BREMER CATCHMENT ASSOCIATION INC.

around the bremer

April 2023

Special points of interest:

The next Meeting will on

20th April 2023

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Weeds: a widespread problem

In the Bremer Catchment we are all affected by weeds, and not only through their unwanted presence in our backyards.

Weeds – alien or native plants that grow where they are not wanted - are a major threat to both the natural environment and agricultural land we depend on. They can also directly affect the health and well-being of communities across Australia.

Weeds can upend ecological communities, adversely affect rivers, rangelands and forest systems, compete with crops, harm livestock, contaminate produce, reduce water quality and cause human health problems such as asthma.
They are Australia's most economically destructive type of invasive species. They have cost our economy more than $150 billion over the last 60 years, and continue to cost it around $5 billion per year.

Grain growers alone spend more than $2.5 billion per year on weed control.
A new species of weed takes root in Australia on average every 18 days.
All up, more than 3200 introduced plant species are now established in Australia.
We need safe, cost-effective and sustainable methods for weed control to reduce these negative impacts.

Kidney Leaf Weed

Planting time and Soil requirements of Sunflowers

This crop has gained “popularity” within the Bremer Catchment, including related to Agro Tourism.

Sunflower is a highly adapted crop to different environmental conditions and soil characteristics. This allows a higher flexibility in the planting date, something significant when sunflower is used in double planting schemes. Despite its high frost and heat tolerance, it is essential to follow some ground rules to help the plants reach their yield potential.

The sowing must take place during the suggested period for each crop and region to protect the final yield. The optimum temperature for plant growth is around 21-26 ^{o}C (70-78 ^{o}F), while temperatures of -3 to -5 ^{o}C (26 ^{o}F) for approximately 6 hours can kill a mature sunflower plant. From flowering until plant maturity, the temperature level can affect fatty acid production in the sunflower seeds.

While the seeds need sufficient soil moisture to germinate, sunflower prefers well-drained soils with high water holding capacity. The plant’s growth is optimum on sandy loam soils with neutral pH (6.5-7.5), but it can also tolerate clay loam or silty clay loam soils. If the soil pH is below 5.5, the farmer can incorporate lime to increase it. Deeper soils in combination with sufficient-high rainfalls can increase the crop’s yield potential..

Farmers are advised to use high-quality, healthy, and certified seeds to ensure a reasonable and uniform germination rate. Most sunflower seeds have been treated with fungicides to control downy mildew and insecticide. In no-tillage systems, farmers pay extra attention to covering the seeds with sufficient soil and ensuring good seed-to-soil contact. It is essential to avoid planting deeper than 5-6 cm (2-2.5 in) for good and uniform germination. The sunflower is a row crop, but the row spacing is not something strictly fixed . The seeding rate should adjust to the crop’s yield potential, the type of the soil, and the availability of nutrients and water. Sunflower Seeding Requirements and Plants Population per Hectare are:

For confections-type, a plant population of 12,000 and 18,000 plants per acre (30,000 and 45,000 plants per hectare) is more desirable to obtain larger seeds. Farmers can use maximum seeding rates in irrigated or high rainfall areas and in high-yielding soils (nutrient-rich). Plateless and air-planters can offer good seed distribution, but conventional planters with appropriate size plastic plates with filler rings may give even better results. Sunflower is also sensitive to compacted soils, so farmers often use tiers with light pressure, compacting the soil only alongside the seed.

Sunflower Seeds

For more detailed information please contact Wikifarmer, a global platform

Injecting into a tree requires a drill and the penetration of the protective bark, the drill holes are spaced around the tree and chemical is then injected with measured injectors. This treatment is a great way to deliver a chemical quickly and efficiently into the trees vascular system, results are good and chemical use is less than with other methods.

The downside is the drill holes, there is nothing 'micro' about them, they are at least 4mm diameter and depending on species and age could be more than 4cm deep. Each treatment (every 2 – 5yrs for Elm Leaf Beetle) requires a new set of drill holes. A tree will usually callus (but not heal) over drill holes within a few years, particularly younger healthier trees. This covering of the wound is good from an aesthetic perspective however the damage remains inside.

