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WINTER WEED CONTROL

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Overall farm weed control is a necessary practice, even as we enter winter. Here are some guidelines for winter herbicide application.

Grass seedlings

Grass seedlings are generally not prominent when temperatures are too cold for germination. However, in the event of a relatively warm winter, certain grass species, for example uBabe grass (*Panicum maximum*) can germinate and these will require treatment (refer to Tables 4 and 6 in the SASRI Herbicide Guide).

Broadleaf seedlings

If there are winter rains, expect a flush of broadleaf seedlings. Treat broadleaf seedlings when they are small (less than 10 cm), with MCPA plus ametryn. Voloxytril can be added when better knockdown is required on slightly larger weeds. In the event of heavy rains, resulting in a moist soil, diuron could be added to MCPA instead of ametryn (Refer to Table 6 in the SASRI Herbicide Guide).

Escaped weeds *(i.e. weeds that survive a herbicide treatment)*

When there are low densities of escaped broadleaf weeds and tillered grasses such as *Panicum maximum*, spot-spraying with a knockdown control can be carried out, for example, Paraquat (Gramoxone) plus diu-

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MESSAGE FROM THE DIRECTOR

Dr Carolyn Baker

For any grower, discovering cane that is infected with either a pest or disease is extremely worrying. Not only is the threat of spread a concern – it is also the potential loss in yield and the associated reduction in income that demands rapid and decisive intervention. In any mill supply area, the fact that sugarcane farms are clustered in close proximity to one another – or even adjacent to one another, means that pests and diseases are able to move easily from one landowner's cane to the next, without any barriers to their spread. Consequently the risks posed by any pest or disease incursion for the industry are significant, and SASRI has always played a big role in investigating all P&D threats and providing technical and scientific support to local pest and disease structures.

More recently, the need to consider proactive management of any potential pest and disease incursion from outside our borders has led to a strong focus on biosecurity (the practices, policies and protocols that are associated with protecting our sugarcane), not only for our industry, but also those in neighbouring countries. Recognising that any new incursion is likely to stem from those sugarcane industries closest to our borders, SASRI is leading the development of a biosecurity strategy for the SADC region that includes raising awareness regarding the most likely threats, encouraging the relevant authorities to list them as notifiable pests and diseases, and outlining the phytosanitary protocols that are required at all border crossings to prevent their passage into South Africa.

While Chilo is the current subject of most of this work, the threat of new diseases (such as that featured in this edition of The Link, and also the unknown rust that was described in the January edition of The Link), as well as some that have had a significant impact in other industries, such as orange rust (and that has yet to reach South Africa), makes it imperative that we protect our industry and ensure that we are well prepared for any future pest and disease incursions.

Building a robust and regional biosecurity incursion plan that is adopted and supported by the Southern African region, serves as an essential insurance policy for the long term sustainability of our sugar industry, and its success rests on cooperation from all our stakeholders including the P&D structures and government authorities.

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ron. It must be noted that MSMA is not commonly used in winter. An alternative option is hand-weeding but this is expensive; chemical control is usually more cost-effective (Refer to Table 7 in the SASRI Herbicide Guide 2009).

Clean fields

Where there are clean fields, consider spraying in winter with a pre-emergence application of, for example, Merlin + Velpar. This has a dual benefit. After a slight rain Merlin will be activated and this will control any emerging weeds. It also lasts long enough to provide protection for the field against weed germination after spring rains. This is a huge advantage as a management tool, alleviating pressure to complete all required spraying operations timeously after the first rains.

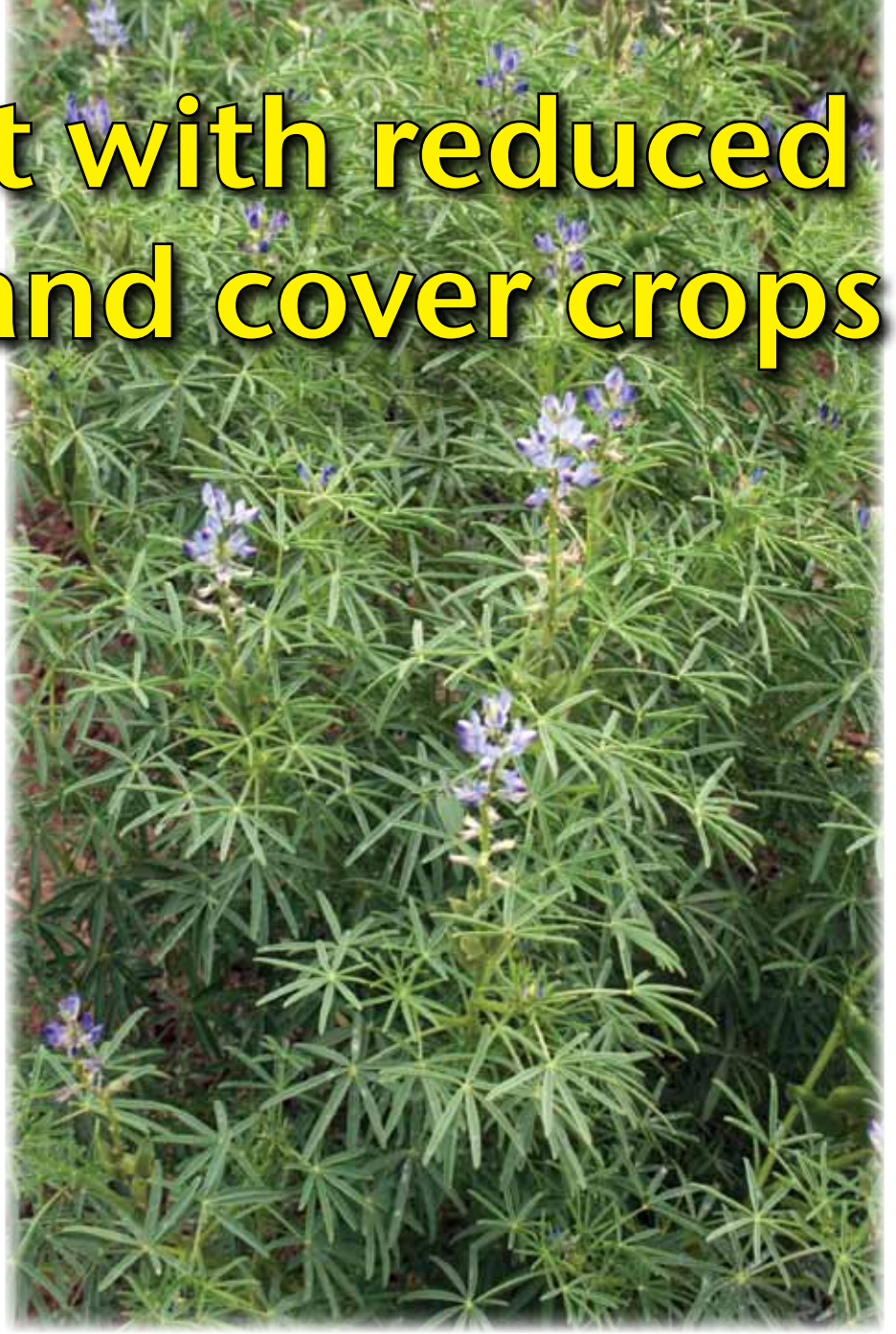
Note: Growers need to take into consideration the phytotoxicity risks of both Merlin and hexazinone. Only apply these products under the soil and crop growth conditions specified on the product labels.

