



# Information Sheet

## 10. WEEDS

### 10.1 Watergrass control

#### IDENTIFICATION

Watergrasses are weeds which are vigorous competitors of sugarcane. The two main species are *Cyperus rotundus* and *Cyperus esculentus*. To complicate matters, identification can be confusing as there is a yellow flowered *C. rotundus* variety (subspecies *tuberosus*), which is particularly troublesome as it is difficult to control chemically, that can be mistaken for purple/red flowered *Cyperus esculentus*. The table below outlines a few traits which will assist in telling these species apart.

|                   | Yellow watergrass   | Purple watergrass   |   |
|-------------------|---|---|---|
| Botanical name    | <i>Cyperus esculentus</i>   | <i>Cyperus rotundus</i> L.  | * <i>Cyperus rotundus</i> L. subsp. <i>tuberosus</i>  |
| Flower colour     | Yellow  | Purple  | Straw   |
| Leaf shape at tip | Shoulder<br> | Even taper<br> | Even taper<br> |
| Stem base         | Soft  | Hard swelling   | Hard swelling   |
| Tubers            | Spherical   | Oblong, irregular   | Oblong  |
| Tuber system      | Single tubers per rootlet   | Tubers in chains  | Tubers in chains  |

\*This subspecies of *C. rotundus* may be mistaken for *C. esculentus* because of its straw coloured flowers. Flower colour should therefore not be the only criterion in identifying *C. esculentus*. Control measures for this subspecies are the same as those for the purple-flowered *C. rotundus*.

#### CYPERUS ESCULENTUS

Yellow watergrass is more easily controlled than purple watergrass. It is therefore essential that the different species be identified correctly.

#### Pre-emergence control

There should be no germinated watergrass remaining in the field after preparation for planting has been completed. Herbicides that are effective against *C. esculentus*, if applied to the soil surface within 3-4 days of the soil being disturbed,

include alachlor, metolachlor, acetochlor, metazachlor, Extreme Plus® or a registered sulfentrazone product e.g. Authority®. Sulfentrazone products (e.g. Authority®) and Extreme Plus® are the most effective of these products and give good results when applied in moist soil conditions.

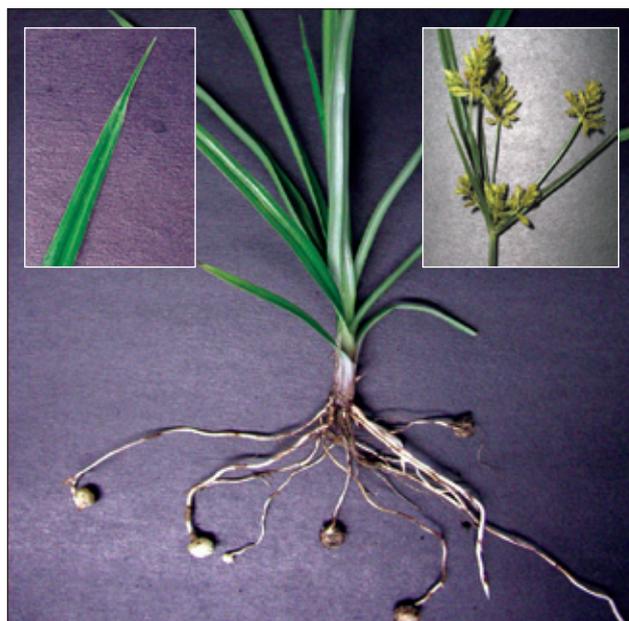
EPTC (e.g. Eptam Super®) will also give good control if it is incorporated into the soil timeously and effectively, but should not be used where soil erosion is a serious hazard.

**Caution: During wet years watergrass can become dominant where control of other weeds, e.g. *Panicum maximum*, has resulted in reduced competition pressure. In this situation, post-emergence control is required.**

#### Post-emergence control

A number of chemicals and mixtures containing, e.g. diuron, ametryn, metribuzin and hexazinone, are effective. MCPA + ametryn or MCPA + diuron is safe on cane and effective on this species. Halosulfuron (e.g. Servian®) controls yellow watergrass, and has shown no negative effect on cane. Servian® should be used with a registered surfactant, e.g. Complement Super® or Break-thru®.

To obtain the best control, spray at the early flowering stage when most of the watergrass has emerged.



Yellow watergrass. New plants arise from each tuber.

## CYPERUS ROTUNDUS

Because this weed is not adequately controlled by most of the commonly used combinations of herbicides, fields tend to become infested very quickly. The most important action then, is to:

- Survey fields to identify new infestations.
- Eradicate any *C. rotundus* plants before the infestation spreads. Spot spray carefully with registered glyphosate products.
- Design specific weed control programmes for fields with heavy infestations of *C. rotundus*.



*C. rotundus* and the subsp. *C. rotundus tuberosus* (above) look similar except for flower colour (see table). Both are difficult to control.

## Control in ratoon cane

### **C. rotundus dominant species**

Extreme Plus® can be used pre-emergence in moist soil to control *C. rotundus* in ratoon cane. Servian® + Complement Super® or Break-thru® is recommended for application from the four leaf stage to early flowering. Servian® and other halosulfuron products do not control *C. rotundus* pre-emergence, and repeated applications may be necessary for later germinating plants.

### **C. rotundus with other weeds**

Apply MSMA + ametryn when grasses are predominant (directed spray, avoid cane leaves) or MCPA + ametryn when broadleaf weeds are predominant. Spray regrowth with Servian® or other registered halosulfuron products when *C. rotundus* is dominant.

*MSMA as a single (6 litres/ha) or split (4 litres + 4 litres/ha) application can still be used to suppress C. rotundus. However, this product is extremely phytotoxic to sugarcane and will scorch the cane more than some of the new products.*

## Control in plant cane

### **Conventional plough-out**

EITHER

- Allow *C. rotundus* to grow to the 8-10 leaf stage, then spray glyphosate at recommended application rates.
- Ridge out and plant the new crop with minimum soil disturbance.
- Follow up with careful spot spray applications of glyphosate about eight weeks after the first application, using shields. Use Servian® + Complement Super® or Break-thru® or other registered halosulfuron products if most of the cane has already germinated.

OR

- Apply EPTC (Eptam Super®), ensuring there is thorough incorporation into the soil.

OR

- Apply Extreme Plus® pre-emergence if soil conditions are moist.

OR

- Apply registered sulfentrazone products, e.g. Authority®, pre-emergence if soil conditions are moist.

### **Minimum tillage**

- Spray cane and watergrass with glyphosate, ensuring complete coverage at recommended application rates.
- *C. rotundus* should be well developed before application, i.e. the 6-10 leaf stage.
- Ridge out and plant the new crop with minimum soil disturbance.
- Follow up with spot spray applications of glyphosate with shields. Use registered halosulfuron products e.g. Servian® + Complement Super® or Break-thru® if the cane has already germinated. These treatments can be repeated when necessary.

*Studies have shown that a crop residue blanket suppresses watergrass emergence.*

Updated May 2014

by Peta Campbell (Senior Agronomist: Weed Control)