

The Vegetation Manager

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Note from the CEO



Welcome to the October edition of The Vegetation Manager.

This month features our latest edition of Weed Watch, your alert to new and emerging threats. Creeping burrhead (*Echinodorus cordifolius*) is a long-lived aquatic plant that grows on lake margins, along waterways and in other damp sites. Often grown as an ornamental plant, it has recently started establishing along creeks and other water bodies in south-eastern Queensland. Creeping burr spreads quickly and forms dense clumps that out-compete native species, making it a weed we all need to watch out for!

On the 21st of September, we hosted the 2nd Vegetation Managers Forum at the Radisson Resort on the Gold Coast. With over 80 attendees from throughout the industry, this forum featured a number of industry professionals presenting on topics relevant to the needs and interests of vegetation managers. Speakers included world renowned weed scientist Dr Fred Yelverton from North Carolina State University; spray drift expert Dr Andrew Hewitt from University of Queensland, Ian McConnel from DEEDI and Annie Kelly from DERM. Copies of each speaker's presentations are available for download on our website at <http://www.technigro.com.au/technigro-press-releases.php?newsid=56>.

Last month I attended the 17th Australasian Weeds Conference in Christchurch, New Zealand. This was a significant event, being the first ever Australasian conference and also the first held in New Zealand. With the theme of "Together we can beat the weeds", this was a great opportunity for attendees to share knowledge and build relationships and networks to find better ways to manage vegetation. Technigro was proud to be the platinum sponsor and I congratulate Trevor James and the conference organisers for pushing on despite the recent earthquake and hosting an excellent conference. Technigro look forward to attending future industry events, including the upcoming Queensland Weed Symposium in Mackay next year.

I look forward talking with you again next month.

Have a terrific month!

Nick Bloor

Upcoming Events

> Local Government Council Golf Day

Proudly sponsored by Technigro

10th October, Redland Bay Golf Course, QLD

> EIANZ Conference

From Discovery to Delivery: Science, Policy, Leadership, Action

27th - 19th October, Wellington, NZ.

> 11th Queensland Weed Symposium

Weed Management - Back to Basics

31st July - 3rd August, 2011 Mackay, QLD

> 23rd Asian-Pacific Weed Science Society Conference

Weed Management in a Changing World

25th - 30th September 2011, Cairns, QLD

weed watch

Welcome to Weed Watch, your alert to new and emerging threats. Each month, Dr Sheldon Navie will focus on a new and emerging weed and provide you with details on its appearance and distinguishing features to assist in ID, as well as best practice control methods.



Creeping burrhead is a long-lived aquatic plant that grows on lake margins, along waterways and in other damp sites. This plant is often grown as an aquatic or ornamental pond plant in tropical and sub-tropical parts of Australia. In recent years this species has become naturalised in a Brisbane and the Gold Coast. Creeping burrhead forms clumps of upright leaves out-compete native species.

Learn more about Pencil Willow by reading our Weed Watch fact sheet on page 4.

In the news

Turf nutrition guide

Turf fertilisers typically contain these three nutrients, although other nutrients may be included in small amounts. The three numbers on the fertiliser bag represent the percentages of nitrogen (N), phosphorus (P) and potassium (K) in that order. The grass plant needs more nitrogen than any other nutrient.

Nitrogen is part of the chlorophyll molecule and helps give the lawn its deep green colour. Nitrogen also tends to promote high leaf growth rates at the expense of root growth.

Phosphorus is responsible for the energy transfer systems in the plant and is generally required in much smaller amounts than nitrogen or potassium on an established lawn. The exception is for newly established lawns, when the need of Phosphorus is higher in the new plant.

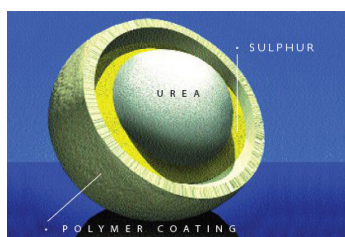
Potassium has a lot to do with good cell wall development and the plant's ability to withstand stress, disease, and insect damage.

Controlled Release Nitrogen Fertilisers (CRN)

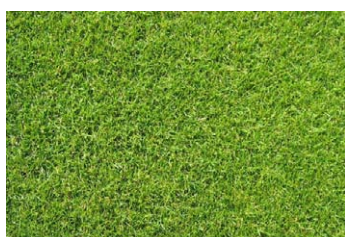
Technigro recommend the use of controlled release nitrogen fertiliser. These fertilisers produce a turf surface with good colour without excessive leaf growth. They are designed to meter-out the nitrogen over an extended period of time.

Agricultural fertilisers such as Crop King 88 and Nitrophoska Blue, sold by retail stores for use on turf, do not offer the longevity required to sustain strong turf health and vigour. These products are immediately available for the turf to use resulting in excessive growth followed by periods of stress after nutrients are used up or leached through the profile in a few short weeks. They also do not contain some of the critical trace elements required for healthy turf growth.

