

Note from the CEO



Welcome to the December edition of The Vegetation Manager,

With Christmas only a few weeks away, I am excited to say that 2012 is already shaping up to be another fantastic year. We are very proud that 2012 is our 25th year anniversary and we have plenty of new opportunities to build on that will see us improve and expand our offering.

The past year has certainly been one of the biggest in our history. Firstly, in June the DriftProof Sprayer was featured on the ABC's New Inventors. This was a massive coup for us and we received amazing feedback both on the night and in the months afterwards. It confirmed in our minds that the DPS is indeed the world's safest and most versatile turf sprayer.

In August we launched Integrated Vegetation Management (IVM) - a leap forward for us, and a significant change to improving the vegetation management landscape in Australia. At Technigro we believe the key to a sustainable future is doing more with less. IVM is our way of better preserving, protecting and enhancing the environment in which we live, at a lower cost, with less risk and guaranteed results.

We launched IVM at the Vegetation Managers Forum held in Brisbane. This event was attended by industry leaders both from Australia and across the world. The forum was a great success, and featured a number of informative sessions and presentations from some of the best minds in the business. It's a true testament to our team that the day ran so well.

And finally, Technigro has received some wonderful recognitions in the last month, including:

- Family Business of the Year at the Gold Coast Business Excellence Awards
- Our first appearance in the Queensland Business Review's Q400 list of the top companies in the State, we debuted at 165

In the last few weeks I was also appointed to the role of Queensland Chairman for Family Business Australia. I'm incredibly passionate about Family Business and am really looking forward to giving back through this terrific organisation.

It's been a great year, but I want to stress over and above everything else: it is our customers and our people that have made 2011 such a success. It is the support of our customers and the tireless efforts of our team that are at the foundation of every single one of our achievements. So a heartfelt thank you to you!

Finally, I would like to wish you a very happy and safe Christmas and I look forward to speaking with again in the New Year.

Cheers,

Nick Bloor

It's that time of the year

Khaki weed



Khaki Weed

Khaki weed spreads readily thanks to its many sharp burrs which attach to animals and motor vehicles. The same burrs are a problem for many members of the community, particularly during Summer. January is the perfect time to target this problem weed. For more information on Khaki, read our fact sheet on page 5 or talk to one of our turf specialists on 1800 678 611.

Fast Facts

- > Real Christmas trees are an all-Australian product. Most artificial trees are manufactured in Korea, Taiwan or Hong Kong.
 - > Real trees are a renewable, recyclable resource. Artificial trees contain non-biodegradable plastics and metals.
 - > For every real Christmas tree harvested, 2 to 3 seedlings are planted in its place. Each hectare provides the daily oxygen requirements of 45 people.
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In the news

Bayer launches new turf herbicide - Tribute®

Tribute herbicide

A new sulphonylurea turf herbicide used mainly on couchgrass, but also ryegrass, wintergrass and other perennial grasses. Used on crowsfoot grass.

Q: What is Tribute®?

A: A newly registered sulphonylurea herbicide, Tribute® contains the active ingredient foramsulfuron. The product selectively removes unwanted cool-season grasses from warm-season grasses. Tribute® effectively controls grasses such as wintergrass and perennial ryegrass. Registered for use on tolerant warm-season grasses such as couchgrass, Tribute® also controls crowsfootgrass.

Q: How does Tribute® work?

A: Tribute® is a member of the sulphonylurea family of chemicals. After application, Tribute® is readily absorbed by the foliage and translocated to the site-of-action in the growing points of the plant. The chemical inhibits the enzyme acetolactate synthase (ALS), which is critical in a plant's production of three key amino acids. It stops cell division and growth within hours of application. The first symptom is chlorosis - or yellowing of leaves, followed by death of the plant.

Q: What rates should I use for applying Tribute®?

A: Tribute® is labeled for application at 1.5 to 2 litres per hectare. Use the higher rates for control of crowsfootgrass and other hard-to-control species. Two or more applications of Tribute® 14 days apart may be needed to control crowsfootgrass. Tribute® can also be spot sprayed at rates of 8-15 millilitres per litre of water.

Q: When can I use Tribute®?

A: Turf managers can use Tribute® anytime the temperature is warm enough. If using Tribute® as a transition aid, applications are made in the spring. When using it to remove undesirable grasses in actively growing couchgrass, Tribute® can be applied anytime the weeds are present.