The application of either a short or long-term herbicide treatment will be effective against weeds in winter and will 'buy' time for when weed pressure really begins in spring.

by Peta Campbell
(Senior Agronomist: Weed Control)

Dedicated biosecurity workshops convened in Mpumalanga and Swaziland have raised awareness about biosecurity threats, highlighted tools (such as the revised Chilo poster – featured) and discussed survey methods and a refined pheromone trapping technique. Control methods and current research projects are also discussed, as is the need for a balanced variety disposition to reduce risk, with emphasis on the Chilo-susceptible variety N25. This year these workshops will be repeated in Mozambique and Malawi.

Replant with reduced tillage and cover crops



Sugarcane growers often use excessive energy to eradicate an old crop, prepare the field and replant. This article provides a way of minimising the number of field operations and the cost before replanting.

Conservation production relies on four major principles:

- disturb the soil as little as possible,
- maintain a plant residue on the surface,
- practise controlled traffic, and
- use a break crop.

One of the crucial principles of minimum tillage is to ensure that the soil surface is covered at all times. Any plant residue can be used. The quantity of tops available after harvest is estimated to be between 3 and 7 tons/ha and this can make an effective surface cover and provide a valuable contribution towards soil conservation. Cover crops are seen as an integral part of a conservation system and ideally, a cover crop should be used to protect and revitalise the soil in the period between final harvest and replant. Contact your Extension Specialist for a list of potential cover crops to suit your needs.

There are two proposed systems that can be used, i.e. one programme which spans autumn to spring and the other programme which takes up one summer and one winter with replant to cane in spring. An Information Sheet is currently being prepared which gives a month-by-month explanation of the steps involved in each of these programmes. A summarised version of the operations for each programme follows.

Programme 1:

This programme spans autumn to spring (period out of cane = about 6 months).

- Organic fertiliser, lime and cover crops are applied and incorporated only in the interrow area just after the final harvest.
- The cover crop and cane will thus grow together and both be killed with herbicide in spring.
- A month later the site should be ripped (only if a compacted layer is present), ridged, fertilised and re-planted to cane.

Programme 2:

This takes up one summer and one winter with replant to cane in spring (period out of cane = about 9 months). Consider this system for preparation of nurseries or long fallow fields.

- Fertilise cane just after harvest in summer to stimulate re-growth, kill with herbicide 2-3 months later.
- Apply lime, organic fertiliser and cover crop seeds in the interrow and incorporate.
- Kill cover crops near the end of winter.
- Ridge, fertilise and re-plant to cane in spring.

By Rian van Antwerpen (Senior Soil Scientist)

THRIPS UPDATE

Thrips continues to be a serious pest in the industry, with infestations occurring every year since the initial (2004) outbreak, and it seems probable that thrips will remain a pest for the foreseeable future. While damage to young plant cane is most severe, damage has also been shown in young ratoon crops, particularly those crops planted or ratooned over the September to December period.

In the September 2008 edition of The Link, approaches to the control of thrips were discussed. Updated control options are outlined below.

Varietal choice: Where possible, select varieties that are less severely damaged by thrips, for example: N12, N14, N16, N33, N35, N37, N39 and N40.

Select planting date: Avoid planting over the September - December period, particularly varieties that tend to be susceptible to thrips, for example: N22, N27, N28, N31, N32, N41, N43, N45 and N48.

The use of nematicides: Where planting over the September-December period cannot be avoided, the use of a pesticide can be considered. Temik and Vydate, used for nematode control, have been shown to reduce thrips numbers.

