewyding verwag om gehalte te verseker in die vervaardiging van die einste landbouchemikalieë wat gebruik word om hierdie gewasse te beskerm. Gelukkig is daar 'n verskeidenheid kontroles in plek om die beste moontlike produkte vir die produsent te waarborg.

Dit is belangrik om te verstaan hoe aktiewe bestanddele ontwikkel word. Hierdie molekules, of groep molekules, word nie per ongeluk ontdek nie. Hulle is presies ontwerp vir 'n spesifieke doel – met ander woorde, om 'n spesifieke plaag of onkruid te bestuur. Wetenskap word gebruik om te verseker dat hierdie aktiewe bestanddele doeltreffend, maklik om te gebruik en koste-effektief vir die produsent is. Daarbenewens moet dit natuurlik ook veilig vir operateurs, verbruikers en die omgewing wees. Wetenskaplikes gebruik genomika, fisiologie en biochemie om te verseker dat die molekules presies doen wat nodig is. Oor die jare het wetenskaplikes daarin geslaag om die hoeveelheid plaagdoder wat nodig is om 'n spesifieke probleem op te los, dramaties te verminder – van meer as 10 kg/ha in die 1960's tot minder as 10 g/ha in sekere gevalle.

Ten einde 'n aktiewe bestanddeel se doeltreffendheid en veiligheid te verbeter, word sekere verbindings bygevoeg wat die formulering van die produk opmaak. Die formulering kan gesien word as die leweringstelsel en verminder die toksisiteit en onbestendigheid van die gewasbeskermingsproduk. Daar is verskeie oorwegings in die keuse van bestanddele, soos bio-afbreekbaarheid, of die rou materiaal van hernubare bronne gemaak is, sowel as die gemak waarmee die produk toegedien kan word.

Uit die aard van die saak is dit 'n baie lang en duur proses. Tipies spandeer die gewasbeskermingsbedryf \$50 elke minuut vir 'n tydperk van elf jaar (die gemiddelde tyd wat dit neem om 'n nuwe plaagdoder op die mark te bring) om hierdie produkte vir produsente te ontwikkel. Dit is hoofsaaklik te wyte aan die styging in volume en kompleksiteit van data wat deur regulatoriese liggame vereis word om te verseker dat produkte veilig en doeltreffend is. Die regulatoriese proses stop egter nie daar nie en duur voort selfs nadat magtiging verkry is.

CropLife Internasionaal en sy lede het saam met produkintegriteitskundiges 'n dokument oor kontaminasievoorkoming in die vervaardiging van gewasbeskermingsprodukte ontwikkel. Alle CropLife Internasionaal-lede moet hieraan voldoen.

Dié dokument, wat die bedryfstandaard vorm, omskryf bestepraktykryglyne in alle vervaardigingstappe ten einde die risiko van kontaminasie van gewasbeskermingsprodukte tydens die vervaardigingsproses te bemiddel. Dit dek elemente van risiko-assessering, onsuiverhede, skoonmaakvlakbepaling, vervaardigingspraktyke, skoonmaak van produksie-eenhede en ontleding van residue.

Die magtigingsproses vir gewasbeskermingsprodukte is een van die strengste ter wêreld en meer as 150 veiligheidstudies word op elke moontlike produk gedoen voor kommersiële gebruik goedgekeur word. In Suid-Afrika behoort alle ingevoerde produkte ná invoer geanaliseer te word om die gehalte te bepaal. Produkte wat plaaslik vervaardig word, word ook aan hierdie gehalte-beheertoetse onderwerp. 'n Produk moet geregistreer wees volgens die Wet op Mis stowwe, Veevoedsel, Landboumiddels en Veemiddels, 1947 (Wet Nr. 36 van 1947). Die vereistes word gestel in Artikel 7 (1) van die wet en word verder ondersteun deur die feit dat die Registrateur van Wet 36 enige ander voorwaardes mag stel voordat 'n aansoek om registrasie goedgekeur word.

