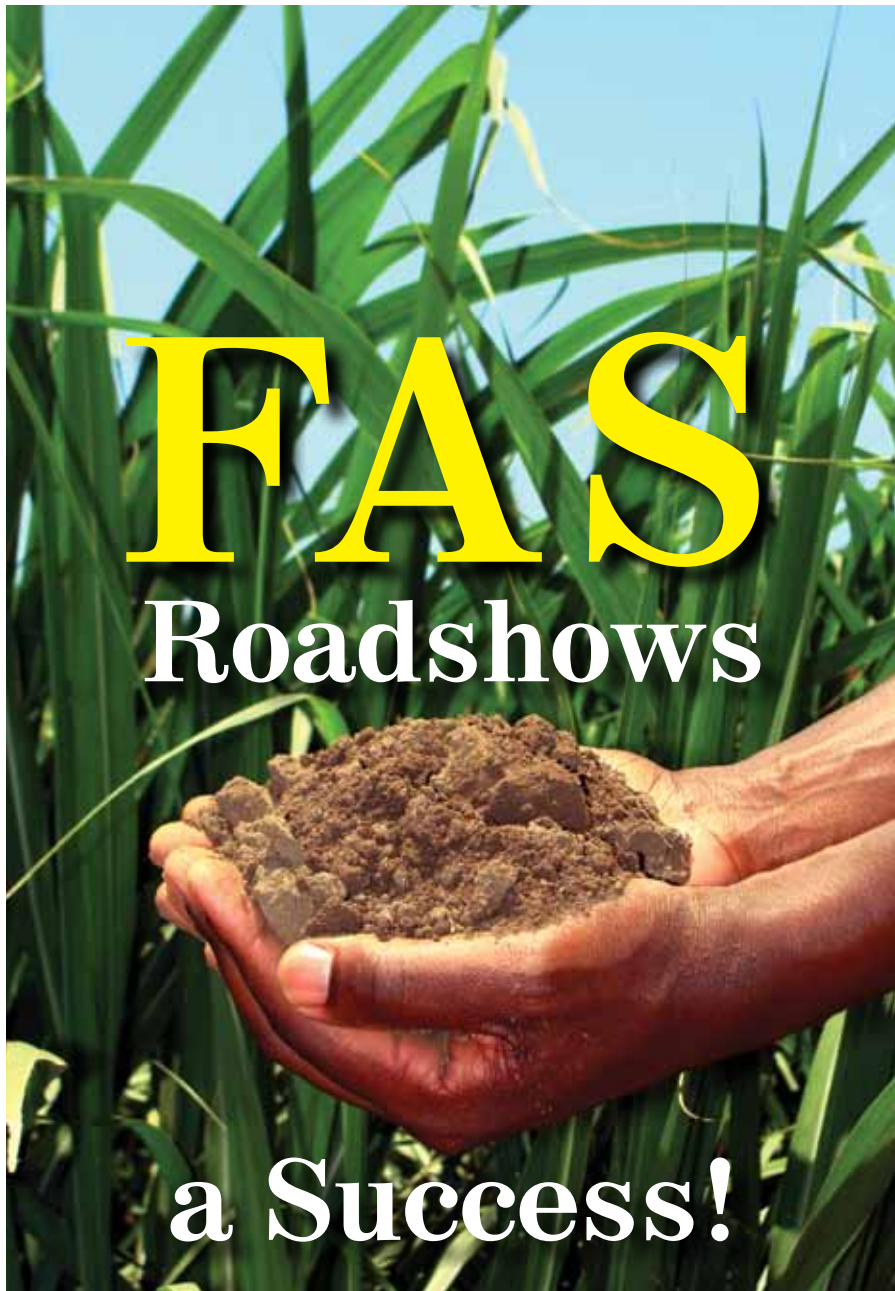


THE LiNK

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Page 2: Towards the end of April 2011, SASRI hosted a series of roadshows in several extension areas. The roadshows highlighted some of the changes to FAS, including: advice on subsoil acidity, customised recommendations according to yield potential and new pH test methods.



Page 12: Update on "Ash" rust. An unknown rust previously observed in Zululand and Umfolozi has recently re-appeared in several regions in the SA sugar industry.



Page 14: More advice on how to choose a green manure for winter.



Page 16: Proper management of chemically ripened crops is essential in order to maximise profits.



Unlocking the potential of sugarcane



FAS

Roadshows

SASRI hosted a series of 12 'roadshows' in each extension area during August and September 2011, to communicate the changes in the Fertiliser Advisory Service (FAS). These events were well received, and attended by a total of 475 growers throughout the sugar industry.

Some of the highlights of the revamped FAS which attracted particular attention during the discussion sessions were:

- **Subsoil acidity:** facilities are in place to receive and report on subsoil samples, and to recommend gypsum to improve acidity problems at depth.
- **Yield targets:** N, P and K recommendations now take achievable yield into account, rather than recommending a standard rate across all yield potentials.

- **Green manures:** N recommendations will be reduced in the plant crop grown after a legume green manure, depending on the green manure species and yield.
- **pH:** pH is now measured in calcium chloride, instead of water. This is a more stable and reputable measure. A rough rule of thumb is that pH (calcium chloride) will read about 0.75 units lower than the pH (water) of the same sample.

FAS Contact details:

Tel: (031) 508 7474/7

Fax: (031) 508 7593

Email: fertiliser.advisory@sugar.org.za

Website: <http://www.sasa.org.za>

- **P tests:** a more reliable laboratory test ('Ambic' test) will be used for soils with a pH greater than 5.5. At pH less than 5.5, the usual 'Truog' test, which is stable at these lower pH values, will be used.
- **More comprehensive package:** micronutrients (copper, zinc, iron and manganese) and silicon are now routinely analysed.
- **More accurate reflection of nutrient availability:** Previously all samples were weighed, now all samples are measured on a volume basis.