Latest research trials with an insecticide: Outcomes of recent research trials treated with foliar applications of an insecticide (active ingredient: imidacloprid) has demonstrated some success in reducing thrips numbers and increasing yield. In November-planted cane treated with 1L/ha, yield (tons/ha sucrose) was increased by 21%. This product (Bandit) has yet to be registered for use on sugarcane and thus cannot be recommended. When it is finally registered, it is clear that its use will reduce damage caused by thrips with a consequent yield increase. However it is important that, as an industry, we continue to use insecticides responsibly and safely and, if used, should not be applied by air.

Although the primary effect of the active ingredient of Bandit is insecticidal, there are reports that this chemical can play a role in enhancing rust resistance in sugarcane. Results of a rust survey conducted in a current SASRI thrips trial and the results, from a November-planted crop, are shown in Figure 1. It is clear that indeed, there was an effect on levels of rust in this particular trial. Such an additional benefit could well make Bandit a more useful product for sugarcane growers in the future.

SASRI's research on thrips control options is continuing. All approaches to control mentioned in this article are being developed. Included is a new project aimed at examining the role of crop nutrition in thrips infestations.

by Graeme Leslie (Senior Entomologist), Sharon McFarlane and Stuart Rutherford (Senior Pathologists)

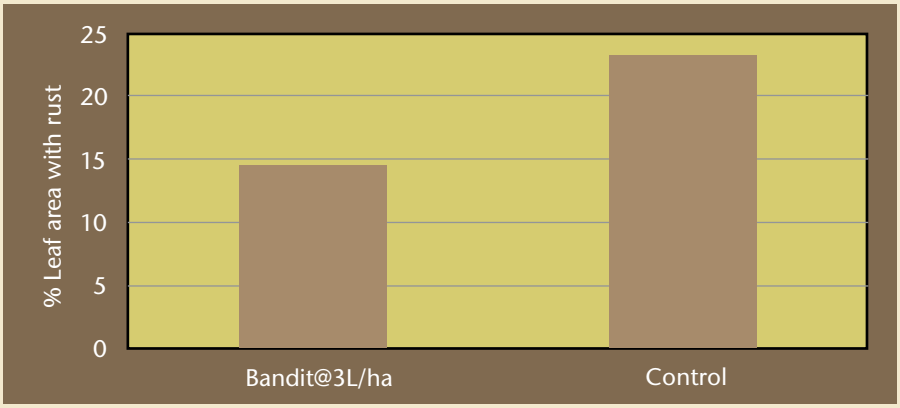


Figure 1. The impact of imidacloprid (Bandit) on levels of rust infestation in a November plant crop of N27.

GREEN MANURES

Which crop, for how long?

If you haven't already planted your winter green manure crops, now is a good time to start. For ideal growth, winter crops should not be planted after June. Whenever they are planted, however, there should be adequate soil moisture; most crops will struggle without at least some rainfall during their germination and growth period.

Choice of green manure

Oats are one of the most drought-tolerant winter green manures, but nonetheless require some rainfall to flourish. The most common winter green manure crops are summarised in the table on the opposite page.

When grown as green manures, all of these crops should be killed between early and peak flowering. Most green manures can be killed by mowing, except those which are commonly grown as forage. These crops, which are accustomed to being grazed, will usually re-sprout after mowing, and should be sprayed with glyphosate instead.

Green manure duration

In addition to choosing the correct crop, green manure fallow duration is also important. Recent research has shown that:

- Ideally, green manures should be grown for at least six months. Unfortunately it is not always practical to grow a single crop for this long. Where growers are under time constraints, a single crop of 3-4 months' growth, along with the associated time spent eradicating the previous cane crop and allowing some decomposition of the green manure crop, is still a better option than having no fallow at all. Where possible, though, a longer-season crop (e.g. velvet beans), or two successive green manure crops, should be considered.

A field of black oats grown on one of Crookes Brothers Ltd estates. Oats are a popular choice of green manure for winter. They scavenge and hold nutrients, which later become available to cane, and help reduce weed and nematode pressure.

Common winter green manure crops.

PROPERTY	SERRADELLA	GRAZING VETCH	LUPINS	BLACK & WHITE OATS
Soil pH (H_20)	4.5-6.5	4.5-8.2	5.5-6.5	> 4.5
Seed rate kg/ha	20-30	25	50	50
Planting method	broadcast disc harrow	broadcast disc harrow	broadcast disc harrow	broadcast disc harrow
Planting months	Mar-May (cool areas); Apr-Jun (warm areas)	Mar-May	Apr-May	Mar-May (cool areas); Apr-Jun (warm areas)
Days to flower	120	120	60-90	90
Growth height	0.6 m	0.4 m	0.7 m	0.4-0.6 m
Nematode susceptibility	Low	High infestation (but tolerant)	High infestation (but tolerant)	Low
Disease susceptibility	Low	Low	Anthracnose	Rust
Other uses	Adds N; forage	Adds N	Adds N	Mapstone grass control; forage

- Leaving green manure residues on the soil surface gives similar results to incorporating them into the soil. Incorporation involves greater mechanical inputs and soil disturbance; growers are therefore encouraged to leave green manure material on the soil surface to decompose if time allows, rather than ploughing it in.

Based on research, we suggest the following system: After the final sugarcane harvest, cane should either be ploughed out (in winter) or allowed to re-grow, and be chemically killed (in summer). Green manure crops should then be planted as soon as possible after the cane has died. Green manures should be allowed to grow until full flower (on average four to six months) and mowed down. Residues should be left on the soil surface to decompose, and furrows drawn straight into the residue as soon as this is manageable. Sugarcane can then be replanted, unless a second green manure crop is to be grown.