Van hierdie vereistes sluit die volgende in:

- 'n Analise van die aktiewe bestanddeel se bron moet vir vyf lotte bekom word om seker te maak die standaard is aanvaarbaar.
- Die aktiewe bestanddeel moet in 'n geskikte samestelling met ander koformulante geformuleer word en die formulasie-aanleg moet ook deur die registrateur goedgekeur word.
- Middels se raklewe moet bepaal word. Maatskappye stel die geformuleerde landboumiddel aan versnelde raklewetoetse bloot, waarna alle fisiese en chemiese eienskappe getoets word. As die middel al die toetse slaag, word 'n tweejaarraklewe ingevolge die regulasies toegeken.
- Veldproewe oor minstens twee groeiseisoene en in ten minste twee verskillende klimatologiese streke moet gedoen word om te bewys dat die middel ten minste 80% van die pes, siekte of onkruid beheer.
- Daar word ook residuproewe gedoen met die korrekte dosis, sowel as twee maal die dosis, om te bepaal wat die aanvaarbare residu sal wees na die oesinterval.
- 'n Baie belangrike vereiste is om te bewys dat geen gewasskade aangerig word as die landboumiddel met die regte toedieningsapparaat en teen die korrekte dosis aangewend word nie.

Die meeste vervaardigers het ISO 14001- en 9001-sertifi sering en doen selfs addisionele gehalte-ontledings na produksie. Vervaardigers moet ook 'n lisensie hê om gevaarhoudende stowwe te lewer, wat deur die Wet op Gevaarhoudende Stowwe, 1973 (Wet Nr. 15 van 1973) uitgereik is. Al hierdie maatreëls ondersteun die oorspronklike rede vir die ontstaan van Wet Nr. 36 van 1947, naamlik om te verseker dat die plaagdoders wat vervaardig en versprei word, die nodige doeltreffendheid het om peste, plantsiektes en onkruid te bestuur, tot voordeel van produsente.

Die Moet's en moenie's van lugbespuiting

Dr. Gerhard Verdoorn
Gepubliseer in
SA Graan

Landbougewasse beleef 'n konstante aanslag van plantplae, -siektes en onkruid wat hul gesondheid uitdaag. Producente se winsgewendheid erodeer indien hierdie ongewenste elemente nie behoorlik en betyds bestuur word nie.

Plaagdoders of landboumiddels is beskikbaar vir die effektiewe bestuur van feitlik alle peste, siektes en onkruid in Suid-Afrika – en dit is die produsent se prerogatief om die korrekte geregistreerde remedie te kies om die gewas vir optimale produksie en winsgewendheid te bestuur.

Lugtoediening is soms die voorkeurmetode vir aanwending van die plaagdoder as gevolg van die gewasstruktuur of groeistadium of omdat omgewingstoestande soos oorstromings grondtoediening ongewens of onprakties maak.

Hierdie tipe toediening word deur drie stelsel regulatoriese raamwerke gereuleer, naamlik die Wet op Misstawe, Veevoedsel, Landboumiddels en Veemiddels, 1947 (Wet Nr. 36 van 1947), die Burgerlugvaartwet, 2009 (Wet Nr. 13 van 2009) en die Suid-Afrikaanse Nasionale Standaard vir Lugtoediening van Plaagdoders (SANS10118) sowel as die ondersteunende regulasies van die twee wette.

Lugtoediening van plaagdoders vereis veel meer as grondtoediening weens die verhoogde risiko van hierdie metode van toediening en die vaardighede wat daarvoor nodig is.

Registrasie vir lugtoediening

'n Plaagdoder moet geregistreer word vir lugtoediening om as sodanig gebruik te word en die etiket van so 'n plaagdoder sal sekere klousules van SANS10118 inkorporeer en spesifieke instruksies vir lugtoediening by die gebruiksaanwysings hê. Indien 'n etiket nie hierdie inligting het nie, mag die plaagdoder nie deur lugbespuiting toegedien word nie. Een van die grootste probleme wat ondervind word met lugtoediening is tenkmengsels; dit is nie ongewoon vir 'n vliegtuig om op te styg met 'n mengsel van tot sewe verskillende plaagdoders in die tenk nie.