Advantages—Fast acting treatment providing protection within days. Should provide management of Elm Leaf Beetle for 3 years. Avoids the disadvantages associated with soil injection, most importantly the additional chemical introduced to the environment and to off-target species relatively fast to apply.
Can be used on trees where root access is difficult – under concrete drives, decks etc Two year guarantee on injection treatment – if the treatment is not working adequately we re-inspect and do a follow up treatment at no extra cost.

Disadvantages – see notes on **tree biology** and tree injection:
Requires drilling multiple injection holes into the tree; trees do not heal, they grow over (hopefully) and the damage from drilling is permanent, this may introduce decay into the lower trunk which is the most structural element of a tree.
The injection holes from previous treatments cannot be re-used as the tree shuts down the tissue around each drill hole; this is the trees natural defence mechanism to minimize the spread of decay. Each new injection treatment requires a new set of holes to be drilled. The larger the tree the more holes that are required, there may be from 4 to 14 holes required around a tree and over the space of 9, 12, 15 years this adds up to a lot of holes and damage and potential for decay.
Does not deliver the water benefits of a soil injection. The primary defence mechanism for trees is the compartmentalisation of containing decay, particularly the movement up and down the trunk. cay, or the shutting down of areas. The tree is effectively cutting off sections of themselves to try and contain the spread of disease. Every wound (drill hole) is a new section that must be cut off. Older trees are larger so they require more drill holes, also they are less successful at containing decay, particularly the movement up and down the trunk.

Cultivating a second source of natural rubber in Australia

A future where cotton and rubber coexist in the same crop may be on the horizon for Australian farmers.

Rubber is an essential industrial raw material, used in the manufacture of 40,000 products worldwide and primarily used in tyres.

Rubber for the production of manufactured goods is available in two forms: natural and synthetic. Synthetic rubber derived from petroleum accounts for about 55 per cent of the total rubber market. The 45 percent is a natural balance product from plants.

Guayule (*Parthenium argentatum*) is a woody, perennial, rubber-producing shrub and a member of the daisy family. Under cultivation, guayule, (pronounced why yoo lee) a native of the Mexican desert and south-west Texas, grows to about 1.3 meters in height and requires two years to mature.

The Australian Guayule Industry Strategic RD&E Plan (2022-2027) has identified the research and development priorities for industry to implement over the next decade. Growing demand for natural rubber, and the finite production of Hevea rubber, means interest in guayule's hypoallergenic qualities for latex production and benefits for the tyre industry is fast increasing.

The goal of the Strategic RD&E Plan is to guide investment to support an industry that aims to grow and process 5,000 hectares of irrigated guayule for a range of profitable uses by 2027. A guayule industry of this size is estimated to have a gross value of production of approximately $17.8 million – a gross income of $3,560 per hectare planted.

A recommended step in the RD&E Plan is to focus on securing seed supply for Australian farmers, a vital measure for the future of the industry, according to author of the plan, Michael Clarke.
"The industry needs a source of high-quality guayule seed for farmers to plant," he said.

Complimentary to cotton

The agronomy of growing guayule in Australia isn't a mystery. Australia has large-scale production and mechanised farms – guayule prerequisites.

The crop may be grown under dry land conditions and Australia has a large area of land with soils and environmental conditions suitable for guayule. Cereal-growing regions have been successfully used for dry land trials.

For more information go to: **AgriFuture, April 2023**

Guayule Plants

Bilbies not bunnies this Easter in Ipswich

Bilbies not bunnies was the message from the Ipswich Nature Centre and one young Ipswich resident this Easter.

Bilbies remain classified as a vulnerable species with only about 10,000 left in remote parts of Australia.

Mikaela Van Haren, 13, from Springfield Lakes, raised $1,565.30 through the Containers for Change bottles and cans exchange program, bake sales, car washes and even selling her toys.

She reached out to the Ipswich Nature Centre, which has successfully bred bilbies, to help her get in touch with the Save the Bilby Fund to make a donation.

Mikaela started fundraising after the 2019 bushfires when she saw so many animals that needed help after losing their homes.

"I felt gutted and I needed to do something to help," she said.

"I try to help those animals that are most at risk, especially those that aren't really spoken about. I've always loved the bilby and it seems unfair they are only remembered at Easter.

"I love knowing I am making a difference, even if I am only helping one animal – it makes it all worthwhile."