By Ruth Rhodes (Soil Scientist)
& Shaun Berry (Senior Nematologist)

SERRADELLA

GRAZING VETCH

LUPINS

BLACK OATS

Towards the more efficient use of CHICKEN LITTER

Over 100 000 tons of chicken litter is applied to sugarcane annually, with the use of this product being particularly high in the Midlands of KZN. Chicken litter is, of course, an invaluable source of nutrients such as N, P, K, Ca, Mg and S, and in addition, its high organic matter content is of value in building soil health. Typical nutrient concentration ranges in litter are presented in the table on the right; however, given the variability of chicken litter, it is important that sources are analysed in order to fine-tune application rates.

For plant crops, chicken litter is generally incorporated by tillage operations or applied in the planting furrow. In the case of ratoons, it is mostly applied on the surface, with no incorporation. The latter practice is of concern, mainly because of potential N losses to the atmosphere. Approximately 25% of the N in chicken litter is in the form of ammonium. Overseas research indicates that this ammonium N fraction is usually lost by volatilisation within 7 to 10 days of topdressing the litter onto the soil surface.

A practical way to reduce N losses is by incorporation of the litter into the soil at the time of application. Various methods can be used to achieve this. The most favoured techniques involve minimal disturbance of the soil and crop. Falling into this category is the vertical mulching technique which consists of a vertical wing attached to a ripper tine. The chicken litter is fed from a hopper into the slot behind the tine as it is dragged through the soil, and

Property	Value
pH	6.0 – 7.5
Nitrogen (N)	2 - 4 %
Phosphorus (P)	1 - 2 %
Potassium (K)	1 - 3 %
Calcium (Ca)	2 - 7 %
Magnesium (Mg)	0.3 – 1.5 %
Moisture	20 - 40 %
Bulk density	400- 600 kg/m^3

Vertical incorporation of 6 ton/ha chicken litter in every alternate interrow. Note that virtually no chicken litter is visible on the soil surface.

in this way is incorporated into the top 20 cm soil layer. For this to be effective, the ripper tine should penetrate the soil to a depth of at least 35 to 40 cm. In order to minimise root damage, the operation should be carried out within a week after harvesting, with incorporation being in the inter-row. It is advisable to have a soil crumbler in place behind the tine to promote covering of the litter with soil. Vertical mulching or ripping between ratoons should not be carried out on soils that are bone dry as this may result in far reaching shuddering action which might disturb the stools; in addition, huge clods may be left at the surface, leaving the sides of some stools exposed. The cost of the vertical mulching operation is in the vicinity of R 255/ha, as opposed to about R 90/ha for surface broadcast applications. These costs are to be offset against the additional 25% N from the litter.

In addition to improving N efficiency, vertical incorporation of chicken litter, will have other important benefits for the crop. These include markedly improved water infiltration, reduced run-off and erosion, improved root growth and distribution, reduced sub-soil acidification and increased soil organic matter levels.

An important consideration in the use of chicken litter on sugarcane is that, from a plant nutritional point of view, litter is essentially an 'unbalanced' fertiliser, in that it contains relatively high P and low N and K concentrations. Thus, improving the efficiency of N use from litter by vertical mulching improves the 'balance' of this product in terms of crop requirements. Ideally, litter applications rates should have the objective of satisfying crop P requirements, with the additional N and K requirements being supplied as granular fertiliser. Where litter rates are based on supplying all or most of the N needs of the crop, P has been found to build up to excessive levels in soils, thereby increasing the possibility of pollution of underground and surface water bodies.

by Rian van Antwerpen,
Neil Miles (Senior Soil Scientists) &
Peter Tweddle (Agricultural Engineer)

Weather

Review

Most of the Southern African sugar industry received below average rainfall from January to April 2010 (see Table 1) as was predicted in the January 2010 issue of the Link. Exceptions were the Midlands and Zululand in January, and Mpumalanga for the entire period. Localised good rains also occurred in March and April in the Pongola and Umfolozi mill areas. The low rainfall led to persistently low soil water contents for most regions, which would have affected cane growth negatively. The high soil water content in February for the Midlands region is due to the lingering effect of good rains in January in the Midlands North region.

The general dry conditions that occurred during the period under review coincided with moderately strong El Niño conditions that prevailed in the equatorial Pacific. This El Niño event has now weakened considerably.

Outlook

The warm phase of ENSO (El Niño) that existed in the equatorial Pacific has weakened considerably. Conditions are expected to change to the neutral phase for the winter. Although it is still early days, some models predict that the cold phase of ENSO (La Niña) is likely to develop in the coming summer (2010/11).

Long term forecasts for winter rainfall are uncertain. The Climate Systems Analysis Group (CSAG) at the University of Cape Town (http://www.gfcsa.net/csag.html) forecasts that above-normal winter rainfall is more likely than below normal rainfall. This does not co-incide with other seasonal forecasts, such as that of the International Research Institute for Climate and Society and the European Centre for Medium Range Forecasts, which expects normal rainfall. There is better alignment with regard to temperature forecasts, with most forecasters expecting a warm winter.

by Abraham Singels (Principal Agronomist)

Table 1. Monthly rainfall totals and monthly reference soil water content* expressed as a percentage of the long-term mean for different regions.

Region	Jan	Feb	Mar	Apr
Rainfall				
South Coast	82	43	45	20
North Coast	60	55	35	41
Midlands	113	60	72	44
Zululand	114	62	80	76
Mpumalanga	134	230	101	371
Kwazulu-Natal	75	65	63	75
Soil water content				
South Coast	81	55	43	19
North Coast	63	52	25	29
Midlands	85	147	76	80
Zululand	84	58	63	94
Mpumalanga	60	88	55	181
Total KZ-Natal Industry	76	71	50	61

*Plant available soil water content calculated for a soil with a TAM of 100 mm with a full canopy cane crop growing on it.