In addition to these changes, FAS has also updated the appearance of its reports. The reports now provide a summary showing the results of all the samples sent in a batch and an electronic data file, which can be used in any field record system.

FAS is committed to improving its turn-around time, and providing tailor-made fertiliser and lime recommendations. It is important to note that FAS is the only service that offers sugarcane-specific recommendations.

SASRI would like to thank all growers who attended the roadshows for their interest and constructive debate. If you require more information, please contact your Extension Specialist.



Ruth Rhodes (*Soil Scientist*)
& **Geoff Maher** (*Extension Manager*)



Message from the DIRECTOR



Dr Carolyn Baker

Taking good care of the soil has to be a 'no-brainer' for any grower - the more you pay attention to what the crop needs, the more likely you are to achieve a decent return on investment. Conducting rigorous scientific research into soils management and the nutrition requirements of sugarcane has been a core function at SASRI since 1926. By 1928, the SASRI Director at the time, Dr Dodds was 'fully satisfied' that he had demonstrated the value of green manuring, having confirmed an increase in soil moisture content and a yield increase in cane. We have come a long way since then, and have conducted numerous trials to show the relative value of a wide diversity of green manures, the best time to plant them, their likely yield response and impact on pests, diseases and also soil fertility. The Green Manuring manual that was produced in 2010 represents a comprehensive compilation of our work to date, and in this issue of The Link, further advice on winter green manures is offered.

Understanding the structure and chemistry of the soil and the requirements of the crop provides the foundation for all the management and nutrition recommendations emerging from SASRI, and our approach is based on irrefutable scientific evidence. It is this body of scientific knowledge that sets SASRI apart, and enables our Fertiliser Advisory Service to offer all sugarcane growers the very best advice on soil ameliorants - which ones to apply and the quantity required. Of course our Extension Specialists in each region are fully equipped to provide guidance on the recommendations emerging from SASRI and together with our specialists, are able to provide the scientific evidence that underpins them.

This edition of The Link also touches on pest and disease matters and the recent widespread rains seem to have sparked an upsurge of a number of biosecurity issues, with the new Ash rust being particularly prominent in some areas. This, together with the increased incidence of eldana in the midlands, highlights the importance of managing pest and disease risks in the industry for the benefit of the whole industry. Undoubtedly, a compromised crop affects the growers' yields and the millers' cane supply - and so our joint responsibility and the value of countering all pest and disease threats and mitigating all risks, cannot be overemphasised.

*I would like to wish all our readers
a very prosperous 2012.*



January to April 2012

TOPICAL TIPS



Pest and disease control

- Inspect and rogue fields and nurseries for diseases and off-types. Diseased stools must be completely removed with all their roots. In the case of smut, place the diseased material in a bag, remove from the field and burn. Train your staff to identify smut before the whips emerge.
- Ratoon stunting disease (RSD) can cause severe yield loss. Between 12 and 50 % reduction in yield has been recorded in trials. If your fields are infected, it may be wise to sacrifice some crop growth by fallowing these fields until all traces of the previous crop are removed. This could take up to six months. Plan to sample all fields to be re-established this year.
- Do your own surveys or get your Local Pest Disease and Variety Control Committee to check carry-over fields for eldana so that fields with the highest levels of damage can be harvested first in the coming season.



Weed control

- Follow-up hand weeding of *Panicum* (Ubabe) and *Sorghum* (Uqhangabothi) and conduct under-canopy spraying of creeping grasses.
- Mow verges and breaks.

Planting

- Planting in late summer and autumn brings additional risks. High soil temperatures as well as the possibility of the soil drying out as winter approaches, leads to the risk of soil-borne diseases such as pineapple sett rot which affects germination. Apply a fungicide to protect the setts, and adequately cover and compact the soil over the setts.
- For the Midlands, plant seed nurseries so cane is at optimum age for planting in spring the following year.



Nutrition

- Carry out leaf sampling in young ratoon or plant fields not affected by thrips. Leaf samples should be taken to assess the effectiveness of your fertiliser programme.
- Carry out soil sampling, top and subsoil, in your plough-out fields, after harvest.
- Consider planting green manure crops such as winter oats in your replant fields.

Chemical ripening

- Plan and finalise the chemical ripener programme.
- In the northern irrigated areas there are excellent opportunities to exploit the use of chemical ripeners as well as the scheduling of varieties to be harvested in their appropriate 'window' to ensure the maximum possible income from every field.
- Monitor the ripener programme.



Harvesting

- Plan the harvesting programme for the coming season.
- Access the latest SASRI crop forecast for the coming season. There is also a yield benchmarking facility available on the SASRI website: <http://www.sugar.org.za/sasri>. Look under Crop Resources on the left.
- Estimate the crop for the coming season and submit your estimate timeously.



Land use planning

- Review the field layout in all your plough out fields, including contour banks and waterways.
- Maintain and repair farm roads.

Irrigation

- Plan drying-off programme for irrigated fields.
- Schedule irrigation, do not over-irrigate.



Management

- Plan all field operations for the coming season to help determine income and expenditure estimates (budget) as well as identify the times at which resources such as labour, fertiliser, herbicide and seedcane will be required. SASRI has programme planning sheets available should you require them.
- Analyse individual field performance to assist with replant decisions such as variety selection, seedcane re-

quirements and the appropriate green manure crops.

