

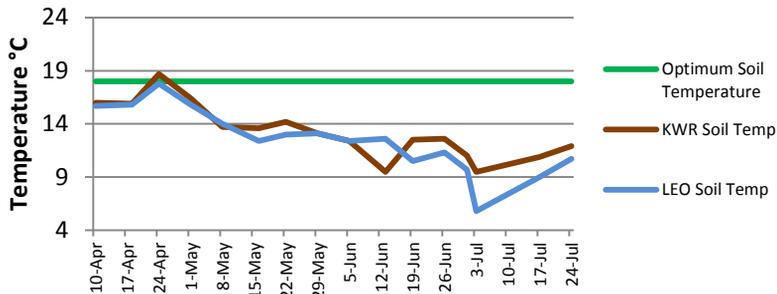
What's New at Browns

Brown's welcomes Eamonn Fox as Depot Manager at Leongatha depot and Brett Tonkin as Agronomist based at Leongatha and Tinamba.

With the weather staying mild, the trucks have been able to keep spreading with many farmers using the opportunity to spread nitrogen and sulphur. In the down time we are focussing on depot maintenance and site safety.

Recently the agronomists visited the Agribio Centre in Bundoora where we discussed some of the latest research topics such as phosphorus and nitrogen efficiency and subsoil amelioration, with leading agricultural scientists. It was a highly informative day and we look forward to sharing the knowledge with you.

Soil Temp at Koo Wee Rup and Leongatha



Understanding soil temperature

Ryegrass growth rates are highest when soil temperatures are around 18°C. Although rye grass will continue to grow at soil temperatures as low as 4°C growth rates will decrease dramatically.

Soil temperature plays a large role in seed germination and therefore sowing times.

Sulphur in Winter

Sulphur (S) is an essential macro element required by plants as it is a part of every living cell. Sulphur has various roles within the plant such as:

- Constituent of amino acids leading to plant protein production
- Involved in catalysing (speeding up) biochemical reactions
- Required for formation of chlorophyll (green pigment involved in capturing energy from sun).

Sulphur and Nitrogen have a close relationship because they both are involved in the conversion of amino acids to plant protein. If sulphur is deficient then plant nitrates aren't converted to amino acids thus limiting the response from nitrogen fertiliser applications. The young tillers will appear pale green to yellow and become stunted.

Sulphur is taken up through the roots in Sulphate form (SO₄²⁻) only. Sulphate acts in a similar way to nitrate in the soil as it is susceptible to leaching below the root zone when soils become waterlogged. Waterlogging causes the soil to become oxygen deficient causing sulphate to convert to sulphide which is unavailable to plants. Therefore when the soil becomes saturated or soil temperature falls below 10°C we recommend using Sulphate of Ammonia (SOA) in winter months in combination with Urea to get a full response from the nitrogen fertiliser.

During cold weather, the rate of conversion of soil sulphur to plant available sulphate is decreased, therefore it is important to apply readily available forms of sulphur such as Sulphate of Ammonia (SOA).

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Pest Profile: African Black Beetle (*Heteronychus arator*)

What crops: Pasture (especially newly sown), Cereals (not usually oats), Millet, Maize, Potatoes, Tree crops

When: November to mid May in pasture.

Identification: A soft bodied, white "C" shaped grub, up to 25mm in length. Larvae look similar to red-headed cockchafer, but head will be smooth and the colour will be light brown-orange rather than the dark red-brown colour and pitted head of the cockchafer.

Adults are a shiny black beetle, approximately 9-15mm in length. There is minimal pitting on the wing covers. Adults are similar to red-headed cockchafer, but the body and head are parallel, where the cockchafer will widen out towards the back end and there is more pitting on the body.

Damage caused: Dead, stunted and missing seedlings in new ryegrass paddocks. This is especially evident in direct-drilled pastures. Plants can look like the "sap" has been sucked right out of it. Adults chew on plants just above and below the ground, often chewing right through stems. Larvae eat roots and organic matter. This can cause seedling to be pulled right out.

Control: Insecticide seed treatments for autumn-sown pastures will provide up to 3-4 weeks protection. It is vital to commence crop inspections by the 3 week stage to monitor for pest populations. AR37 endophyte on ryegrass offers some protection, but in high infestations, damage can still occur. Seek advice from your seed representative to decide if AR37 endophyte is right for your stock.

For more information on identification:

<http://www.gippsdairy.com.au/LinkClick.aspx?fileticket=PniOANU7Mig%3D&tabid=39>



Adult Black Beetle



Damaged pasture from Black Beetle



Nipped off pasture at the base

What to do in a cold but dry winter?

The season is shaping up to be below average on rainfall in Victoria, with the effect of El Niño being downgraded. Despite this, many areas are experiencing frosts much earlier in the season due to cold over night temperatures. Radiation frosts occur when surface temperatures reach 0°C under clear skies with no wind. When moisture in the air comes in contact with the freezing surface, frost is formed.

When frosts occur, the tissue inside a plant can freeze causing the cells to expand. Under this pressure, the cells burst and plants become dehydrated and structurally damaged. Annual ryegrass is less tolerant to frost than perennial ryegrass and therefore newly sown annual pastures will be at most risk during a frost. The tips of leaves will appear yellow or white and dry. A plant will recover so long as the growing point, located at the base of a ryegrass plant, is not damaged.

To best manage frosted pasture, look to reduce traffic as leaves can snap when frozen and following defrosting will quickly wilt. Heavy grazing will also impact regrowth of pasture.

Ensure pastures are sown early and well established in susceptible areas or look to use frost tolerant species.



Frosted Pasture early on a Saturday morning

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