Q: Why should I use a chemical transition aid instead of just waiting for the weather to warm up?

A: In situations where turfgrass managers overseed couchgrass with perennial ryegrass, the ryegrass doesn't just disappear

when the temperatures warm up. In fact, it tends to hang on into the early summer, competing with the desirable grass when it comes out of dormancy. Use of a chemical transition aid, such as Tribute® herbicide, completely removes ryegrass, allowing the desirable grass to flourish. Not only is ryegrass efficiently and completely removed, turf quality is improved for the remainder of the summer.

Q: How fast does Tribute® work?

A: Speed of removal depends on air temperature. Warmer temperatures lead to faster removal. At temperatures of 21° C and higher, removal of undesirable cool-season grasses can take place in one week or less. If temperatures are 16°C or lower, removal could take two to three weeks or longer. Turf managers are best advised to use Tribute® as a transition aid when warm-season grasses are strongly coming out of dormancy. On the other hand, turf managers can use Tribute® to remove volunteer ryegrass – or clumpy rye – whenever the desirable grass is actively growing. It is not advisable to use Tribute® during cold periods during the winter.

Q: How are spray tanks cleaned to remove any Tribute®?

A: The sprayer must be thoroughly decontaminated before being used again to spray susceptible plants or turf. Full details for sprayer clean up can be found on the Tribute® label.

Q: How can tracking be managed?

A: Generally, Tribute® does not move or track when used according to label directions. Tribute® must dry on the treated area before irrigation or rainfall occurs to avoid natural movement of the product or tracking by equipment or foot traffic. The label specifies further directions to reduce the risk of tracking on to bentgrass greens.

Q: How is Tribute® formulated and packaged?

A: Tribute® is formulated as a 2.25 percent SC liquid, containing 22.5g active ingredient per litre. The product is packaged in a convenient one litre container.

Q: Where can I get more information about Tribute®?

A: For more information about Tribute® and its uses, call your local Bayer ES representative, or dial Bayer ES directly at 1800804479. Or visit the Bayer web page at: www.bayeres.com.au.

In the news

Chemical safety and bringing products to market

Two common questions that are often asked regarding chemicals used in an amenity turf or vegetative management situation are:

1. Why do agricultural crop (turf) protection products take so long to get to the Australian market?
2. How do we know they are safe to be used in amenity turf and vegetative management situations?

Crop protection companies such as Syngenta invest around US\$250 million and up to 10 years in bringing a new active ingredient (and associated products) to the market, this is before the first kilogram or litre of product is even ready for sale. Syngenta aims to screen as many possible new molecules a year and on average only one or two candidate(s) in 100,000 will go forward to be manufactured as a new active ingredient. It is a little bit like looking for a needle in a haystack. Many of these new leads are inspired by nature, as plants produce biologically active compounds that provide them with an advantage in their natural environment.

There are four main areas of research that are undertaken after the initial screening phase to determine the suitability of a product, these include:

Chemistry: looking at how the active ingredient may be optimized for use, formulated, manufactured and packaged.

Biology: assessment for performance against a pest, disease or weed in a strictly controlled greenhouse environment. Then looking at the performance in small plot trials, again in a strictly controlled environment, then if these look suitable, the trials will move to field assessments in real crop (turf) environments.

Toxicology: looking at the effect on mammalian species covering off areas that include; Acute, sub chronic and chronic toxicity, mutagenicity, carcinogenicity, tetragenicity and reproduction. Then looking at any potential adverse impacts to the environment including possible effects on algae, aquatic plants, birds, fish, microorganisms, bees and other non-target organism.

Environment: studying the metabolism and residues in plants, animals, soil, water and air.

All of these trials, tests and analysis must provide clear scientific evidence to government authorities, such as the Australian Pesticide and Veterinary Medicines Authority (APVMA), that a product, when used in line with directions, is both effective and does not pose a risk to humans, animals, or the environment. A new registration submission to the APVMA can contain over 200 studies, which are comprehensively assessed by the Authority and other independent government experts prior to a product being approved for registration. This assessment process alone can take over two years to complete. It is these scientific studies, and the resulting risk assessments by government experts, which underpin the detailed use instructions which

appear on approved product labels.