- Plan and order seedcane requirements for next year.
- You can only manage effectively if you have good accurate information at your disposal. If you are not using a field record system, think seriously about buying a suitable package. There are many available for use with a personal computer, however even basic manual records are good enough, provided the correct data is recorded.
- This period during the off-season provides an opportunity to train staff without much disruption to important operations. Courses that should be considered are: disease, pest and variety identification, planting, Junior or Senior Supervisor training, tractor care, basic workshop skills and welding. Contact the Shukela Training Centre on 031 – 508 7706 or your local Extension office for more information.



The SASRI Extension Team

Contact your local SASRI Extension Specialist should you require help with any of the tips mentioned here.

New technology to estimate irrigation water use and sugarcane biomass production



A recently initiated multi-organisation project (led by UKZN in collaboration with SASRI, TSB and others) co-funded by the Water Research Commission and the Department of Agriculture, Forestry & Fisheries aims to determine the accuracy of remotely sensed estimates (using the SEBAL algorithm) of sugarcane evapotranspiration and biomass production for Mpumalanga. The project will explore how this information can be used by various users, including sugarcane growers.

To access the website, go to www.sugarcanelook.com (by using Firefox or Google Chrome and not Internet Explorer). Alternately, go to SASRI's website at www.sugar.org.za/sasri and choose 'Sugarcane Look' from the Crop Resources menu on the left.

The site provides weekly evapotranspiration and biomass production estimates for your fields. Evapotranspiration deficit maps (see picture) are also shown to indicate possible under-irrigation and crop stress.

Solidified Calmasil resulting from incorrect application in the field.



Update on LIMING with Calmasil®

At a combined Research, Development and Extension (RD&E) meeting held at SASRI during the course of 2011, growers requested information about Calmasil®, which is a registered agricultural dolomitic lime supplied by PBD-Lime. Pot trials at SASRI have confirmed the ability of Calmasil® to supply Ca, Mg and Si to the sugarcane plant, as well as its soil neutralising capacity, when applied at the same rates as regular dolomitic lime. Calmasil® is therefore an excellent liming agent, as well as a source of Si, which is not supplied by regular limes. However, despite the inclusion of Calmasil® in a number of crop nutrition and insect resistance projects, the uptake of plant available Si from Calmasil® has been below expectation. Options to improve the uptake of Si from Calmasil® as well as the identification and testing of alternative sources of Si, are the subject of on-going research at SASRI.

An essential consideration in the use of Calmasil® is that the product must be thoroughly incorporated in the soil and not left on the soil surface. If the material is not incorporated, on wetting it will solidify into lumps or form a crust on the surface, making it ineffective as a liming agent and silicon source.

As in the case of other liming materials, Calmasil® is best applied by incorporation several weeks before planting:

- The product should be evenly spread and mixed in well with a disc harrow before ploughing to a depth of about 250 to 300 mm.
- In a ratoon or minimum tillage situation, the material should be broadcast and incorporated carefully in the inter-row using a shallow ripping operation or by hand hoeing.

According to the manufacturer's latest (2011) analysis of the material, which is downloadable from their website at <http://www.pbd-lime.co.za/calmasil.htm>, it consists of 29.9% calcium (Ca), 9.8% silicon (Si), 6.8% magnesium (Mg), and small quantities of other elements, including sodium, potassium, sulphur, iron, manganese, copper, zinc and boron. PBD-Lime reports that the ability of Calmasil® to neutralise soil acidity is very similar to that of calcitic lime (calcium carbonate).



Malcolm Keeping
(Senior Entomologist),

Neil Miles
(Senior Soil Scientist) &

Stuart Rutherford
(Crop Protection Programme Manager)



KNOW YOUR S

Scouting for Eldana



Graeme Leslie (*Principal Entomologist*),
Otto de Haas (*Extension Specialist: Midlands*)
& **Rowan Stranack** (*Biorisk Manager*)



STATUS

In recent years eldana has made its presence felt in the cane growing areas of the Midlands, with its most recent spread in the Midlands South region. The Midlands South Local pest Disease and Variety Control Committee (LPD&VCC) has developed a comprehensive plan to combat this outbreak, and an important component of this consist of eldana surveys. Although many such surveys are being conducted by local P&D teams, of equal importance are surveys conducted by growers themselves.

The value of knowing your status regarding the levels of eldana on your farm cannot be over emphasised. Results from

“The value of knowing your status regarding the levels of eldana on your farm cannot be over emphasised.”



Obtain a copy of the Eldana Manual from the SASRI librarian.



library@sugar.org.za

such surveys can inform decisions such as harvesting schedules and carry-over decisions as well as seedcane selection, nutrient (N) applications and insecticide use.

Conduct an eldana survey includes 3 steps:

1. Collecting random sample of stalks throughout the field;
2. Examining the collected stalks; and
3. Interpreting results.

1. Collecting a sample of stalks

Frequent small samples (at least 100 stalks per field) over many fields are of more use than large samples in only a few fields. Aim to survey your farm at least once every two months. Such survey information can, over time, give you a clear understanding of the eldana risks on your farm.

Generally, unless there are good reasons (e.g. drought conditions, a previous heavily infested crop, and if the farm is in a recently identified outbreak or high risk area) surveys are not essential in crops younger than 4-5 months (8-9 months in the Midlands).

A comprehensive plan to combat the outbreak of eldana must include frequent surveys.

