mackay area productivity services

March 2018 Newsletter

Events:

- **On-farm irrigation pump checks** will be held on Thurs 22nd March and Fri 23rd March. Phone Steve Garrad on 0417 326 673 if you would like to attend or for more information.
- **Case IH Step UP! 2018 Conference** at the MECC, Mackay, from Mon 26th – Wed 28th March.

  Register at www.nextgenstepup.com
- **Sugar Tuesday,** a discussion and demo of innovative agricultural equipment at the Mackay Showgrounds on Tues 17th April from 9.30am.
- **40th Annual ASSCT Conference** at the MECC, Mackay, from Wed 18th – Fri 20th April.
- **SRA Harvesting Forum** at the Windmill Motel on Wed 2nd May from 8.30am – 12.00pm
- **MAPS/SRA Annual Field Day** at the MAPS seed plot, Victoria Plains, on Thurs 10th May from 7.00am – 12.00pm.

MAPS loses two staff in March

Two of MAPS Productivity Officers resigned within a few days of each other in February. This has caused some problems as we have had to reassign some jobs and farmer responsibilities.

We ask growers for their patience while we search for new staff and then during their training period. Please give your Productivity Officer plenty of notice when plants need checking as this will help us a lot.

Also MAPS will not be holding many shed meetings this March but encourage growers to attend the MAPS/SRA field day on 10th May.

Annie Christinat has served MAPS and her growers well for 6 years. She is leaving to do volunteer work in Uganda.

Michael Deguara has only been with MAPS for a short period. While he enjoyed the work and showed great potential, he left due to personal reasons.

Who should you contact now?

Annie Christinat's farmers will now be serviced by Allan Royal (0408186386).

Michael Deguara's farmers (Pleystowe) should contact John Agnew (0417326393) with their enquiries and he will assign a Productivity Officer to assist.

Prevention is better than cure

You could be losing anywhere up to 60% yield due to a disease which often shows no visible symptoms.

Ratoon Stunting Disease (RSD) restricts the plant's ability to use water and grow. It is spread by using either infected plants or by harvesters, planters or any other farm gear that contacts the infected sugarcane juice or soil.

While there is no variety truly resistant to RSD, certain steps can be taken on farm to maintain good productivity and to prevent the spread of the disease between blocks and farms.

Protecting your farm:

1) Start with a fresh source of plants from MAPS Approved Seed plots.
2) Make sure any on farm plant material is checked for RSD and other pests or disease before planting by your productivity officer.
3) Sterilization of any machinery moving between farms using a mixture of 70% methylated spirits and 30% water.

Dirty trend

These days everyone is busy and going like a bat out of hell. We have noticed that harvesters and planting contractors gear is not being cleaned or sterilized between farms. This is a dangerous trend and false economy. Time is money but in this case spending 30 minutes to sterilize the major cutting points of harvesters and planters is a cheap investment.

Prevention is better than cure, as the only way to remove RSD from an infected field is to plough out and fallow, ensuring that no volunteers survive. MAPS wants each grower or contractor to have a batch of sterilizing solution at hand to disinfect machinery as it comes onto their farm(s). Farm machinery that is being moved between regions (across biosecurity zones) also needs to be inspected and given a Plant Health Assurance Certificate beforehand. This can be granted by an accredited productivity officer.

If you have further questions about RSD or machinery inspections please give your productivity officer a call.

Irrigation Efficiency Workshop & Pump Checks

MAPS and Plane Creek Productivity Services, recently held a series of on farm irrigation pump checks and workshops. These were run by Pat Daley, an independent irrigation and energy consultant.

What did we learn?