VARIETY CHOICE for sandy soils in Mpumalanga

Variety choice is one of the most important decisions a grower will make. For this reason, SASRI exhaustively screens both pre- and post-release varieties for their yield potential (sucrose and cane yields) as well as their reaction to pests and diseases.

Since the early 1990s, numerous variety trials have been planted throughout the sugar industry to assess the response of varieties to growth on sandy soils as well as to compare their responses to nematicide. In these trials, 4-8 varieties are planted in a randomised and replicated field trial and the varieties are either treated with a nematicide (Temik @ 20 kg/ha) or untreated (control plots). The yield of these varieties is an indication of their suitability for growing on sandy soils and the difference in yield between Temik-treated and control plots is an indication of their susceptibility to nematode damage.

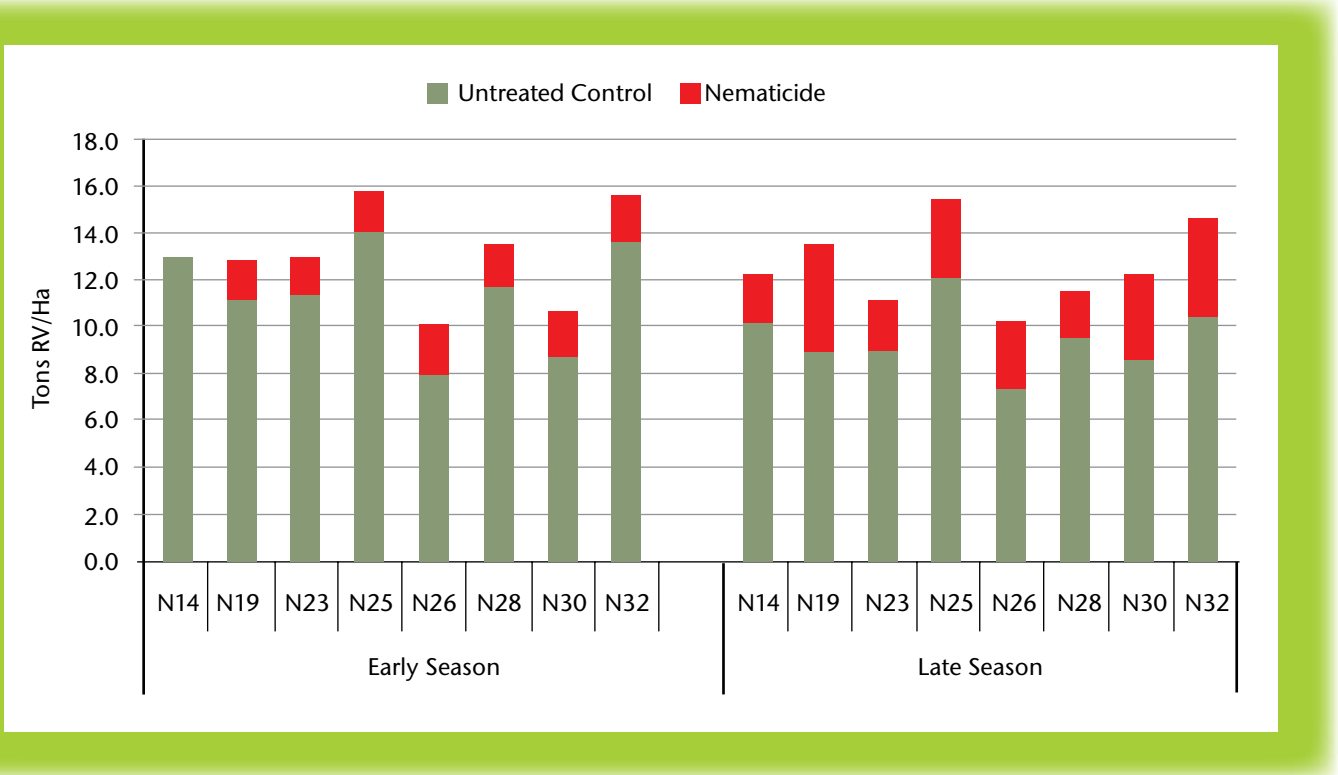
An article in THE LINK, October 2002, showed that N25 and N32 were the best varieties for poor sandy soils in Mpumalanga based on data from three crops (plant crop + two ratoons) from two trials. In this current article, additional data from these two trials, plus data from other trials are shown.

Data from a further two ratoons shows the same trend of N25 and N32 being the best varieties, with or without nematicide. N25 performed well whether cut early or late season, whereas N32 performed better in the early season. These data also show that the response to nematicide treatment in crops cut on a late season cycle was twice that of the response in the early season cycle.

Data from additional trials in Nelspruit (plant crop + 5 ratoons) and Tonga (plant crop + 2 ratoons) again showed N25 to be the best performing variety.