This rigorous science-based process means that agricultural and veterinary chemicals are some of the most comprehensively regulated products on the Australian market. On this basis, all concerned should be confident, that when a registered product is applied in line with label instructions:

- it will be effective on the target pest, weed or disease^[1]
- it will not harm themselves, their family, their employees or members of the community
- it will not render their produce unsuitable for harvest and sale
- it will not lead to off-target impacts on neighbouring crops
- it will not negatively affect the natural environment
- it will not jeopardize Australia's international trade.

Some common questions which often arise in an amenity turf or vegetation management situation are as follows:

Are people at risk from chemicals when they have been applied to an amenity turf or vegetation management situation?

No, there is no evidence to suggest that people are at risk in this situation. Once a chemical product has dried or been watered in (known as the re-entry period and outlined on the product's label) it is safe to re-enter the application area.

Do these chemicals that are used in amenity turf or vegetation management situations cause cancer in pets or people?

No, chemicals applied in line with label instructions do not cause cancer in pets or people. Before a product is registered for use it must be evaluated as to its potential risks, including any risk of causing cancer. There are no agricultural and veterinary chemicals on the market which are known to cause cancer in humans.

Are these chemicals harmful to wildlife, aquatic species or the environment?

No, not if label instructions are followed. Prior to being registered chemical products are carefully assessed to ensure that when used as directed they will not affect aquatic species or the general environment.

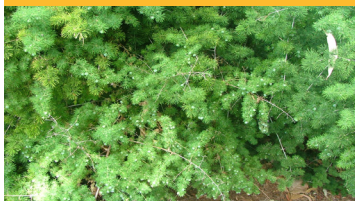
How toxic are the active ingredients in products used in amenity turf and vegetative management situations?

Many of the active ingredients contained in products used in these situations are less toxic than those contained within a wide range of home and garden products, in particular household cleaning products.

Finally, always remember to seek professional advice for your specific situation.

[1] Subject to the resistance status of the target pest, weed or disease.

Ming asparagus fern



Ming asparagus fern is a shrub from southern Africa that is also known as pom pom asparagus or zig-zag asparagus. Recently it has become established in bushland in southeastern Queensland, and has the potential to become a serious environmental weed like several of the other weedy asparagus species. Learn more about Ming asparagus fern on page 6.

Upcoming Events

> Environment Institute of Australia and New Zealand

Australian National University,
14th December 2011, Canberra, ACT.

> 6th World Congress on Allelopathy

15th - 19th December 2011, Guangzhou, China.

> Southern Weed Science Society (US) Annual Meeting

23rd - 25th January 2012, Charleston, SC, USA

Tecnigro News

Steve Hampton appointed as Technigro's Chief Business Development Officer

Technigro has appointed the founder and managing director of business advisory firm Grow Solutions to the position of chief business development officer.

Steve Hampton established Grow Solutions in 2007, but has had a career in vegetation management spanning over 20 years.

Prior to his appointment, Technigro and Grow Solutions had been working in partnership on a major research project that tested a new methodology on turf-this formed part of Technigro's Integrated Vegetation Management (IVM) program.

Technigro recently announced the addition of IVM to their suite of services-the only vegetation management company in Australia to do so.

Traditionally, public open spaces have been managed in reactive ways that focus on solving individual problems after they've taken hold. IVM revolves around providing holistic outcome-based solutions to vegetation management by taking into account all variables and utilising a broad range of tools and processes to deliver sustainable results.

Mr Hampton says Technigro's move to this new style of vegetation management was the deciding factor in him joining the company.

"I've worked in the industry for over 20 years and I see the Technigro IVM model as a major step forward in the way that vegetation is managed," Mr Hampton says.

"For too long, the industry has been reliant upon unsustainable practices that have been about achieving short term reactive results, but not looking for long term sustainable solutions. In this respect, IVM is a real game-changer.

"It's a testament to how proactive Technigro are in their field, and served as the impetus that encouraged me to join the company.

"I'm looking forward to using my experience and knowledge to help further shape the company's service offering."

Mr Hampton is currently working on several IVM opportunities with Technigro around Australia, and has also played an instrumental role in the exploration and expansion opportunities in overseas markets on behalf of the company.

Mr Hampton is a fellow of the Australian Institute of Management and holds memberships with the Australian Institute of Project Management and Turf Producers International. He has several qualifications, including a Graduate Diploma in Business (Management Innovation) and a Graduate Certificate in Business (Professional Management).