When collecting a sample, aim to do so over the entire field. The best plan is to walk along selected interrows and randomly collect a stalk every 20 or 30 metres, exiting the field at the end of the row. The same sampling pattern is repeated along another interrow. Actual number of interrows walked and stalks collected will depend on resources available, but aim to collect at least 100 stalks per field of 5 ha or less. A larger sample, of approximately 200 stalks, needs to be taken in fields larger than this.

2. Examining collected stalks

This examination involves:

- 🔍 Counting the number of stalks collected.
- 🔍 Counting the number of stalks bored.
- 🔍 Counting the number of internodes per stalk (*To do this, break the top of the stalk off at the natural breaking point*).
- 🔍 Splitting each stalk vertically with a knife - counting the number of internodes bored.
- 🔍 Counting only eldana larvae or pupae present.
- 📄 Record all this information on a record sheet.

From the information collected you can calculate the percentage stalks collected that are bored (% stalks bored) and also the percentage of internodes bored for each stalk (% internodes bored). Once the latter measure is calculated for each stalk in a sample you can average the values so getting an average percent internodes bored for the field. Similarly count the total number of larvae collected. This will give you "larvae /100 stalks". Counts of pupae can be added to the larval counts.



3. Interpreting results

From your surveys you will have three measures for each field:

• Percent stalks bored

This tells you the extent of the infestation in a field. If a field is split into sections prior to sampling, this can show you that a particular panel or section of a field is where the problem is most serious.

• Percent internodes bored

This tells you the intensity of an infestation and is directly related to crop loss. Roughly 1% internodes bored equates to a 1% loss in RV% e.g. if the RV% in a field was 12% then a 1% reduction in RV% is equal to 11.88% RV, $12\% - 0.12\%$ (1% of 12%).

• Larvae per 100 stalks sampled

This is an estimate of the current eldana population in the field and indicates the level of threat that eldana poses to the field and neighbouring fields (future generations of eldana). The value "E/100" is used by LPD&VC Committees to assess the eldana hazard in a region. It is also used to set maximum permissible eldana levels in fields to be harvested as well as fields to be carried over. While a value of approximately 3E/100 seems low, remember that this represents a larval population of nearly 4 000 larvae/ha.

The information above will show you the level and intensity of eldana infestations in your fields and will help in deciding what to do next. However, there are other factors that can lend further precision to your decisions. These are:

VARIETAL SUSCEPTIBILITY

The more susceptible a variety, the more cautious one should be in ageing it, particularly in dry conditions.

SOIL TYPE/DEPTH

Shallow soils will increase the risk of an eldana outbreak under dry conditions.

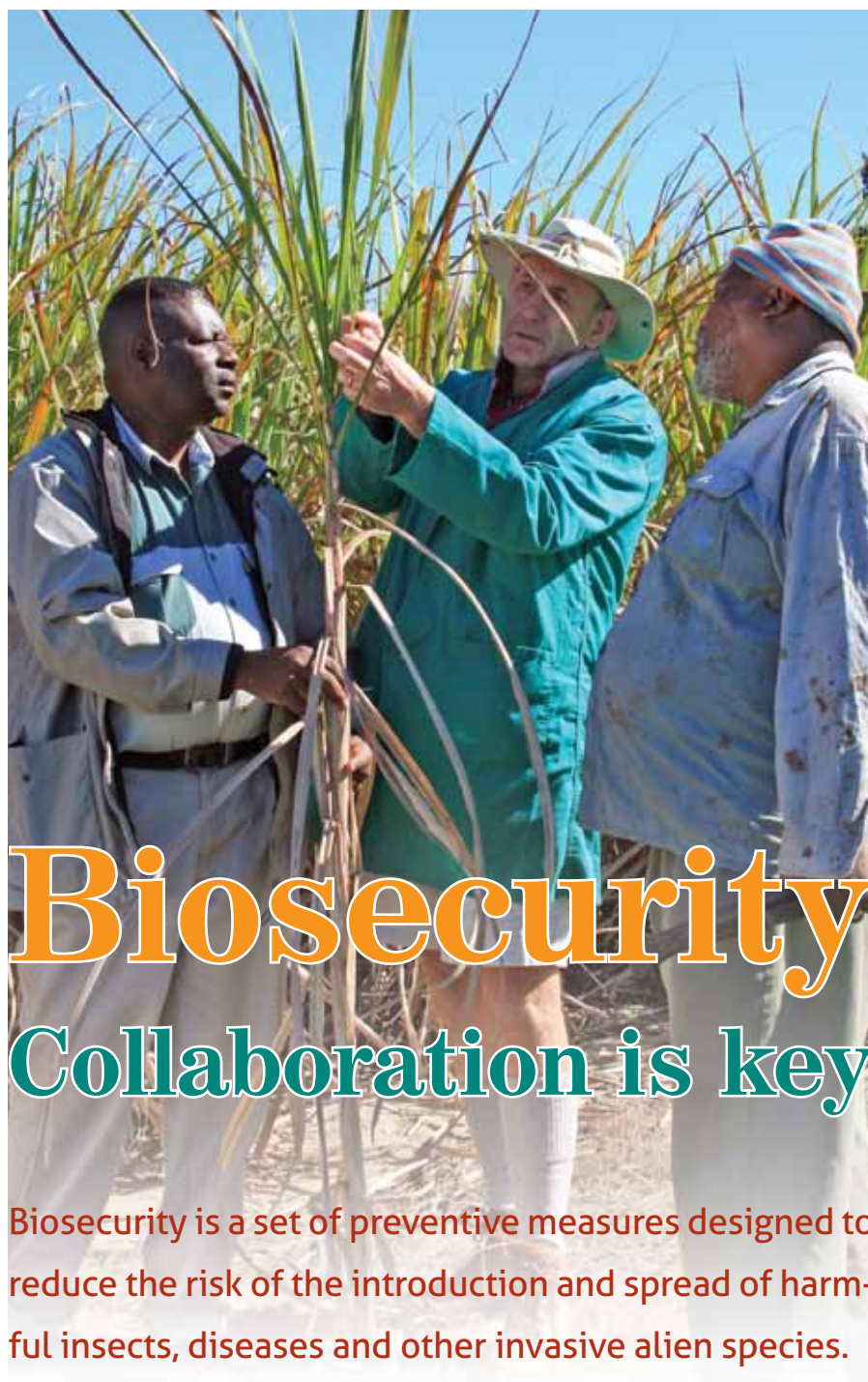
CROP AGE

The older the crop, the longer eldana populations have to increase/spread.