Mikaela donated the money to the Save The Bilby Fund on Tuesday, 4 April, at council's recently refurbished Queens Park Environmental Education Centre.

Ipswich City Council Environment and Sustainability Committee Chairperson Councillor Russell Milligan said Mikaela was an inspiration.

"The Ipswich Nature Centre has a long-standing history of raising awareness of the plight of the bilby and has bred bilbies successfully in the past, most recently in 2018 when a male was born and in 2017 when female triplets were born," Cr Milligan said.

"These bilbies went on to be released at the Australian Wildlife Conservancy at Mt Gibson.

"The Ipswich Nature Centre is a great place to learn about Australia's unique wildlife that has been so inspirational for Mikaela – we hope to inspire other residents to support our native wildlife in whatever way they can."

"We're very fortunate to not only have bilbies, but dingoes, emus, kangaroos and many other native flora and fauna, in the heart of Ipswich right here in Queens Park."

Bilbies at the Ipswich Nature Centre

For more information see: **Ipswich First, 6th April 2023**

Native Fish of the Bremer Catchment

By Keith Mc Cosh (BCA Member)

There are up to 50 different native fish species in the waterways of SEQ. Many of these make it into the Bremer. To get there they must negotiate the Brisbane estuary for about 70 kms from the sea, through very turbid water with very little habitat. Then they must survive about 20 kms of Bremer estuary, again through very turbid water with very little habitat. Over the rocks at Coalfalls and finally into non-tidal river, our fish then have to overcome some very substantial barriers – all manner of weirs, rock piles, and causeways. What an ordeal. Why would they want to do this?

Some do and some don't. Native fish can be split into two main types:

Diadromous – adults needing to move from saltwater into freshwater, or vice versa, in order to breed. Young fry then move from the fresh back into salt. Examples – Freshwater Mullet, Fork-tailed Catfish, Sea Mullet, Australian Bass, and Long-finned Eel.

Catadromous is used to categorise those that spend most of their lives in freshwater and migrate to salt water to breed.

Anadromous is for those that spend most time at sea and move to freshwater to breed.

Potamodromous – those that move around in the fresh. They often need to move into the upper reaches to breed. Examples – Eel-tailed Catfish, Fire-tailed Gudgeon, Mary River Cod, and Australian Smelt.

Berry's Lagoon Barrier

So, all fish seem to need to move. Going downstream is easy. Wait for a flow and off you go. But going upstream is tricky. This is where all those barriers have such a devastating effect. Our fish don't jump, but many years ago all weirs, etc, were fitted with a fish way designed for Salmon. They had to jump to get up it. A great piece of engineering – not! Now, more suitable fish ways are being built. In fact, any barrier in a stream needs to have adequate fish passage structural elements. The Fisheries Act now requires any barrier to adhere to a code.

Berry's Lagoon Fish way

Information Page

Volunteer Management Activity Grants - Opening Soon

Volunteering Queensland will shortly announce Round 2 grant funding of the Volunteer Management Activity, for activities which. take place between July 2023 and June 2024.

Through an open application process, Volunteering Queensland will establish partnerships with eligible entities to design and deliver new programs and strengthen existing relationships. The funding is to support volunteer involving organisations' capacity building in order to reduce barriers to volunteering among highlighted priority groups. Partnership support and project funding will be available for organisations to implement projects within communities and/or that have a state-wide impact.

Projects which can be provided across regional, rural and remote areas are highly encouraged.

Round 2 grant funding is due to be opened this month, with applications closing in late May 2023. For enquiries related to this and other potential opportunities with the Volunteer Management Activity, please contact **vma@volunteeringqld.org.au**

We are now just over a month away from **National Volunteer Week (15 - 21 May 2023)** and things are ramping up here at Volunteering Queensland. **National Volunteer Week (NVW)** is Australia's largest annual celebration of volunteering, the 2023 theme is ***The Change Makers.***

Corinda State High School in Brisbane is one of 11 successful schools to receive agricultural program funding that has enabled it to further progress its 'smart farm'. The farm within the school grounds is prioritised as a learning hub for all agricultural facets. Deputy Principal Tom Bates said, "the aim of the program was to provide students with an understanding of the future and teach them that agriculture and farming is more than patting a cow or planting a tree.

" Ref. ***- Agrifutures Australia Newsletter 14/11/2022.***

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