Whilst these slow-release forms of Nitrogen can be more costly to purchase, they do not have to be applied as often, making them the most cost effective option if you want to support a healthy turf surface for an extended period.



CRN molecule



Get your turf looking this good with CRN fertilisers!

What fertiliser should I use?

The following application ratios can be used as a guide. This application regime has been developed using the nitrogen (N) to potassium (K) ratio of the CRN Fertiliser.

The N to K ratio simply refers to the relative relationship between these two primary nutrients, rather than the specific number of kilograms of each in a fertiliser blend.

Establishment Ratio - apply an establishment NPK ratio (2:1:1) such as 18:10:9 when:

- The turf has just been laid
- After renovation work such as scarification
- The turf to be fertilised is in poor condition
- The soil analysis highlights a Phosphorous deficiency

An 18:10:9 Fertiliser that is coated with a pre-emergent herbicide called Ronstar + Starter can also be applied. This product will safely control grass weeds from emerging whilst your turf gets established as well as giving your turf the vital nutrients needed during establishment or recovery.

High Nitrogen Ratio - apply high nitrogen to potassium ratio fertiliser (2:1 or higher) such as 24:2:9 when:

- The turf to be fertilised is in overall good condition
- The desired result is consistent and/or accelerated top growth
- Applying in spring when no fertiliser was applied in winter

Balanced Ratios - apply 1:1 nitrogen to potassium ratios such as 22:0:18 when:

- Turf is in good condition and general maintenance is desired
- Stressful periods such as high traffic and wear situations
- A reduction in top growth is desired

How much fertiliser should I use?

Fertiliser application rates should be as low as possible and still produce a high quality turf surface. Over-fertilisation weakens your turf and causes excess leaf growth.

As a general rule, if the amount of nitrogen (N is the first number in the analysis) is between 5 and 12, the application rate should be 3.5kg per 100m². If the N number is between 12 and 18, the application rate should be 2.5kg per 100m². Any N number over 19 should be applied at a rate of 2kg per 100m².

For further assistance with your fertilising requirements, please contact our Turf Services Manager, Dan Norton, on 1800 678 611.

In the news

Speakers for the Vegetation Managers Forum announced!

The second Vegetation Manager's Forum was held on Thursday, 21st of September at the Radisson Resort on the Gold Coast. With the aim of growing knowledge and networks, this event did just that by attracting over 80 people and featuring guest speakers from within the industry.

The day begun with a group session and featured presentations from Dr. Fred Yelverton, the Professor of Crop Science and Extension Specialist at North Carolina State University, and Dr Andrew Hewitt, the Director of the Centre for Pesticide Applications and Safety at the University of Queensland. Technigro recognises vegetation management as a vast and varied activity and while certain issues such as safety are relevant to all; other issues are specific to different aspects of vegetation management. In order to address this, breakout sessions were held. Attendees could choose to attend presentations held in either the Natural Areas Room or the Turf and Amenity Room.

The Natural Areas Room featured presentations from Ian McConnell, DEEDI; Annie Kelly from DERM and Paul Daly from SEQ Catchments.

The Amenity Horticulture Room featured further presentations from Professor Fred Yelverton; Ashley Neuendorf from Nuturf Australia and featured a Question and Answer session with the expert chaired by Steve Hampton.

Copies of all presentations are available on the Technigro website at <http://www.technigro.com.au/technigro-press-releases.php?newsid=56>.

Overall, the day was extremely successful with much positive feedback being received from attendees. This event is the second in a series of Vegetation Manager Forums which will be held throughout South East Queensland. The next event will be held in early May 2011 so be sure to keep that time of year free!

If you are interested in becoming involved in future events, either as an attendee or as a guest speaker, please contact Lucy on lucy.clark@technigro.com.au.



Dr. Fred Yelverton giving his group presentation



Question and Answer session with the Turf Experts.

Fast Facts

- > The ozone layer is a belt of naturally occurring ozone gas that sits 15 to 30 kilometers above Earth and serves as a shield from the harmful ultraviolet B radiation emitted by the sun.
- > Chlorofluorocarbons (CFCs), chemicals found mainly in spray aerosols, refrigeration and air conditioning, are the primary culprits in ozone layer breakdown.
- > Once released, CFCs continue to destroy atmospheric ozone for many years. The most common agents remain active for approximately 50-150 years.



1. Habit with spreading flower stems. 2. Leaves with prominent veins running lengthwise. 3. Close-up of white flowers. 4. Infestation in Breakfast Creek at Newmarket.



Creeping burrhead (*Echinodorus cordifolius*)

Introduced

Not Declared

Creeping burrhead is a long-lived aquatic plant that grows on lake margins, along waterways and in other damp sites. This native of the USA, Mexico, the Caribbean and South America is sometimes also known as Radican's sword. It is occasionally cultivated in other regions of the world as an aquarium or ornamental pond plant.