LEVELS OF N APPLIED

High levels of N can encourage eldana infestations, particularly under dry and drought conditions.

By considering such factors you will be able to make more informed decisions as to what you need to do to minimise the impact of eldana on your farm. Your local Extension Specialist or P&D Officer can also help in interpreting the results of your surveys.



Biosecurity Collaboration is key

Biosecurity is a set of preventive measures designed to reduce the risk of the introduction and spread of harmful insects, diseases and other invasive alien species.



Mike Way (Entomologist),
Sharon McFarlane (Plant Pathologist) &
Rowan Stranack (Biorisk Manager)

Photo: Andreas Mthethwa (Umfolozi LPD&VCC Supervisor - left) with Keith McFarlane (SASRI Technical Team Manager - centre) and Mr Mthethwa (right) discussing rust-like symptoms observed in cane fields in the Dukuduku forest area.

The South African sugarcane industry needs to remain vigilant to the possible invasion of the crop by insect pests and plant diseases. To facilitate this, a regional biosecurity programme has been established. As part of this programme, SASRI provides information to a number of southern African stakeholders about issues that pose a biosecurity risk to our industry. It is important to note that biosecurity incursions will impact all stages in the supply chain (farm – harvest – transport – mill – market). Consequently affected parties include both the milling and agricultural sectors of the industry.

The LPD&VCCs play a vital role in assisting with the detection of new incursions that will adversely affect sugar yields. A recent experience in Umfolozi illustrates that these Committees are well placed and have the capability to address this challenge. The Umfolozi LPD&VCC informed SASRI of a possible orange rust problem in sugarcane fields in the Dukuduku forest. In this instance, it was a false alarm but it is commendable that the field workers – who are the first line of defence – were knowledgeable, vigilant and followed the correct channels to inform the relevant specialists at SASRI.

Collaboration with SASRI

Since all mill regions are at equal risk due to multiple pathways of entry (not only those regions that are geographically close to the borders) a close working relationship between SASRI and all LPD&VCCs is essential. This cooperation allows for the exchange of knowledge and experience to address common biosecurity matters.

Biosecurity Hotline:



031 – 508 5459
or 083 561 2781



biosecurity@sugar.org.za



Update on a **NEW RUST** infecting sugarcane

An unknown rust that was initially observed on sugarcane in Swaziland and Umfolozi in 2009 re-appeared in spring 2011 in the Pongola, Mpumalanga, Umfolozi, Zululand North and Midlands North areas. The rust has been tentatively identified using molecular techniques as Ash rust caused by the fungus *Puccinia sparganioides*. Its symptoms appear as bright orange lesions on the sugarcane leaf, with pustules developing on the upper and lower leaf surface. These pustules contain numerous spores which are light and hardy and can be spread over great distances by wind. This fungus infects various *Fraxinus* species, a group of flowering plants in the olive family, *Oleaceae*. It requires a second host, usually various grass species, to complete its life cycle. It is suspected that this disease has broadened its host range to include sugarcane. The presence of this disease on *Fraxinus* species in the industry, particularly among alien invasives, has yet to be confirmed.

This new rust has been observed on a number of important varieties including N25, N31, N41 and N46 and on cane between three and ten months. At this stage its effect on yield is unknown. A fungicide such as Abacus® (active ingredients pyraclostrobin in combination with epoxiconazole) which has been shown to be effective against brown rust and has recently received temporary registration on sugarcane, can be applied to young fields (2-4 months) at a rate of 1.6 litres per ha. It is likely that two applications, spaced one month apart will be required for adequate control. Research on the management of rust with fungicides is continuing.

Orange rust on the move

The presence of orange rust has been confirmed in Gabon and the Democratic Republic of the Congo. This disease resulted in serious losses in the Australian sugar industry, but has not as yet been observed in South Africa.



Lauren Martin (Assistant Research Officer),
Sharon McFarlane (Plant Pathologist) &
Stuart Rutherford (Crop Protection Programme
Manager)

ORANGE RUST

Lesions (marks) on leaf:

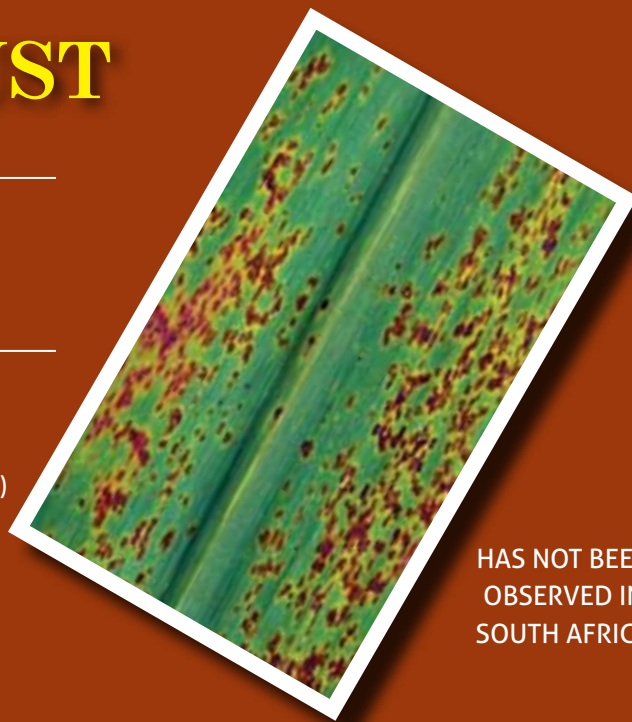
- orange to reddish brown
- up to 4 mm long
- more severe towards leaf base