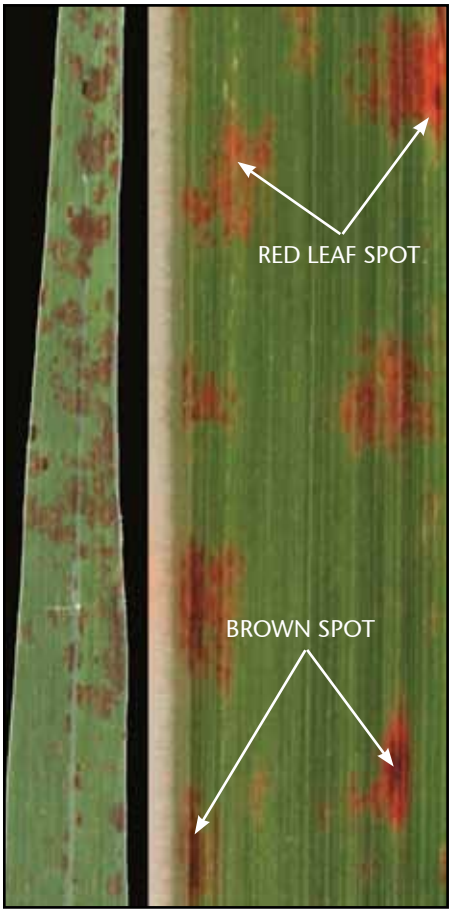
In 2008 and 2010 two new trials were planted in Tonga. In these trials, additional data will be collected on varieties N36 and N40 as well as testing even newer varieties *viz.* N41, N43, N46 and N49. The performance of these varieties will be compared to that of N25 as the control. This brings to eighteen the number of different varieties tested for sandy soils for Mpumalanga.

By Shaun Berry (Senior Nematologist)



RED LEAF SPOT

(Dimeriella sacchari)



A disease that has previously not been recorded in the South African sugar industry was observed in a bulking plot of 96H0588 near Eston. The disease is known as 'red leaf spot' and is caused by a fungus. Red leaf spot has been present for many years in a number of other countries including Australia, USA and Tanzania and is considered to be of minor importance. The incidence of red leaf spot within the bulking plot at Eston was low.

The fungus produces lesions (marks) which tend to be more common on older (5th and 6th) leaves and are more concentrated towards the leaf tip. These lesions do not usually penetrate the leaf and tend to occur on the leaf surface facing the sun. Diagnosis can be confirmed microscopically at SASRI. In order to get an idea of the distribution of red leaf spot in our industry, growers are asked to contact their Extension Specialist should the disease be observed in their fields.

by Albert Walton (Plant Breeder),
Keith McFarlane (Technical Team Manager) & Sharon McFarlane (Senior Pathologist)

FAS revamped

SASRI has recently upgraded its Fertiliser Advisory Service laboratory facilities, systems and laboratory equipment. The expanded reception area now caters for more samples. This is part of a general upgrade which includes new equipment and revised systems.

FAS has been participating in the Inter-Laboratory Quality Assurance Scheme for Soil, Plant and Fertiliser for the past 30 years. We are pleased to announce that FAS achieved an excellent rating in this Quality Assurance Scheme.

By Keith Collings (Resource Manager: Diagnostic and Analytical Resource Unit) & Tracey Evans (FAS Laboratory Manager)

Clean, Healthy Seedcane

Ensuring that seedcane is of high quality is probably the most important step that can be taken towards improving sugarcane productivity and maintaining high yields. Quality seedcane is cane that:

- is free of diseases and pests
- is varietally pure
- has good germination capacity
- has been hot water treated (50^{0}C for 2 hours)
- is from a registered producer.

If you plant poor quality seedcane, your yields will be lower in your plant crop and all successive ratoons. Good quality seedcane can be obtained from a registered producer or as transplants from a nursery. However, a grower with his own nursery, or participating in a local scheme, has the advantage of being able to obtain the required amounts of high quality seedcane, of the correct variety, when needed.

The following guidelines are critical for efficient nursery management:

- Select good soils for the nursery.
- Fence the area.
- Ensure that there are no volunteers.
- Pay particular attention to nutrition. When sending samples to FAS, indicate that you require advice for seedcane.
- Follow the hot water treatment (HWT) guidelines when planting the nursery.
- If available, apply filtercake in the furrow during planting, or practise water planting. This will help to improve germination.
- Do not 'gap up' spaces in your nurseries with cane from other sources.
- Inspect the nursery frequently. Diseased and off-type stools must be dug out (rogued).
- Apply irrigation as needed.
- Harvest and handle seedcane with extreme care to avoid damaging the buds.
- Time nursery operations appropriately. Seedcane must be slightly younger than commercial cane - young cane germinates better than old. In the Northern region, seedcane should be 8-10 months old; on the main coastal belt, 9-12 months and in the Midlands, 12-15 months.
- Practise nursery rotation.

Keith McFarlane (Technical Team Manager)

COASTAL DRY SPELL

Parts of the KZN coastal belt, namely southern Zululand, the North Coast, and some of the areas south of Durban, have received below average rainfall this summer, the situation being worse in the north than in the south. In contrast, however, the coastal hinterland, the KZN Midlands and irrigated northern parts of the industry have recorded good summer rains.

The intensity of this localised dry spell can be seen in Figure 1, showing rainfall recorded in the Amatikulu mill area, where the current growing season (June 2009 to March 2010) is the fourth driest for this period in 21 years, and is similar to that of the 1992, 1995 and 2006 droughts.

Some growers are therefore faced with decisions regarding the harvesting and handling of short, drought-stressed cane. The SASRI Information Sheet 4.5 deals extensively with this problem and other related agronomic issues such as fertiliser applications, as well as ways to reduce the long-term damaging effects of drought.

Immediate decisions will be related mostly to deciding if cane is millable or not and, if it is not, what to do with these fields. To help growers with this, a decision tree has been developed (Figure 2). In summary, all stressed but millable cane should be harvested this year. Unmillable cane should not be cut back at this stage, unless it is heavily infested with eldana. Cutting back will stimulate the crop to break dormancy and re-grow, and, if soil moisture is not sufficient, stool mortality will occur. As a rule of thumb, cane with three green leaves or less is not likely to recover. Growers are advised to wait until later in winter or early spring after some rain has fallen, before cutting this cane back.