Distribution

In recent years, this species has become naturalised in a few waterways in the Brisbane and Gold Coast areas in south-eastern Queensland. The first confirmed record was in March 2004, from a drainage line in Lawnton in the northern suburbs of Brisbane. Creeping burrhead has since been recorded along Breakfast Creek in Newmarket, in Coombabah Lake Conservation Park (about 3 km from Helensvale) and along a creek in Mackenzie.

Description

This long-lived water plant forms clumps of upright leaves that emerge up to 1m above the water surface. These clumps are usually connected to each other by spreading underwater stems that are rooted to the soil or creek bottom. The leaves are borne on very long stalks (17.5-45cm long) that are ridged. They are somewhat spade-shaped or narrowly oval (6.5-30 cm long and 2.5-20cm wide) with entire margins and 3-5 distinct veins running lengthwise.

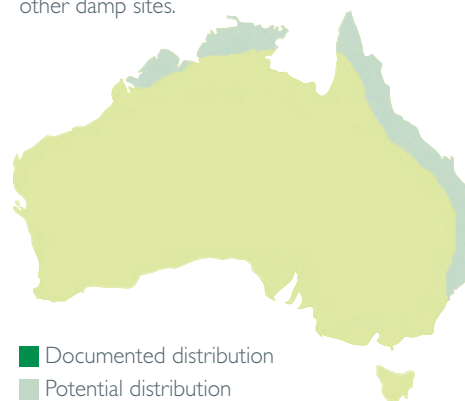
The very long flowering stems (up to 1.5m long) are arching in nature or spread outwards across the water surface. There are several clusters of 3-15 flowers arranged at widely separated intervals along each of these slender stems. The white flowers are about 25mm across when fully open and are borne on long stalks (2-7.5cm long). Each flower has three small greenish sepals and three broad white petals. They also have about 20 small yellow stamens in the centre. Several small fruit (2-3.5mm long) are produced by each flower. These fruit are 3-4 ribbed and have a short beak at the tip. Flowering usually occurs during late summer and early autumn.

Quick Facts

- > A spreading aquatic plant growing up to 1m tall.
- > Usually grows along waterways and in other damp sites.
- > Leaves have prominent parallel veins and are borne on long stalks
- > Arching or spreading stems bearing clusters of white flowers at intervals.

Habitat

Creeping burrhead forms large and dense clumps along waterways, around the edges of lakes, in swamps and marshes, and in ponds. It also commonly grows along drainage ditches and in other damp sites.





1. Clumps of emerging leaves. 2. A cultivated form with variegated leaves known as *Echinodorus cordifolius* 'Marble Queen'

Reproduction and Dispersal

Clumps or segments of the underwater stems can separate from each other and form new colonies after being spread downstream during floods. However, plants are most often spread by the deliberate dumping of unwanted plants into waterways.

Why is it an Emerging Threat?

This plant is often grown as an ornamental in garden ponds, aquariums and water features in the tropical and sub-tropical parts of Australia. However, in recent years it has started to become established along creeks and other water bodies in south-eastern Queensland. It quickly spreads via its creeping underwater stems and forms dense clumps that out-compete native species.

Control Methods

Prevent further spread of the weed to other areas of the water body by avoiding fragmentation of stem and root material which usually results from the use of mechanical harvesters or similar equipment. Individual specimens or small infestations can be removed manually taking care to ensure that no stem and root material remains floating or attached to the substrate. Once collected, all plant material should be removed from the site and disposed of in a sanitary manner.

In the case of larger infestations or where access is more difficult, the use of herbicides to control infestations may be required. While there are no herbicides currently registered for the control of Creeping burrhead within Australia, research shows that this species is susceptible to a range of herbicides although government regulations prohibit the use of many of these products. Spot spraying or wiping of foliage with glyphosate is one available option. Within Queensland, the use of aquatically registered formulations of Glyphosate 360 is permitted for the spot spraying of environmental weeds such as *Echinodorus cordifolius* in non-crop situations via off-label permit 11463 (<http://permits.apvma.gov.au/PERI11463.PDF>). Before applying this method of control within other state boundaries, it is recommended that all operators consult any relevant permits or government legislation.

Look a-likes

Creeping burrhead is very similar to *Sagittaria* (*Sagittaria platyphylla*), another introduced water weed. However, *Sagittaria* leaves only have a single prominent central vein. It also has relatively thick upright flowering stems with flowers always arranged in threes.



Top. *Sagittaria* flowers.

Bottom. Habit of *Sagittaria*.

The control methods referred to in Weed Watch™ should be used in accordance with the restrictions (federal and state legislation and local government laws) directly or indirectly related to each control method. These restrictions may prevent the utilisation of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, Technigro does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.

This information has been developed with the assistance of Dr Sheldon Navie. Photographs are also courtesy of Dr Navie. © Technigro Australia Pty Ltd 2010

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