Spores:

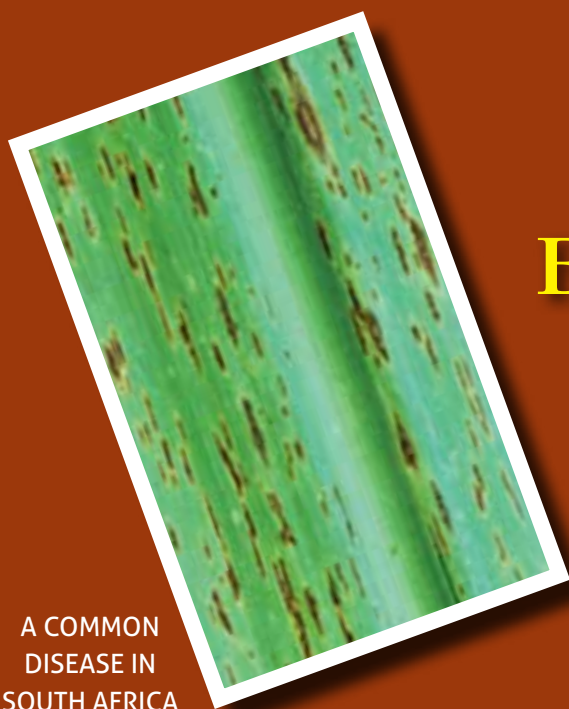
- orange when fresh
- usually only on the lower leaf surface

Favoured by humid, warm conditions

Tends to occur on mature crops (> 6 months)



HAS NOT BEEN
OBSERVED IN
SOUTH AFRICA



A COMMON
DISEASE IN
SOUTH AFRICA

BROWN RUST

Lesions (marks) on leaf:

- cinnamon brown to dark brown
- up to 20 mm long
- more severe towards leaf tip

Spores:

- brown when fresh
- usually only on the lower leaf surface

Favoured by cool nights, warm days

Tends to occur on young crops (< 6 months)

NEW RUST

Lesions (marks) on leaf:

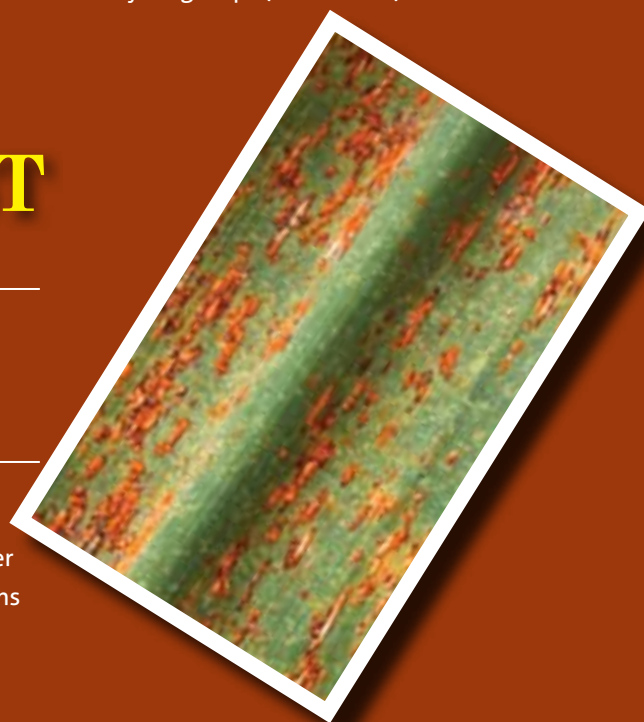
- orange to reddish-brown
- similar in size to brown rust
- more severe towards leaf tip

Spores:

- orange when fresh, profuse
- also occur on upper leaf surface

Appears to be favoured by cool, moist weather

Has been observed on cane of up to 10 months



A lush crop of black oats grown during winter 2011 at THS estates on the north coast.



Green Manure FOR WINTER



With autumn on the horizon, it is almost time to start thinking about which winter green manures to plant in your fallow fields. Whether you plant an old favourite or an exciting new species, a little forward planning is necessary to ensure a successful crop.

Crop choices

Black oats

Black oats – or white, where no alternative seed is available – remain a hardy winter stalwart. Black oats are good at catching and holding nutrients to be released at a later stage for sugarcane. They also reduce numbers of harmful nematodes, and release chemicals which suppress *Digitaria abyssinica* (Mapstone grass) very effectively. These chemicals are specific as to which other plants they affect, and so will not affect your cane germination negatively. Oats can handle a fairly dry season, though they are not a 'wonder crop' – they, along with all green manures, need some moisture throughout the growing season in order to perform. Think of the difference between 2010's winter – where oats grew miserably, if at all, due to very low rainfall – and 2011's, where bumper crops were grown. Note that oats should be killed before their seeds mature, as they can become weedy in the following cane crop.