Finally, carefully consider potential carry-over cane for next season. Moisture stress and eldana levels might be so severe that this cane will not recover and grow sufficiently well, even with the use of Fastac.

By Rowan Stranack (Regional Extension Specialist: North Coast) & Gary Lagerwall (Extension Specialist: Zululand Central and South)

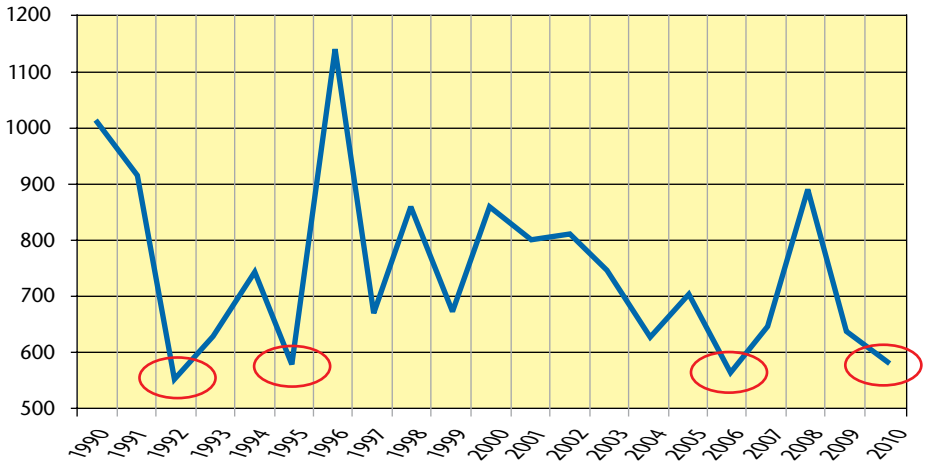
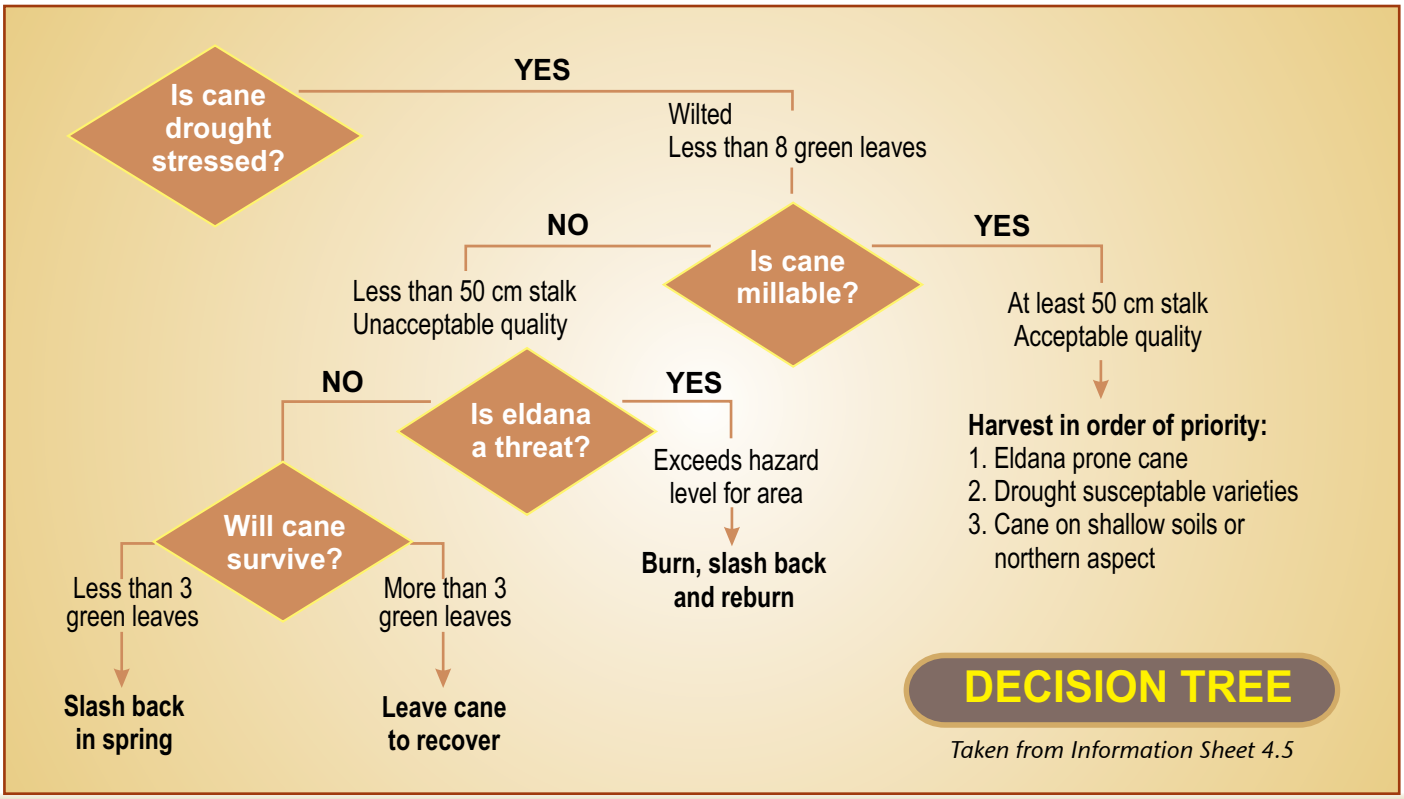


Figure 1. Rainfall recorded in the Amatikulu mill area.



Taken from Information Sheet 4.5

Topica

- Many parts of the coastal belt have experienced a very dry summer, but in other areas, particularly the irrigated north, good crops are expected. In both cases the current harvesting season will create special challenges for growers.