Bo en behalwe die wetlike gevolge van sulke onverantwoordelike praktyke, is die verenigbaarheid van al die plaagdoders in een tenk baie problematies. Sommige plaagdoders is eenvoudig onversoenbaar weens verskillende pH-vereistes of chemiese reaksies wat dit kan deaktiveer.

Nog 'n probleem voortspruitend uit sulke tenkmengsels is dat dit nie genoeg water het om die aktiewe bestanddele effektief op die teiken te deponeer nie,

met swak produkprestasie, ongewenste sinergisme of antagonisme as die moontlike gevolg. Die eenvoudige reël is om etiketaanwysings na te volg en nie daarvan af te wyk nie.



- » Kyk op die etiket of die plaagdoder vir lugtoediening geregistreer is.
- » Dring daarop aan dat die gewasadviseur plaagdoders wat vir die gewas, die plaag, onkruid of siekte en vir lugtoediening geregistreer is, aanbeveel en voorsien.



- » 'n Plaagdoder deur lugbespuiting toedien indien dit nie as sodanig geregistreer is nie.
- » Advies oor ongeregistreerde tenkmengsels aanvaar nie.

Minimum spuitvolume vir lugtoediening

'n Vliegtuig (vastevlerk, helikopter, mikrolig of hommeltuig) kan nie dieselfde volume spuitmengsel as 'n tipiese grondspuittenk dra nie. Dus is die spuitvolume wat per hektaar vir lugtoediening aangedui word, baie laer as vir grondtoediening. Etiket van plaagdoders wat vir lugtoediening geregistreer is, dui gewoonlik op 'n minimum spuitvolume van 30 l/ha tot 40 l/ha. Dit is raadsaam om groter volumes te gebruik indien moontlik, want hoe groter die spuitvolume, hoe beter is die deponering van die plaagdoder op die teiken. Die minimum spuitvolume mag in sommige gevalle heeltemal ondoeltreffend wees, soos vir die berugte herfskommandowurm (HKW) in die verbouing van mielies. Slegs 30 l-spuitmengsel per hektaar van 'n insekdoder is nie genoeg om die aktiewe bestanddeel in die plantkelke in te spoel waar larwes in die vyfde en sesde vervellingstadia leef en die plant beskadig nie. Lugtoediening word dus nie aanbeveel vir hierdie spesifieke plaag in sy gevorderde ontwikkelingsfasies in mielies nie. Vir normale peste en siektes kan lugtoediening selfs teen die lae spuitmengselvolume voordelig wees, omdat die vliegtuig se beweging effektiewe deponering van die spuitmengsel op die teiken bevoordeel.



- » Ten minste 30 l-spuitmengsel per hektaar toedien.



- » Minder as 30 l-spuitmengsel per hektaar toedien nie.
- » Plaagdoders met lugtoediening vir plae wat in kelke, koppe of are skuil, toedien nie.

Vermy hierdie weersomstandighede

Weersomstandighede speel 'n deurslaggewende rol in die veilige en doeltreffende aanwending van plaagdoders – ongeag of dit grond- of lugtoediening is. Die algemene reël is om te bespuit wanneer die windsnelheid tussen 5 km/h en 15 km/h is. Enige glifosaatbespuiting moet gestaak word wanneer die windsnelheid 10 km/h oorskry om skade aan omliggende plantegroei te voorkom (dit word ook so op glifosaatetikette aangedui).

Hierdie reël is van toepassing op beide grond- en lugtoediening. Bespuiting in omstandighede met 'n windsnelheid van meer as 15 km/h moet vermy word, want dit verhoog die potensiaal vir ernstige drywing na nieteikengebiede.