Other winter crops

A number of other green manures can be grown during winter, including grazing vetch, lupins and serradella. Serradella and vetch grow well with oats, making it a good green manure mixture.

Another exciting addition to the suite of winter green manures is Morgan peas. These grew extremely well in Wartburg and Empangeni – with markedly different climates – in winter 2011. The seed is imported at reasonable cost, and this crop shows potential to be one of the few high-yielding legumes available for winter. Again, 2011's winter was fairly wet, probably accounting for their success. One should remember that the peas are likely to perform poorly under very dry conditions, unless irrigation is provided.

Be sure to order your seed well in advance, to avoid disappointment.

Planting dates

The planting date of winter green manures will depend on your area. In coastal areas, with warm autumn temperatures, green manures should be planted in late April/May, so long as there is sufficient soil moisture. In hinterland and upland areas, they can be planted in late March/April, to take advantage of late summer rainfall. Planting after June in either region will provide less biomass than an earlier planting date.

While waiting for the best planting date, take the opportunity to lime your fields, if necessary. Although crops such as oats can handle some acidity (pH greater than or equal to 4), most will fare better on soils with a pH greater than 5.5.

Here's to a green winter !



ures



Ruth Rhodes (Soil Scientist)

Morgan peas, grown during winter 2011. Photo courtesy of Lotar Schulz, Wartburg.

Management of **CHEMICALLY- RIPENED IRRIGATED SUGARCANE**



During the inaugural RD&E Committee Annual General Meeting held at Mount Edgecombe in March 2011, a priority issue raised by the Northern Irrigated region was: "How long can cane stand after being ripened before losses occur?" Subsequent feedback from SASRI to the RD&E Committees stated that the intervention to be implemented on this issue would be in the form of a Link article during 2012, which would equip growers with information on how to manage chemically-ripened crops in order to ensure the longevity of chemical ripener benefits. This article addresses the RD&E AGM priority issue.



By Riekert van Heerden

(Senior Scientist: Sugarcane Physiologist)

For chemical ripeners to be effective, improvements in RV yield (tons RV per hectare), and not only cane quality (%RV), are essential. Ripeners unequivocally improve cane quality, and achieve this through chemically-induced suppression of stalk and/or leaf growth at full soil moisture supply without lowering sucrose production by the leaves. When drying-off is used to ripen crops, deprivation of soil moisture is the factor suppressing growth, without affecting sucrose production, unless drought stress becomes too severe. Growth suppression, either through chemical ripening or drying-off, makes more sucrose available for storage, but at the same time, could reduce cane yields. For the grower to make a profit from either chemical ripening or drying-off, the improvement in cane quality must exceed any negative effects on cane yield. To achieve this goal, excessive chemical ripening or excessive drying-off must be prevented at all costs.

Research conducted locally and internationally over many years has shown that slight reductions in cane yield can indeed occur when ripeners are applied at registered rates to vigorously growing irrigated crops. However, improvement in

cane quality by far compensates for this loss, leading to substantially higher RV yields. The added benefit from reduced harvest and transport costs also needs to be considered. Recent results from grower farms in Komatipoort and Pongola have shown that improved RV yields in ripened crops translated into profits of between R2 785 – R8 725 per hectare.

However, in order to maximise profits, the decision to ripen a particular crop, and the subsequent management of that crop, requires due consideration. Years of research has shown that the following four considerations are most important:

- Only ripen healthy, vigorously growing crops. Crops suffering from drought stress because of inadequate irrigation, or any other factor reducing growth potential (low temperature, pests, diseases, profuse flowering, severe lodging etc.), should not be ripened. Ripeners are ineffective in these crops and could also aggravate stress symptoms. Stalks with 8 or more green leaves and long upper internodes, in conjunction with juice purities below 75% (for Ethephon) and 85% (for Fusilade Forte), are tried-and-tested indicators of good crop vigour. For these reasons it is not economically viable to apply ripeners during winter, when crop growth slows down naturally; well-managed drying-off instead of chemical ripening remains the best practice for crops harvested during the months of August - October.
- Adhere to the registered application rates. Using higher rates causes more rapid and more severe symptom development without improving cane quality much further, whilst introducing a real risk of reducing cane yields to unacceptable levels;
- Good irrigation management is critical. This is not only true before applying ripeners but also afterwards. To reap the full benefits from chemical ripening it is important to maintain proper irrigation for as long as possible after ripener application. This ensures that the green leaves can continue producing sucrose for storage at the highest possible rates. Chemically-ripened crops should not be dried-off. Instead, irrigation should only be stopped to allow for in-field harvesting operations and to prevent soil compaction.

Recent results from grower farms in Komatipoort and Pongola have shown that improved RV yields in ripened crops translated into profits of between R2 785 – R8 725 per hectare.

“

Chemically-ripened crops should not be dried-off. Instead, irrigation should only be stopped to allow for infield harvesting operations and to prevent soil compaction.

”

Severe drying-off is known to reduce the benefits from chemical ripening considerably. On the other hand, commercial strip trial results from Komatipoort have shown profits of up to R5 077 per hectare in crops where no drying-off was practised;

- Adhere to the recommended spray-to-harvest interval (STHI). Extending the STHI for too long beyond the recommended interval will result in progressively larger cane yield reductions, which could ultimately cancel-out the RV yield benefit. This is particularly the case where extension of the STHI coincides with drying-off or too high ripener application rates. Recent commercial strip trial results in Pongola on a 60 cm-deep soil have shown that under good irrigation management (irrigation only stopped 2 weeks before harvest) positive ripener responses in terms of RV yields were maintained for 4 weeks after the recommended harvest date has lapsed. However, where possible, fields close to the recommended STHI should always hold priority in harvest schedules.

