Brown's fertilisers service first

Agronomy News

Summer 2020

Merry Christmas and a Happy New Year from Brown's Fertilisers

It's been said many times already this year, 2020 has certainly been a unique one with new challenges. As an industry, we've done a great job of keeping ourselves safe so that we can stay open and working to feed the population. We look forward to hopefully getting back to "normal" in 2021.

Overall though, we've had good growing seasons and most of our clients have had a positive year. 2021 is also looking positive at this stage and we are gearing up to be ready to serve you. We have continued to invest in equipment to improve our offering; items such as another tractor in the fleet, additional field bins and further bagging improvements are just some of the investments we have made. And we continue to invest in our people with our great team of agronomists keeping on top of the latest technologies.

On behalf of the team, I would like to say thank you for your support throughout the year. We know that you have a choice of who to deal with. We appreciate the trust you place in us to look after you and the loyalty you have to Brown's and our team. This drives us and we will continue to work hard to maintain this.

I wish you a very merry Christmas, hopefully surrounded by family and friends, and time for a short break. Best of luck for 2021. We look forward to working with you again next year. Please call any of the team, including myself if you need any help. I can be reached on 0418 862 155.

Cheers,
Conal

FERTILISE NOW, PAY LATER!

Would you like to:

- ✓ **Beat the Autumn rush**
- ✓ **Take advantage of possible early rains**
- ✓ **Receive extended payment terms**

Speak to your local Brown's Agronomist to find out more about out how you can get your Autumn fertiliser application on early and receive extended terms!

Koo Wee Rup
150 Sybella Avenue
Koo Wee Rup
Ph: 03 5997 2203

Leongatha
96-102 Horn St
Leongatha
Ph: 03 5667 3100

Maffra
620 Heyfield Upper-Maffra Rd
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Merton
744 Maroondah Hwy
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Ph: 03 5778 7490

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www.brownsfert.com.au

Fall Army Worm heading south!

Fall Army Worm is a very damaging pest for many crops and pastures originating in America. Over the past five years Fall Army Worm (FAW) has spread rapidly across the globe. It reached the Torres Straight earlier this year and was then detected in Far North Queensland in February 2020. Since its initial detection, this invasive pest has spread rapidly across the top end of Australia, moving southwards on both the East and West coasts – with confirmation of larvae found recently in a Maize crop as far south as Tocumwal on the Victorian border.

FAW is generally a tropical/subtropical species but can also be problematic in temperate environments given the right conditions. In Subtropical environments, damage throughout the whole year is possible as over-wintering can occur with the potential of 4-6 generations within a season. Temperate environments are too cold for diapause (survival in dormant state over winter) so FAW will not be seen in southern areas of Australia in the colder months. FAW migrates from northern regions to southern states in summer which is when most damage is seen. FAW is a highly migratory pest with adults able to travel up to 500km if supported by favourable wind speed and direction.

There are generally two main strains of FAW; the Corn Strain and the Rice Strain, although research suggests the strain which has reached Australia is a hybrid. While it would seem the main crops affected so far are Maize and Sorghum, there is uncertainty as to how many more field or vegetable crops it will cause economical damage to.

Identification

Moths are brown/greyish in appearance with a white hind wing; their wingspan is 32-40mm. Male moths have more patterns on their wings, with a white spot on each fore-wing. Young Larvae are green with dark heads and lines along the body. As they develop, they become brown with white lines across the back. They have dark spots on their body with some small stiff hairs. There are four more distinct black spots on their rear that resemble a square, along with the Y shape on their head being their most distinguishing features.

Stages of development

Eggs are laid in masses of up 200 at a time, most commonly on the underside of leaves. A single moth has the potential to lay up to 10 batches in its lifetime.

There are six stages of larval development under ideal conditions, taking 14-30 days. As FAW is well adapted to warmer climates the growth phase is faster under such conditions, with caterpillars growing up to 4.5cm.

Once fully grown the caterpillar will generally drop to ground to pupate, burrowing 2-8cm making its cocoon to pupate over nine days. On emergence, the moth will live for 2-3 weeks with the cycle beginning again. The optimal temperature for this larval development is 28 degrees, but is lower for egg laying and pupation.

Damage

With the eggs hatching on leaves, vegetative tissue is initially targeted creating a window appearance on the leaf, causing defoliation. As the caterpillar develops, damage extends further and any above ground part of the plant may be targeted.

Control

These pests cause significant crop damage and yield reduction across the world - especially if early infestations are not detected. Continued monitoring of crops is critical and as it is a difficult pest to control IPM (Integrated Pest Management) is necessary. The Australian strain is already showing signs of resistance to certain chemicals, therefore a broader approach is necessary. Time of planting, plant health and controlling host weed species are some important strategies to reduce the risk of pest damage as well as incorporating biological and chemical control.

