

Information Sheet

10. WEEDS

10.2 Creeping perennial grass weed control

There are a number of perennial grass weeds of sugarcane that spread by means of surface runners (stolons) and/or underground runners (rhizomes) which are difficult to control. If runners are cut by mechanical equipment, pieces germinate readily.

Chemical control is difficult because extensive translocation into the root system is required, and there are few chemicals that can do this. Furthermore, those that can will cause severe cane damage unless applied with extreme care.

These weeds often occur where situations are unfavourable for cane growth, such as weak sandy soils and wet patches. Controlling weeds alone will therefore not necessarily result in good cane growth, and the reasons for poor growth need to be identified and problems corrected first. Control of these weeds should be based on an integrated plan that includes chemical treatment in the fallow or in the minimum tillage system and timely, repeated follow-up spot spray treatments.

The notes that follow give information on common creeping grass weeds and suggested control measures.

***Cynodon dactylon* (L.) Pers. (couch grass, kweek, stargrass)**

This weed is widely distributed in the South African sugar industry and occurs extensively on the weak coastal sandy soils. The plant spreads by means of stolons and rhizomes and is able to colonise an area rapidly. It is spread mainly by mechanical equipment.

Cynodon dactylon competes very successfully with sugarcane. An effective cane canopy will prevent its growth by shading but, where the canopy is poor, for example on weak sands, it often overtakes the cane crop. This weed is a problem mainly where some other factor causes poor cane growth.

Control

A healthy cane crop with a good canopy is the most effective means of control. However, once established, the weed becomes extremely difficult to eradicate. Chemicals are more effective when preceded by a hand weeding to chop the creeping grass runners into smaller lengths. Growth may be suppressed by the application of contact chemicals such as paraquat with diuron. SASEX trial work has found that good chemical control of kweek, stargrass and wild rice grass can be achieved with high rates of Velpar + diuron (2 kg + 2.5 litres/hectare). However, this treatment is not a registered weed control mixture and has limited application, as Velpar cannot be used in sandy soil (less than 5% clay) or in plant cane, and areas treated with this high rate would have to be left fallow for some time after application.

Roundup* applied through wiper type applicators or with shields, can provide reasonable control of small infestations in larger cane. In small cane, heavy infestations can be eradicated by slashing the cane down to ground level and spraying the grass with a Roundup/Sting mixture about 24 hours later (see page 4). Best results are obtained in autumn. It is sometimes necessary to spray Roundup to eradicate both the cane and



Cynodon dactylon (couch grass, kweek, stargrass).

C. dactylon before replanting. Repeated follow-up spot spraying of regrowth is necessary. Control of kweek is undergoing research at SASEX.

***Note:** Other generic glyphosate products can be used, e.g. Mamba, Springbok + Duiker and Roundup Ultra.

***Cynodon nlemfuensis* Vanderyst (stargrass, giant stargrass)**

Other species, known as giant stargrass, are: *Cynodon plectostachyus* (K. Schum.) Pilg. and *Cynodon aethiopicus* Clayton & Harlan.

These perennial creeping grasses have been planted for pasture and erosion control and have moved into sugarcane fields. The plants have a tufted habit but spread by means of stolons. They grow vigorously and, because they are tall, are not shaded out effectively by a cane canopy. They therefore compete extremely successfully with sugarcane.

Control

These species should be treated in the same way as *C. dactylon*. The normal rates of Roundup do not give satisfactory control, and repeated sprays with high rates are necessary. High rates of Velpar have shown some promise, although treated areas would have to be left fallow for 12 months after application in crops other than sugarcane or pineapples. Good control has been achieved in trials where the grass was thoroughly disced to cut up the stolons, and Roundup was sprayed onto the regrowth.

***Paspalum paspaloides* (Michx.) Scribn. (buffalo quick paspalum, couch paspalum)**

This grass is fairly widespread throughout the South African sugar industry. It is a hardy perennial that creeps extensively by rhizomes and stolons, and occurs particularly in wet patches and irrigation channels, an indication of poor drainage.

Control

P. paspaloides control is extremely difficult and applications of glyphosate are required - but this cannot be recommended unless extreme care is taken to avoid contact with the cane. For example, by the use of wiper applicators or effective shields.

***Digitaria abyssinica* (A. Rich.) Stapf. (Abyssinian finger grass, was *D. scalarum*)**

This weed occurs in isolated areas in the sugar industry. It creeps extensively by rhizomes and also produces significant amounts of seed. Once established, this weed competes aggressively with sugarcane.