For more information on ensuring maximum profits from chemical ripening refer to SASRI Information Sheets 12.1 – 12.3.

Bestuur van chemies-rypge-maakte suikerriet onder besproeiing

Opsomming: Effektiewe aanwending van rypmakers is daarop gerig om die RV opbrengs (ton RV per hektaar) te verhoog en nie net bloot om die stronkkwaliteit (% RV) te verbeter nie. Net soos in die geval van afdroging word groei deur rypmakers gerem. Dit vind plaas sonder om die proses waartydens suiker in die blare geproduseer word te veel te beïnvloed. Dit het in beide gevalle 'n verhoogde berging van suiker in die stronke tot gevolg. Omdat beide afdroging en rypmakers groei rem is dit moontlik dat beide bestuurspraktyke stronkopbrengs (ton per hektaar) kan verlaag. Om die volle winspotensiaal te behaal is dit belangrik dat oormatige rypmaking, net soos by oormatige afdroging, vermy moet word. Daardeur sal die verbetering in stronkkwaliteit dubbel-en-dwars vir enige verlies in stronkopbrengs vergoed. Die vier vernaamste oorwegings, wat in ag geneem moet word om die volle winspotensiaal van rypmakers te realiseer word in hierdie artikel bespreek. In kort behels die oorwegings die vlak van aktiewe groei in die riet, die dosis waarteen rypmakers toegedien word, die vlak van afdroging, en die tydsduur van rypmaker toediening tot oes.





Photo: The FAS team at SASRI.

FAS BOX

wins gold



In September 2009, FAS replaced its sample bags with boxes which were used for the submission of soil samples. The green sample boxes (which hold 2-3 cups of soil) have simplified the handling, labelling, collection, transport, tracking and archiving of soil samples.

The design of these innovative boxes was so well put together by Nampak, that it won a Gold Pack Award from the Institute of Packaging South Africa (IPSA). The Gold Pack Awards is a premier event for South Africa's packaging fraternity which promotes and encourages world class excellence in packaging design technology. This year the programme attracted 133 entries, from which the judges picked 37 worthy recipients of the gold awards.

The judges declared that the design of the box is an excellent example of a pack that's fit for purpose. They said: "Replacing the drawstring cloth bag, this folding carton not only simplifies the collection of soil samples, but reduces operating costs and prevents mistakes". The judges were also impressed by the easy to read instructions in two languages.



Mirash Royan (*Publications Officer*)

WEATHER

Review

Monthly rainfall for August was generally above long term mean (LTM) for all regions in the sugar industry. September and October rainfall was generally below LTM for most regions in KwaZulu-Natal (KZN) while most parts of Mpumalanga had above average rainfall for the same period (Fig. 1). November rainfall was well above LTM in coastal areas but below LTM for the northern irrigated areas. Rainfall was generally well-distributed during the spring months promoting rapid growth of ratooning cane. However, heavy rains in November caused significant disruptions to late season harvesting operations in coastal regions. Increased leaching of nutrients could also be expected in these areas.

Outlook

Weak *La Nina* conditions re-emerged in the tropical Pacific Ocean in August 2011 and have slowly strengthened in recent months. It is likely to persist into the first couple of months of 2012. *La Nina* conditions are normally associated with normal to above normal summer rainfall over the sugar producing areas and other parts of South Africa. The South African Weather Service forecasts increased chances of above-normal rainfall for the period January to March 2012 for most parts of the sugar industry while the International Research Institute for Climate Society expects normal to above normal rainfall for this period. Temperatures over the same period are expected to be below average.

Please visit the SASRI weather web for links to updated seasonal weather forecasts and also for the latest rainfall and other weather data (www.sugar.org.za/sasri).



Phillemon Sithole (*Agrometeorologist*) &
Abraham Singels (*Principal Agronomist*)

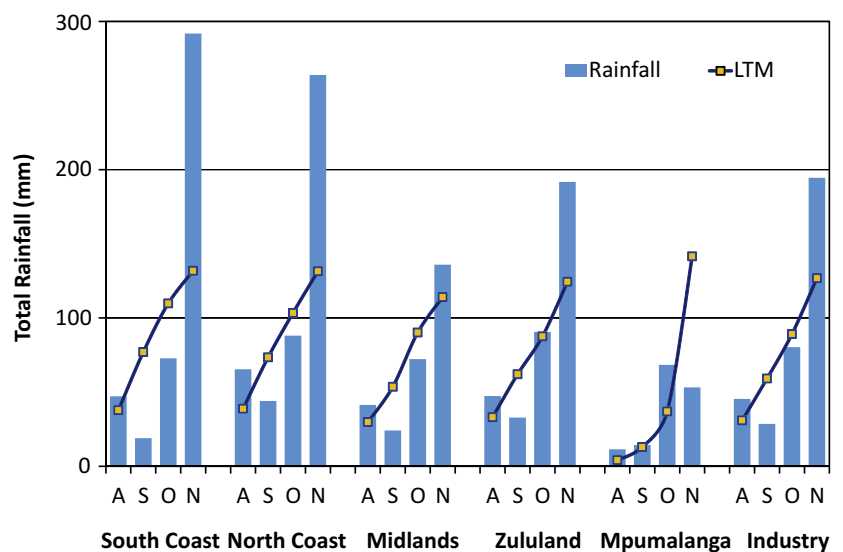


Figure 1: Regional and industry monthly rainfall totals compared to the long term mean (LTM) for August to November 2011.

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