'n Mens kan die behoefte aan 'n matige wind bevraagteken, maar die rasionaal is eenvoudig: Die luginbeweging help om die spuitmengsel op die teiken te deponeer. 'n Totaal windlose dag is riskant, omdat die spuitmengsel in die lug kan hang en van die teikengebied wegdryf – met potensieel ernstige gevolge vir ander gewasse, natuurlike gebiede en menslike gesondheid. Windlose dae is 'n gevolg van temperatuurinversie waar koel lug op die oppervlak fisies geblokkeer word om opwaarts te beweeg deur 'n laag warm lug wat oor die koue lug lê. Dit is maklik om temperatuurinversie te sien: Rook damp uit 'n skoorsteen slegs tot 'n sekere hoogte op en dryf dan sywaarts. Temperatuurinversie kan tot beduidende plaagdoderdrywing lei en moet ten alle tye vermy word. Sulke toestande heers gewoonlik in die vroeë oggend.

Hoë atmosferiese temperatuur is ook 'n probleem vir beide grond- en lugtoediening, want dit lei tot verdamping van die water in die spuitdruppels, vermindering in die druppelgrootte en swak deponering op die teiken. Dit is te verstane dat sulke klein druppels baie meer tot drywing geneig sal wees as die druppels van die aanbevole grootte. Vermy situasies waar reën kort na toediening kan val, omdat die produk dalk nie vinnig reënvas mag wees nie. Sommige etikette sal die tyd aandui wat nodig is vir die plaagdoders om reënvas te word. Indien geen sodanige aanduiding aangebied word nie, raadpleeg die plaaslike weervoorspelling en poog vir 'n “droë” tydperk van ses ure na toediening. Laastens, vermy bespuiting wanneer die gewas met swaar dou bedek is. Wag eerder totdat die dou verdamp het voordat bespuiting plaasvind.



» Kies weerstoestande met 'n ligte wind en 'n omgewingstemperatuur van minder as 30°C.



- » Spuit wanneer daar 'n temperatuurinversie is nie.
- » Spuit in totaal windlose omstandighede nie.
- » Spuit wanneer die windsnelheid 15 km/h oorskry nie (10 km/h vir glifosaataanwendings).
- » Spuit wanneer die omgewingstemperatuur bo 30°C styg nie.
- » Spuit wanneer reën binnekort verwag word nie.
- » Spuit wanneer die gewas met dou benat is nie.

Spesifieke beperkings

Die Registrateur van Wet Nr. 36 van 1947 mag sekere voorwaardes rakende enige geregistreerde plaagdoder oplê.

Een so 'n voorwaarde wat op lugtoediening van toepassing is, is dat 2,4-D-esters nie deur lugtoediening in sommige dele van die land, soos KwaZulu-Natal en die Wes-Kaap, gedoen mag word nie as gevolg van wegdrywing en potensiële gewas- en omgewingskade. Dit is dus nodig om die etiket te bestudeer en te kontroleer vir enige beperkings wat van toepassing is op die produk, voordat dit vir lugtoediening op die plaas gekies word.



» Gaan die etiket na vir enige beperkings in terme van lugtoediening.



» Die plaagdoder strydig met beperkings deur lugbespuiting toedien nie.

Vereistes gestel

Vlieëners van vliegtuie wat gebruik word vir lugtoediening moet deur die Registrateur van Wet Nr. 36 van 1947 geregistreer wees as lugbespuitingsplaagbeheeroperateurs om dienste as lugtoediener te lewer. Hierdie vereistes is onderhewig aan ander vereistes van die Burgerlugvaartwet en die regulasies daarvan, wat verderaan in die artikel bespreek word. Plaagbeheeroperator-(PBO-)regulasies van Wet Nr. 36 van 1947 het sekere vereistes wat in konflik met dié van die SANS10118 is, maar die basiese beginsels is as volg:

- » Die produsent moet enige sensitiewe areas soos aanliggende gewasse, natuurlike areas, vleilande, behuising, gemeenskapsentrums asook plekke van veeteelt, soos voerkrale, pluimveeplase en melkerye, identifiseer. Hierdie inligting moet aan die vlieënier beskikbaar gestel word voordat daar met die spuitaksie begin word, sodat daardie gebiede vermy kan word. Wanneer sodanige gebiede in die nabyheid van die aanwendingsarea is, moet 'n buffersone gehandhaaf word om die spuitneerslag op sodanige gebiede te voorkom. 'n Buffersone is 'n veiligheidsone tussen die gebied van toediening en sensitiewe areas, om onnodige blootstelling van mense, boerderybedrywighede en die natuurlike omgewing aan die plaagdoder te voorkom.
- » Alle onmiddellike bure moet van die voorgenome lugtoedieningsbedrywighede in kennis gestel word – hetsy telefonies of skriftelik. Sommige van die plaagdoders het 'n sterk en onaangename reuk en selfs al is die konsentrasie van sulke plaagdoders in die atmosfeer van geen of baie lae risiko vir mense, kan dit 'n hewige reaksie veroorsaak. Produsente moet bure waarsku wanneer sodanige plaagdoders aangewend gaan word en sterk aanbeveel dat die bure hul perseel ontruim terwyl die bespuiting gedoen word. Kennisgewings aan bure gebeur selde of ooit en lei tot baie negatiewe interaksies. Kennisgewingborde rondom die teikenarea word ook volgens die regulasies vereis om oor die lugtoediening van plaagdoders te waarsku.

Die teikengebied moet duidelik deur die produsent gemerk word ter wille van die vlieënier en dit word meestal gedoen deur die voorsiening van GPS-koördinate.

- » Die vlieënier moet die spuitaksie in sy spuitlogboek aanteken en die produsent voorsien van 'n rekord van wat gespuit is. 'n Nuwe reël in die hersiene SANS10118 wat gedurende 2020 gepromulgeer moet word, is dat die lugtoediener (vlieënier), produsent en agent die verantwoordelikheid vir die aanwending deel. Dit beteken dat op die dag van die lugtoediening die vlieënier, produsent en landbouchemiese agent almal moet saamstem oor die plaagdoder wat aangewend moet word, die dosis asook die buffersone wat nodig is vir die spuitaksie.



- » Gebruik slegs die dienste van 'n vlieënier wat as 'n lugbespuiting-PBO geregistreer is.
- » Lig bure oor die lugtoediening in.
- » Merk die teikenarea duidelik vir die vlieënier.
- » Identifiseer sensitiewe areas en stel die vlieënier daarvan in kennis.
- » Merk en implementeer 'n buffersone.



- » Spuit naby sensitiewe areas nie.

Regulasies vir vliegtuie en vlieëniers

Die Burgerlugvaartwet het 'n stel regulasies vir vliegtuie en vlieëniers wat vliegtuie bedryf vir die lugaanwending van plaagdoders. Dit dek alle vliegtuie, insluitende hommeltuie wat gedefinieer word as afstandbeheerde vliegtuie (ABV's). Daar is geen verskil tussen die regulasies vir vliegtuie (helikopters, vastevlerk- en mikroligte vliegtuie) en ABV's nie. Hulle moet almal gelisensieer en gesertifiseer wees vir lugtoediening van plaagdoders (soms genoem oesstuiwing). Vlieëniers van standaard vliegtuie en operateurs van ABV's moet gelisensieer word as kommersiële vlieëniers met 'n landbougradering vir lugtoediening, voordat hulle mag aansoek doen vir die lugtoediening-PBO-registrasie kragtens Wet Nr. 36 van 1947. Vlieëniers moet oor die bevoegdheid beskik om die radio-telekommunikasie wat nodig is vir kommersiële vlieëniers te bedryf en moet in besit van die nodige radio-telekommunikasietoerusting wees. Dit is nie net 'n geval van die koop van 'n hommeltuig en die aanbied van lugbespuiting nie; die persoon moet ten volle gekwalifiseer en gesertifiseer wees net soos 'n kommersiële vlieënier van 'n normale vliegtuig.