- Where millable cane is badly affected by drought, it will need to be dealt with in the same manner as frosted or fire cane, and harvested as soon as possible. This might mean disruptions to the planned harvesting schedule. See the article on page 13.

- In the coastal areas, it is unlikely that chemical ripening will be required. Quality analyses from cane already milled this season reflect favourable RV's in unripened cane. In fact, chemical ripening will probably result in even more stress to the crop.

- In areas where summer rainfall and growth have been good, chemical ripening should be the norm. Consult your Extension Specialist or commercial representative for specific recommendations for varieties, and for where 'piggy-back' ripening is applicable.

- When harvesting cane, remember the simple principles to apply in order to obtain the greatest benefit. Always harvest cane that is the most MATURE, also making sure that it is CLEAN (free of trash, tops and other extraneous matter) and FRESH (the least possible burn/harvest to crush delay). Deterioration sets in from the minute cane is burnt and any delay will result in a loss in RV yield.

- All fields to be re-established this year must be tested for RSD prior to harvest. If found to be positive, fallow the field for at least six months or until the old crop has been completely killed.

- Fallowing fields before re-establishment is good practice. Plant a green manure crop to improve soil health. A couple of cool season choices are oats or lupins. Speak to your Extension Specialist (See article on pages 6 and 7).

- Cane killed using glyphosate in summer this year, in preparation for planting in winter or spring, should be carefully checked for regrowth. Unfortunately, glyphosate seldom gives a 100% kill, and you need to return at least twice to remove regrowth.

- Identify and inspect potential carryover fields that could benefit from applications of FASTAC to control eldana. The current dry conditions could result in an increase in eldana levels, making these inspections even more critical to adhere to local P&D hazard level limits for carry-over cane. Consult your LPD&VCC Officer.

l Tips

- Take soil samples as soon as possible after harvest in order to plan your liming and fertiliser programme. The new sample boxes are available while bags are no longer required or obtainable. Please complete all the necessary details on both the box and submission form.

- Starting fertiliser application too early could result in unnecessary losses of nitrogen on certain soils, particularly if the current dry conditions persist in the rainfed areas. Information on those soils at greatest risk is available from FAS.

- Liming reduces acid saturation and amends deficiencies in calcium and magnesium. To ameliorate acidity, lime needs to be incorporated into the soil, but if calcium and magnesium are in short supply, lime can be applied to the soil surface at any stage (as long as 6 weeks elapse before fertiliser is applied). In situations where incorporation is not possible, speak to your Extension Specialist about the use of gypsum. Some lime sources also supply silicon as a nutrient. Know why you are applying lime and adjust your management accordingly.

- Conservation structures, waterways and drains will only work if they are properly maintained. Check these structures so that you can face the rainy season with confidence.

- Winter is a good time to establish grassed waterways. Try to establish them the year before a field is to be replanted. Use a fire tanker to water the newly planted grass until it is established. Remember to place revetts made of bundles of cane tops across new waterways to limit soil loss in the event of a storm.

- Winter planting can be successful at the coast, but, this year, because of the dry conditions in some parts, rather wait if the soil is extremely dry. If conditions improve, still consider using filtercake or applying 2 to 3 litres water per metre of row just before closing the furrow. Also, remember to use a sett-dip fungicide when planting early in order to prevent pineapple sett rot. For all plantings, consult your Extension Specialist or chemical representative regarding the need to protect against damage by thrips.

- Winter is the best time to maintain and repair irrigation equipment. Conduct simple checks including taking measurements of the following: operating pressures, nozzle wear and emitter flow-rates. The SA Irrigation Institute (SABI) offers training courses (for growers and managers) which are aimed at ensuring that irrigation system hardware is performing according to design specifications and accepted standards. Speak to your local Extension Specialist on how to arrange these courses.

by Rowan Stranack (Regional Extension Specialist: North Coast)

ALERT

Use of unregistered chemicals

In the interest of sugarcane growers SASRI conducts research on certain agrochemical products that promise to be effective against important pests, even though these products are not yet registered for such purposes. It needs to be stressed that the release of research findings should not be regarded as a form of sanction for the commercial use of products undergoing research, even if the research outcomes may be positive. This communication seeks to explain briefly the legal implications related to the use of unregistered agrochemical products and brings to your attention SASRI's role in testing such chemicals for the industry.

The development, sale, marketing and recommendations pertaining to pesticides and herbicides are by law governed by the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947. One of the regulations pertaining to the Act stipulates the following: "No person shall for reward or in the course of any industry, trade or business: use, or recommend the use of, any agricultural remedy or stock remedy for a purpose or in a manner other than that specified on the label on a container thereof or described on such container". The label that is attached to or accompanies any agrochemical product, effectively represents a "contract" between the registration holder and user of that product as to recommendations and use. In terms of Act No. 36 of 1947, the Registrar considers the granting of registration based on certain information that accompanies applications by prospective registration holders. This simply means that it is illegal to recommend or use any product in ways not stipulated on the product label.

SASRI position

Two products that are currently not registered for commercial use in sugarcane are undergoing testing at SASRI. The active ingredient in the insecticide product is imidacloprid and is being investigated for its effectiveness to control sugarcane thrips, while imazapyr, the active ingredient in the herbicide product is being tested for weed control on sugarcane fields (NB: Imazapyr in the product Arsenal is currently registered for use in servitudes e.g. on verges of cane fields, but not for on-field use). Products containing either imazapyr or imidacloprid have not yet been registered for commercial use in sugarcane fields and therefore their use is currently not recommended by SASRI.

by Charlie Reinhardt (Research Manager)