

Handy tips – Nutgrass



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Nutgrass competes intensely with cane for water and nutrients and can affect cane emergence and growth even before it emerges.

Nutgrass facts

- It is a perennial sedge with a creeping rhizome.
- Tubers (nuts) grow from the rhizome forming an extensive network of connected plants and tubers.
- Most tubers develop within the top 10 to 15 cm of soil and germinate readily.
- Breaking the chain stimulates the dormant tubers to shoot.
- Roots can extend to a depth of one metre resulting in deeper tubers remaining dormant until disturbed.
- Although the plant flowers and seeds, seed viability is low and the main method of dispersal is from expanding rhizomes and mechanical disturbance.

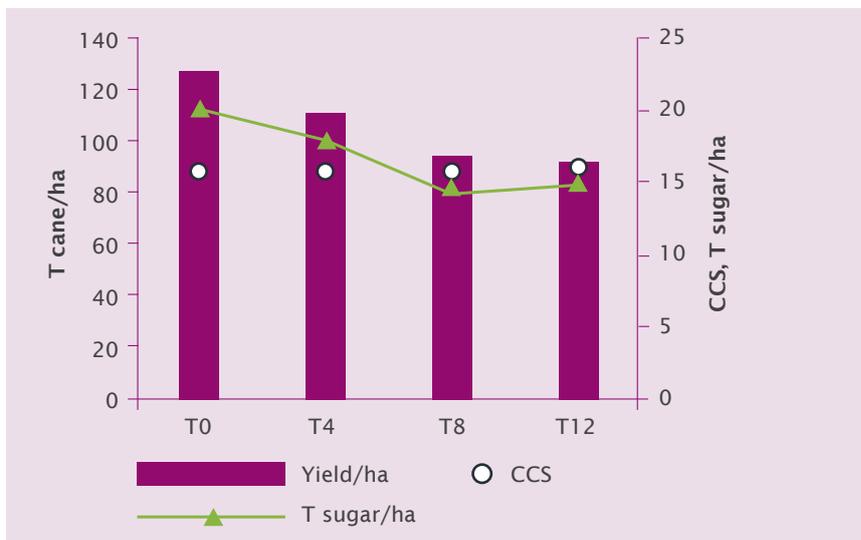


Getting the timing of control right

Nutgrass competes aggressively for both soil moisture and nutrients:

- > 25 to 45 kg nitrogen/ha and 45 to 50 kg potassium/ha can be taken up by nutgrass tops alone.
- > It can remove the equivalent of 12 mm rainfall from the cultivated layer in four to eight days.
- > More than 50 000 tubers have been recorded in one cubic metre of soil.
- > 40 tonnes of tubers and rhizomes can be produced in one hectare in one year.
- > Roots exudates from nutgrass are allelopathic—they are known to inhibit growth of other plants and although not tested in sugarcane, this is quite probable.

Delayed control costs **tonnes** of cane, even in irrigated cane. Cane yield drops as the time interval between planting and nutgrass control increases. Yield losses in plant cane have been measured at 18 to 25 per cent. In extremely infested ratoons, yield losses of 30 per cent have been measured.



Above: Cane yield continues to fall as nutgrass control is delayed. (T0 = full control, T12 = delayed until 12 weeks after plant).



Types of control strategies

Control must start in fallow and break crops and continue through plant cane and ratoons.

Fallow

- > Use glyphosate in fallow to manage nutgrass.
- > Glyphosate translocates from leaves down to the root and tuber network and effectively kills all the connected tubers.
- > Any tuber network that has not emerged will not be affected.
- > Repeat applications may be necessary to target later flushes.
- > If planting fallow crops, use glyphosate before planting and after harvest to clean up nutgrass before planting back to cane.

Legume fallows

Choice of herbicide depends on what legume you are growing.

- > Soy: Spinnaker® (imazethapyr)
- > Peanuts: Flame® (imazapic)

Tillage in plant cane

- > Tillage is effective in dry conditions.
- > Multiple tillings are needed to bring tubers to the surface where they will dry out and die. Tillage is not effective in moist soil, as the tubers will not dry out and will shoot.
- > Any subsequent deeper cultivation will also bring dormant tubers into the top soil layer where they will germinate.

In-crop: Pre-emergent herbicides

Flame® (imazapic):

- > Reduces nutgrass emergence and tuber viability when applied either before or after nutgrass emergence.
- > Works better on nutgrass when not mixed with paraquat (this may not be possible if you need to add paraquat to prevent phytotoxicity on the cane plant from imazapic).

In-crop: Post-emergent herbicides

- > Sempra® or Nut-Buster (halosulfuron-methyl) are the most effective selective herbicides for reducing tuber production and viability.
- > Krismat® (ametryn plus trifloxysulfuron) also reduces the production of tubers and their viability but results are more variable than Sempra®.

Product	Active	Rate/ha	Crop stage
Spinnaker®	imazethapyr	140 g	Soy
Flame®	imazapic	400 mL (plus Hasten™ at 1 L/100 L)	Peanut
Roundup CT®	glyphosate 450 g/L	2.4 L	Fallow
Roundup Ultra® Max	glyphosate 570 g/L	1.2–5 L	Fallow In-crop with shields
Weedmaster® Argo® (dual salt)	glyphosate 540 g/L	1.1–4.7 L	Fallow In-crop with shields
Glyphosate 540 K (potassium salt)	glyphosate 540 g/L	1.2–5 L	Fallow In-crop with shields
Flame®	imazapic	300–400 mL	In-crop
Sempra®	halosulfuron-methyl	65–130 g	In-crop
Krismat®	ametryn + trifloxy-sulfuron	1.5–2 kg	In-crop
Actril® DS	2,4-D + ioxynil	1.0–1.5 L	In-crop

Read product labels for full instructions.

References and further information

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