Introducing Laura Hunt – Graduate Agronomist

We are pleased to introduce Laura Hunt, our new Graduate Agronomist based in Tinamba Depot in East Gippsland.

Laura is local to the district, having grown up on a beef cattle property near Maffra. Over the last five years, Laura has been studying Agricultural Science at Charles Sturt University at Wagga Wagga while also working as a farm hand on a sheep and mixed cropping farm.

Laura hopes to build upon her Agricultural Science studies and background of practical farm experience, while working alongside the Brown's agronomy team to provide a quality agronomic service to the region with a focus on boosting farm production.

Laura can be contacted on 0427 220 127 or lhunt@brownsfert.com.au

Lime – What to consider

Soil acidification is a natural, slowly occurring process that impacts soils, and is accelerated by agricultural practises. As soil acidifies, there are significant chemical and biological changes that result in:

- Decreased availability of essential plant nutrients, such as phosphorus and molybdenum.
- Increased availability of toxic elements such as aluminium and manganese.
- Limitations on microbial activity including negative impacts on earthworms and other soil organisms.
- Significantly reduce legume rhizobia bacteria. This means less legumes in pasture sward and less available nitrogen in the soil.

To ameliorate soil acidity and improve nutrient availability we apply agricultural lime. Two key factors of liming materials to consider when determining what type of lime fits your requirement are purity and particle size. Lime purity is measured by neutralising value (NV); a NV of 100% indicates pure calcium carbonate. A higher NV of a lime, the better the lime's ability to neutralise acidity. Using higher purity lime means less volume is required to improve soil pH or a greater pH change will be achieved. Typically lime products in Gippsland range from 60%-99% NV.

pH is altered when acid from the soil dissolves the lime, releasing the carbonate component to neutralise the acidity. Once soil around the lime particle is neutralised, the rest of the lime particle is no longer effective until it is exposed to more acidity. This places a high importance on lime fineness; smaller particles mean more of the soil's surface area is exposed to lime, leading to a better and quicker pH change. Effective Neutralising Value (ENV) is a combined measurement of both neutralising value and particle size. The Victorian Department of Agriculture developed the below tool for assessing ENV; < 0.3mm is 100% Effective, 0.3 – 0.85 mm is 60% Effective, > 0.85 mm is 10% Effective.

When comparing lime, cheapest lime isn't always best. Considering the information above, we need to compare limes based on dollars per effective neutralising value unit.

As we can see in Table 1, Lime A is better value as it has a lower $ / ENV. Applying lime to pasture is best done in summer as soils are dry and porous, allowing lime to move further down the soil profile. Talk to your Brown's agronomist this summer to determine your lime requirements.

Quality and Cost Factors	Lime A	Lime B
Neutralising Value %	99	67
Material > 0.85 mm	17%	21%
Material 0.30 - 0.85 mm	17%	25%
Material < 0.30 mm	67%	55%
Effective Neutralising Value	77	48
Cost $/t spread	$115.00	$95.00
Unit cost $/ ENV	$1.49	$1.99

Table 1.Example Lime Quality and Cost Comparison

Micronutrient: Role of molybdenum

Molybdenum (Mo), or often referred to as Moly, plays a critical role in maintaining productivity in pasture systems, particularly legume based pastures.

Molybdenum is required in pastures for protein synthesis as it assists in the efficient usage of nitrates for growth. In legumes, molybdenum is required for the fixation of nitrogen in the root nodules by the rhizobium bacteria. When assessing legume nodules for active nitrogen fixation, cut a cross section across the nodule. Healthy nodules will appear reddish-pink while molybdenum deficient nodules may be smaller in size and appear white, indicating ineffective nitrogen fixation.

Molybdenum becomes less available in pasture systems where the soil pH is acidic. In low soil pH conditions, molybdenum binds to the soil, inducing deficiencies. Clovers and brassicas are more sensitive to deficiencies than grass species. Symptoms may include stunted growth and pale leaf colour, similar to nitrogen deficiencies.

Picture 1: Healthy perennial ryegrass & white clover.

Picture 2: Vetch plant with healthy reddish-pink nodules.

Tissue testing is the most reliable method for diagnosis and determining the availability of molybdenum to the plant. If it has been more than five years since the paddocks have received molybdenum, consider adding molybdenum to your autumn fertiliser application this year.

High rates of molybdenum may increase risk of induced copper deficiency. In soils such as acidic sandy loams, copper should be applied with molybdenum. Consult with your Brown's Agronomist for precise application rates to include with your Autumn Super and Potash application.

CHRISTMAS CLOSURE

Please note all depots will be closed from **Thursday 24 December** and will be reopening on **Monday 4 January 2021**

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