Dit is die produsent se verantwoordelikheid om die sertifisering van 'n vlieënier van enige tipe vliegtuig asook die lugtoediener se registrasie onder Wet Nr. 36 van 1947 na te gaan. Kontroleer ook dat die vliegtuig (insluitend ABV's) gelisensieer en gesertifiseer is vir gewasbespuiting. Versuim om dit te doen kan die produsent laat met 'n onwettige operateur en 'n waarskynlike oortreding van beide Wet Nr. 36 van 1947 en die Burgerlugvaartwet.

Lugveiligheid is van kardinale belang wanneer lugaanwending van plaagdoders gedoen word. Dit is 'n goeie beginsel vir die vlieënier om aan te meld by die naaste lugverkeerbeheertoring en die spuitaksie aan te teken. Dieselfde geld ook vir ABV-operateurs. Dit is baie belangrik vir gelisensieerde ABV-operateurs om seker te maak hulle is ingeskakel op die plaaslike lugverkeerradiofrekwensie om alle vlieëniers van ander vliegtuie van hul bedrywighede in te lig. Versuim om dit te doen, kan tot 'n botsing tussen 'n hommeltuig en 'n vliegtuig of helikopter lei – met rampspoedige gevolge.



» Maak seker dat die vliegtuig en vlieënier beide gelisensieer en gesertifiseer is vir lugtoediening deur die burgerlikelugvaartowerheid. Die vlieënier moet radiokommunikasie met ander vliegtuie hê en aan lugverkeerbeheer rapporteer.



» Die dienste van ongelisensieerde en ongesertifiseerde vlieëniers en vliegtuie, veral nie ongelisensieerde ABV-operateurs, gebruik nie.

Die oorgrote meerderheid van plaagdoders wat in Suid-Afrika geregistreer is, word op CropLife SA se Agri-Intel (www.agri-intel.com) gelys met gebruikersvriendelike aftrek-spyskaarte wat dit maklik maak om vir geskikte middels te soek. Dit is van kriteke belang dat die produsent hom/haarself van die plaagdoderfeite vergewis deur die etikette vanaf Agri-Intel af te laai en die voorskrifte vir effektiewe en verantwoordelike gebruik te bestudeer. Dit sal die produsent ook lei na die aanwendingstegnologie wat vir 'n plaagdoder gebruik kan word, wat aandui of dit slegs vir grondtoediening deur 'n trekker en spuitbalk of newelblaser bedoel is en of dit ook vir lugtoediening geregistreer is.

We're here to help

If you require assistance with any of the above services, would like to become a member, or if you have general feedback, we would love to hear from you. Please contact any member of our team:

CropLife SA	Office	+27 (0)87 980 5163	info@croplife.co.za
Rodney Bell	Chief Executive Officer	+27 (0)66 273 6027	rod@croplife.co.za
Gerhard Verdoorn	Operations and Stewardship Manager	+27 (0)82 446 8946	gerhard@croplife.co.za
Fikile Nzuzi	Regulatory and Government Liaison	+27 (0)71 383 2391	fikile@croplife.co.za
Elriza Theron	Marketing and Communications Manager	+27 (0)72 443 3067	elriza@croplife.co.za
Nadia van Niekerk	Financial Administrator	+27 (0)72 940 5591	nadia@croplife.co.za
Chana-Lee White	Agri-Intel Manager	+27 (0)72 298 9389	chana@croplife.co.za
Luigia Steyn	Agri-Intel MRL Consultant	+27 (0)60 508 6369	luigia@croplife.co.za
Susan Ramaila	Office Assistant	+27 (0)76 063 6629	susan@croplife.co.za