Control

D. abyssinica is extremely difficult to control, even with repeated sprays of Roundup in field situations. Control of this species is undergoing research at SASEX.

***Leersia hexandra* Sw. (wild rice grass)**

This perennial grass occurs throughout KwaZulu-Natal, but only in moist situations. It can reproduce by seed but is also easily propagated by division of rhizomes. *L. hexandra* may impede water flow in drainage ditches and irrigation canals.

Control

Eliminating the cause of a high water table would improve cane growth and severely retard the weed. Good chemical control has been achieved in trials with MSMA + diuron and with Velpar + diuron. Glyphosate does not appear to be as effective on this weed.



Cynodon nlemfuensis (giant stargrass)



Digitaria abyssinica (Abyssinian finger grass)



Leersia hexandra (wild rice grass)



Registered chemical control treatments for creeping perennial grasses

Name of weed	Cane growth stage	Situation	Treatments and application rates (litres/ha)			
			Treatment	Gramoxone + diuron	Glyphosate herbicides	
<i>Cynodon dactylon</i> (kweek)	Small cane*	Infield	Light infestation Dense infestation	2.5 + 2 ■	5 + 2 ◆	6 ◆
	Larger cane**	Infield	Light infestation Dense infestation		5 + 2 ■ 5 + 2 ●	6 ■ 6 ●
		Non-crop		Disc or rotavate	5 + 2 *	6 *
<i>Cynodon nlemfuensis</i> (stargrass)	Small cane	Infield	Light infestation Dense infestation	2.5 + 2 ■	6 + 4 ◆	8 ◆
	Larger cane	Infield	Light infestation Dense infestation		6 + 4 ■ 6 + 4 ●	8 ■ 8 ●
		Non-crop		Disc or rotavate	6 + 4 *	8 *
<i>Paspalum paspaloides</i> (kweek paspalum)	Infield	Infield			6 + 4 ●	8 ●
	Non-crop	Non-crop			6 + 4	8

* Small cane is plant or ratoon cane with no stick and leaves up to knee height.

** Larger cane means plant or ratoon cane with about 0.5 m of dry leaves on the stick.

■ Spot spray treatment should be carried out with conventional spraying equipment using solid cone nozzles (e.g. CE1, CE2, TG1 or TG2).

◆ Cut back – refer to pages 1 and 4 for the cutting method. Use smaller type floodjets to apply a high concentration of product in lower water volumes (120 - 150 litres/ha = less run-off).

● Shielded spray requires use of shields attached to lances to avoid drift damage to cane.

* Apply glyphosate to regrowth in the non-crop situation after discing or rotivation.



CREEPING GRASS CONTROL IN SMALL CANE



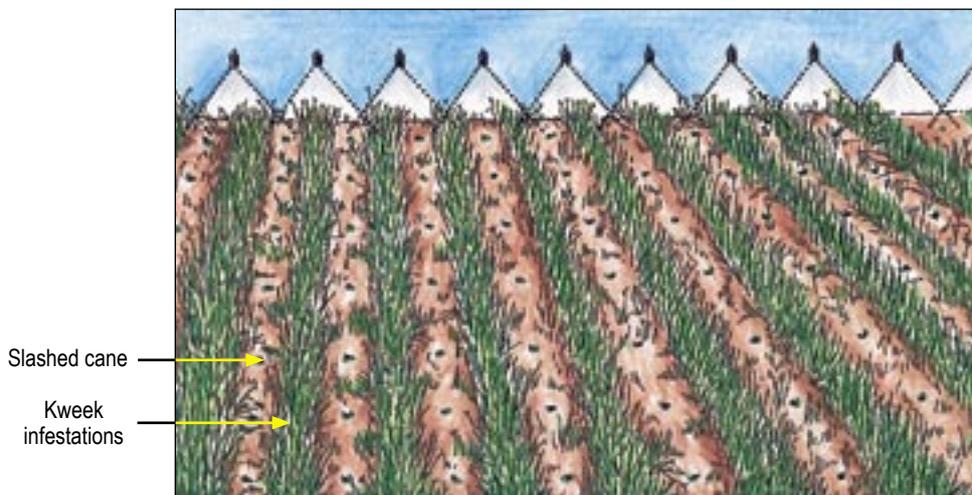
Small cane completely overrun with creeping grasses.



Slash cane down at ground level. Do NOT cut grass.



Remove all cane leaves from the field.



Slashed cane
Kwek infestations

Blanket spray the entire site 24 hours after cutting.

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