- Megalitres (ML) of effective irrigation and rainfall grow the crop; KWh of electricity or litres of diesel is what you pay for. So dollars per ML is what counts when doing your sums.
- The main factors in hose friction losses relate to size and length. A flow rate of 25 l/sec will result in a friction loss of 10 M of head (14 psi) in a 200m hose. This will double for hard hoses of 400m length. Reducing flow rates reduces friction losses.
- Throttling back the gate valve at the pump increases the pressure at the pump and raises the pumping cost. Gate valves are often only partly open either because the pump is too big for the irrigator so the valve is used to restrict flow and pressure or to reduce pump cavitation.
- Variable speed drives can reduce operating costs when the same pump is used for different requirements e.g. a high pressure winch and a low pressure boom. Variable speed drives can be a dear option if only one irrigator is being used, and it may be a cheaper to match the pump with the irrigator.
- For irrigation efficiency purposes, you have to measure kWh/ML/M (units of energy/water volume/ pressure). The average irrigator uses 6.7 kWh/ML/M, while the more efficient irrigator uses 4.5 kWh/ML/M. At a cost of 0.25c per kWh (low tariff + supply charge), the average irrigator is paying $1.67/ML/M, while the efficient irrigator is paying $1.12/ML/M, a saving of 0.55c/ML/M.
- During the on-farm pump checks, water volume was measured using both a standard flow meter as well as an ultrasonic portable flow meter strapped to the outside of a pipe. Likewise with the energy measurement, both multiple disc meters and digital meters were explained and used.

Two more on-farm pump checks will be held on **Thurs 22/3 and Fri 23/3**. Phone Steve Garrad (MAPS) on 0417 326 673 if you would like to attend or for more information.

I did it MY way

The next leap forward

The Australian sugar industry has a record of big steps that have proven over time to be 'game-changers'. Most would agree that going to Green Cane Trash Blanket (GCTB) would count as one. Other examples would include mechanical harvesting and weed control with herbicides.

What is the next leap forward in the Australian sugar industry?

It's there in front of you

To take a leaf from other agricultural industries, it is to make better informed decisions based on farm data. The more complete the data the better the decisions.

For example a question such as: "What did it cost to produce a tonne of cane on this farm this year" becomes very easy to answer. With better data, then the cost to produce a tonne of cane can also be easily worked out per block.

When a change is made on the farm, how do you know if it is making you money or costing you more? You simply work it out based on … **your records.**

Houston, we have a problem

The idea of keeping records has been high jacked! It is largely seen as a 'hoop to jump through' in order to meet legislation. Records have come to be seen as 'the government's records' and not as one of the most basic tools needed to run a successful business.

The robust steps for good cane nutrition management such as soil testing and the Six Easy Steps are now dripping in legislation and no longer valued by growers as valid decision tools. They are seen as ammunition to be used against the farmer.

What really matters?

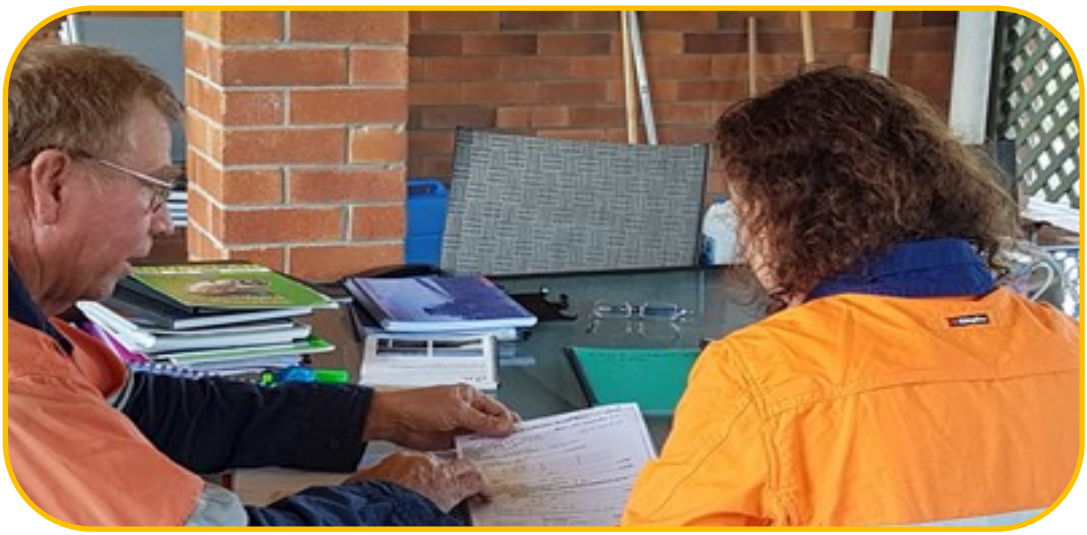
Think about what questions you ask yourself when you need the detail to make a decision. Maybe questions such as:

- Where can I save money whilst having the least impact on my production?
- What was the fertiliser rate we used in that block?
- Could I have reduced my fertiliser rate in my late cut blocks and still got the same yield?
- How well did that new herbicide work and what weeds did it take out?
- Is it better to focus most of my irrigation on the plant cane and early ratoons?
- Did I do anything different in this block? I got better/worse results than usual.