KHAKI WEED

Alternanthera pungens



Photographs are courtesy of Dr Sheldon Navie

Description & life cycle

A low-lying, creeping perennial, Khaki weed is widespread throughout Queensland & many other parts of Australia, including northern NSW and the Northern Territory

Khaki weed spreads readily, thanks to its many sharp burrs, which attach to animals and motor vehicle tyres. The same burrs are a problem for picnickers and people who like walking around in bare feet!

This native of South America has a deep, carrot-like taproot, up to 12mm in diameter and 100mm long. Roots form at the stem and nodes allow it to form a thick mat.

Leaves are up to 5cm long, oval-shaped with pointed tips, in unequal opposite pairs. Stems are up to 500mm long, branched and reddish purple, covered with short, soft hairs.

Flowers are very small, in the axils of leaves, surrounded by fine, straw-coloured, sharply pointed burrs. The flowers emit a pungent odour, hence the species name "pungens".

Khaki weed reproduces readily from its large quantities of seed, roots and stems-nodes taking root. Seeds are viable for many years and germinate after spring or summer rains. Flowering and seeding occurs in summer and autumn, accompanied by the sharp prickle-like burrs which can pierce the skin.

Key features

- > The sharp burrs can be a real nuisance during summer and autumn.
- > Forming a thick mat, Khaki weed invades parks, ovals and other public open spaces.
- > A deep taproot makes it difficult to control.

Control

1. Small infestations can be dug out or removed by hand (with gloves), prior to seeding.
2. Consider the use of a pre-emergent herbicide to break the plant's life cycle, in situations where Khaki weed has built up significant populations.
3. Large infestations in ovals & other grass areas require the application of a selective herbicide, suitable for the particular grass species. Khaki weed seedlings are susceptible to a range of selective herbicide formulations and to achieve the best results, Technigro recommends that applications be made while the weeds are young and actively growing and prior to the plant producing seed.

Your Provider of Vegetation Management Solutions

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for **smarter** solutions



1. Shrubby habit of Ming asparagus fern. 2. Needle-like leaves and mature fruit. 3. Dense clusters of small white flowers. 4. Close-up of immature fruit.



Ming asparagus fern (*Asparagus retrofractus*)

Introduced

Not Declared

Ming asparagus fern is a shrub from southern Africa that is also known as pom pom asparagus or zig-zag asparagus. This garden ornamental has recently become established in bushland in south-eastern Queensland, and has the potential to become a serious environmental weed like several of the other weedy asparagus species.

Distribution

Ming asparagus fern has been recorded from the Moreton and Wide Bay districts in south-eastern Queensland. The first herbarium record was from the understorey of a disturbed sheoak-eucalypt woodland on Coochiemudlo Island in 2001. Since then, it has been collected from Greenslopes and St Lucia in Brisbane, and the margins of a dry rainforest near Gympie. It has also been observed growing in bushland at Ashgrove, Rochedale, Riverhills and Mount Coot-tha in the last couple of years.

Description

A shrubby plant usually growing 1-2 m tall, but occasionally reaching up to 3 m in height. The older branches are light grey or whitish in colour and bear small spines or thorns. The leaves are reduced to tiny scales, and what appear to be the leaves are actually small stem segments which function as leaves (i.e. cladodes). Large numbers of these needle-like 'leaves' (8.5-25 mm long and less than 1 mm wide) are produced in clusters along the stems that resemble pom-poms. They are hairless, usually slightly curved, and have pointed tips.

The small white or cream flowers are arranged in dense clusters and are produced in large numbers for a short period in summer. Each flower is about 5 mm across and is borne on a stalk 6.5-9 mm long. They have six petals and six stamens, usually with white filaments and yellow anthers. The rounded berries (6-10 mm across) are initially green in colour, but turn black as they mature.

Quick Facts

- > A shrubby plant usually growing 1-2 m tall
- > Older stems are light grey and bear small spines
- > Needle-like leaves produced in clusters of 20-30 along the stems
- > Rounded berries that turn from green to black as they mature

Habitat

Ming asparagus fern is a potential weed of riparian vegetation, forest margins, open woodlands, urban bushland, coastal environs, roadsides, disturbed sites and waste areas. It is most commonly found in the understorey of drier forests.