Think about the data that you once had in your mind that could help you answer all these questions? It's no good counting on your memory or a scrap of paper lost in the shed…. If only you had a system to capture this data!

There is a way

Whether you prefer paper maps, recording books or computer files, **Smartcane BMP** can work in with YOUR SYSTEM and help you improve on-farm decision making, meeting regulations and being useful to the most important person on the farm – YOU. Please don't delay.



2017 SRA Harvesting Trials

SRA completed seven harvesting loss trials during the 2017 season in Mackay, Proserpine and Plane Creek. The state of the crop after Cyclone Debbie stopped further trials taking place.

Trial details:

Four treatments were replicated at each trial -

- Low loss - low ground speed (3 kph) and low fan speed (600 rpm). Not practical but gives an idea of the lowest loss.
- Recommended (Schlot model) treatment – based on the crop size, presentation and the conditions of the day. Usually a harvesting pour rate between 80 – 90 t/hr.
- Nominal treatment – the usual settings the harvest operator would select on the day in the paddock.
- Aggressive – higher ground speed (7 kph) and high fan speed (900-1000 rpm - modern machines).

Results:

- Changing from the *Nominal* to the *Recommended* treatment gave a 5% increase in tonnes of cane and a 6% increase in tonnes of sugar. This equates to an extra $12 million for growers and $2 million for contractors in the Mackay region.

This year, 14 trials are planned in the Central Region. Growers and contractors interested in being part of harvester trials should contact Dave McCallum at MAPS.

Reminder –

SRA Mackay/Plane Creek Harvesting Forum

Wednesday 2nd May 2018, Windmill Motel, 8.30 am – 12.00 pm

Key topics include –

- Interaction between basecutters and other forward- feed components.
- An online tool to allow real time assessment of harvesting practices.
- Detailed results of 2017 harvesting trials.

Residual Herbicide Choices

by Phil Ross SRA

Residual herbicides are one of the tools in our weed control toolbox. Residual herbicides have copped some bad press over the past few years. To control germinating weeds, they must remain active in the soil for the length of time we want control. This increases the risk of some of the herbicide moving off the block either in rainfall run-off or in deep drainage.

Group C mode of action herbicides like diuron and ametryn work by stopping photosynthesis. In high enough concentrations, they can also affect the growth of sea-grass, algae in coral and other aquatic plants.

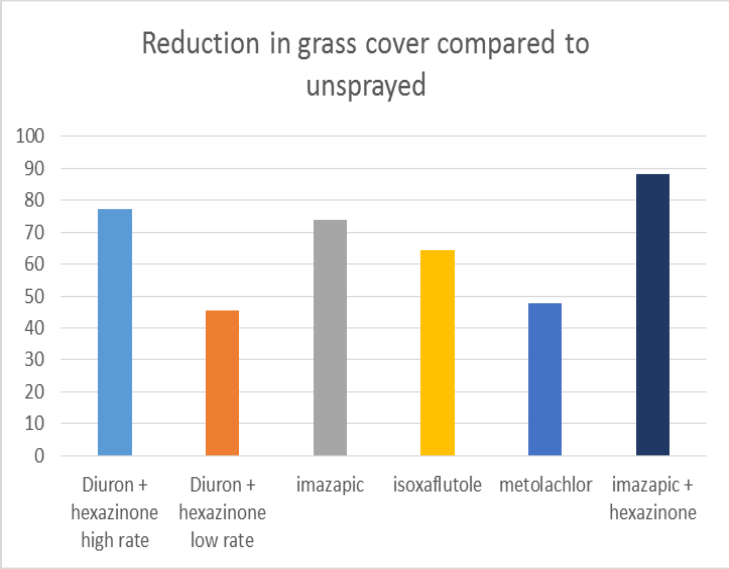
This is why herbicides containing diuron, can only be used at lower rates over the wet season.
Over the past years' other residual herbicides have come onto the market:

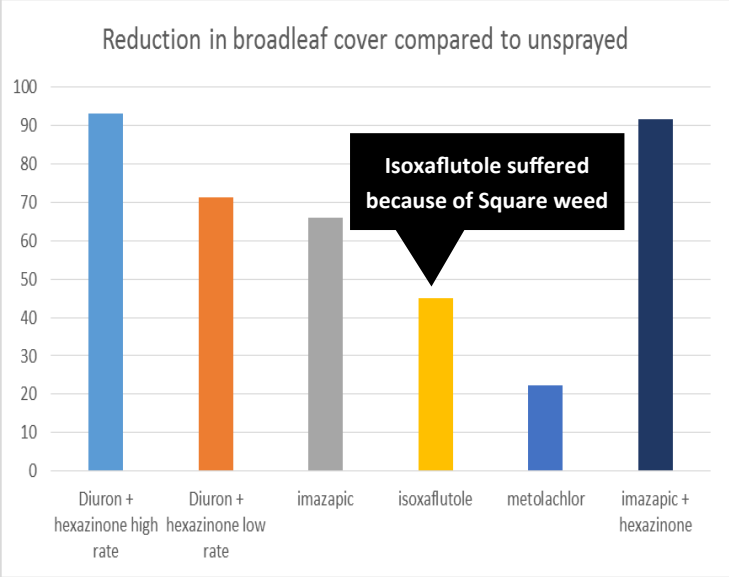
Active ingredient	Mode of action group	Example product
isoxaflutole	H	Balance®, Palmero®
imazapic	B	Flame®, Impose®, Spark®
imazapic plus hexazinone	B / C	Bobcat® i-maxx
flumioxazin	G	Valor®

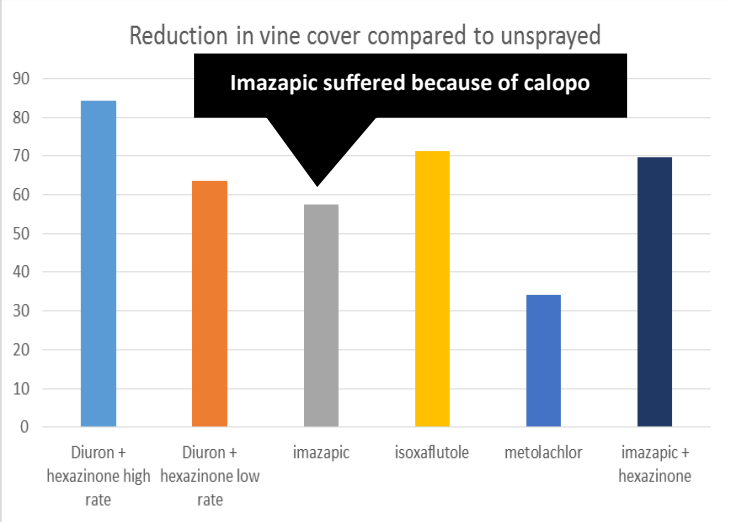
SRA trials in Far North Queensland compared these herbicides (except flumioxazin) with Barrage (diuron plus hexazinone) at both its' high and low label rates, and another older herbicide, Clincher® (metolachlor).
Imazapic plus hexazinone (Bobcat® imaxx) gave the most similar control to Barrage (or Bobcat® Combi) across the range of grasses, broad-leaves and vines.

The following charts show the average percent ***reduction in weed cover compared to unsprayed plots,*** over a period of 70 days; over seven trials, over two seasons.

All the trials were in trash blanket ratoons.







Source: Fillols,E (pers com)

Residual herbicides are commonly used as mixtures to overcome weaknesses. For example, isoxaflutole (Balance®) would normally be mixed with metribuzin (e.g. Mentor®) or atrazine to give control over a wider range of weeds.

Lower losses in rainfall run-off

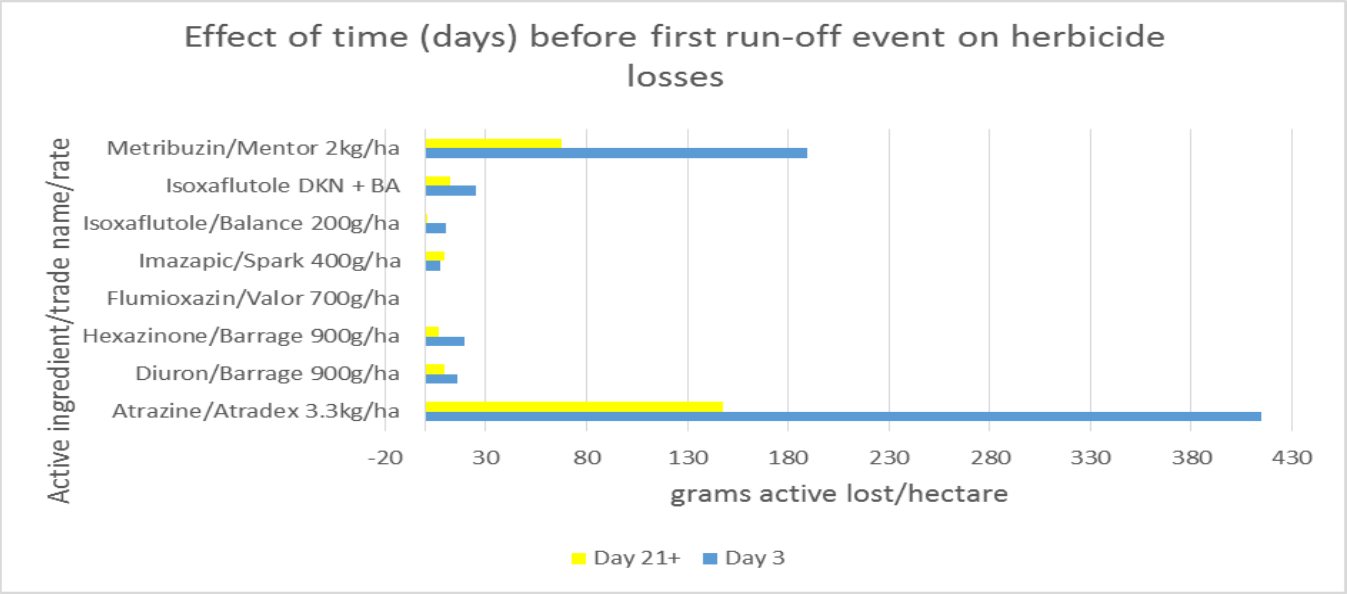
Many trials have shown that the single biggest impact on the amount of herbicide lost in rainfall run-off is the time gap between spraying and the first run-off event.

The chart below shows how a three week gap between spraying and first runoff event can greatly reduce off-farm losses. Results are from a demo in Tully, and follow similar trends to trials at Victoria Plains some years ago.

This chart shows how much active ingredient (or other break -down products) was lost when the first run-off occurred three days after spraying compared to the first run-off occurring 21 days after spraying.

Notice that the new herbicide Valor® (flumioxazin) showed small losses in the run-off even at three days after spraying.

The message from this chart is that the longer the period of time between spraying and runoff-causing rain, the better off we are in terms of water quality leaving our farms.



Source: Billing,B (pers com)

Finger Presswheels reduce off-farm loss

Recent Mackay trials have shown that a finger-presswheel can greatly reduce fertiliser and liquid imidacloprid loss from farm.

The project run by QDAF and involving EHS Manufacturing, Central Coast spreading, Bayer and Reef Catchments/ Catchment Solutions resulted in successful field testing and commercial production of the StoolZippa (finger presswheel).

The StoolZippa does a good job of closing the slot made by the coulters on stool splitters. This means more of the fertiliser and insecticide stays put to be used by the plant and to kill cane grubs.

Fertiliser and Confidor was applied using a stool splitter in a crop of ratoons. Treatments tested were plus or minus StoolZippa. Using small plot overhead irrigation (rainfall simulation) runoff was achieved and the water was sampled and tested.

The StoolZipper gave an almost two-fold reduction in each of the following:

- Imidacloprid concentration in runoff
- DIN (dissolved inorganic nitrogen) in runoff
- Total phosphorus in runoff

Bayer has sponsored 3 applicators for demo in Proserpine, the Burdekin and the wet tropics to promote the StoolZippa and encourage better use of imidacloprid.

Growers interested in the StoolZippa can contact EHS Manufacturing for free plans, sale of components or sale of complete units.

Figure 1 – EHS developed StoolZippa