

# Agricultural extension advice for producers in the

# Hunter

SUMMER 2021



## CHALLENGE SERIES – A FIELD DAY ON YOUR COMPUTER

I once asked a landholder why he didn't come to Local Land Services field days and workshops in town. He replied that he would like to but was too busy and that in a perfect world I should hold all the field days and workshops on rainy days. I wondered if he was fair dinkum or did he have a point! It is hard to get away from the farm to attend events where you sit for a few hours and hopefully hear presentations on topics of interest to you that will improve your business or find out information while you think about what needs to be done back at the farm. Although the networking aspect of these sessions is not to be underestimated as an important factor in taking time off to stay connected with your peers and hear about industry topics.

But back to the point, have them on rainy days!

Maybe our recent Challenge Series of fact sheets may address this problem. These sheets are designed for watching in your own time. Yes, that's right – watching. They are interactive and contain many links that you can choose from relating to what interests you and your business. These interactive fact sheets are likened to a field day on your computer.

The sheets are a compilation of past field day video links chosen from the Hunter Local Land Services YouTube channel, as well as fact sheets and in-field demonstrations on a particular topic from many different sources. You can catch up on what you missed out on while you were out working in the paddock. The Challenge Series fact sheets are available on Hunter Local Land Services website, under Publications & Resources or at this direct link here <https://www.lls.nsw.gov.au/regions/hunter/articles,-publications-and-plans>

The word "Challenge" is used as a prompt. The idea is that many producers have many challenges to work through. Changing the way you do things or other improvements may alleviate the challenge through implementing a change. If changes aren't made, then the challenge will continue.



## IN THIS ISSUE

<i>Challenge Series</i> .....	1
<i>Quality is key to successful summer feed management</i> ..	4
<i>How good are you at making decisions</i> .....	6
<i>Every Bit Counts</i> .....	8
<i>Pasture dieback</i> .....	10
<i>Soil moisture monitoring after rainfall</i> .....	12
<i>Fly worry in Cattle and Sheep</i> .....	14
<i>Challenge series links</i> .....	16

Farm water supplies may be a challenge for most landholders considering the low water supplies experienced in the last drought. The Farm Water Challenge sheet provides information on how to improve water resources and provide options for water storage and stock water outlets.

Pasture for winter is another challenge we address every year to fill pasture nutrition gaps and reduce our dependence on brought in feed. The Pasture Challenge and Kikuyu Challenge sheets have information on this aspect of pasture planning and improvement and may give you some ideas to think about next year as you prepare your pastures for winter. Listen to a 'blast from the past' with a podcast from Bill Fulkerson. Bill explains kikuyu management and the transition to a winter pasture on a great podcast with a local radio station at Lismore.

Keep an outlook on the weather with our Weather Challenge Series with Graham Creed from ABC Weather. This Challenge sheet gives you tips on what to look for on the Bureau of Meteorology website and how to interpret the weather, especially the longer-range forecasts.

Due to Covid-19 impacting our face to face workshop delivery, we also compiled a Heifer Management Challenge Series of four workshop sheets. In these sessions you work through a heifer management program. Within these sessions, regular Zoom meetings run in conjunction with the sheets to answer any of your questions. Nikki Henderson,

beef nutritionist, runs this program for Pinnacle Ag. If you want to be involved with this series, let me know, and I will add you to the list and send you out the series. It won't matter where you're from or depend on numbers - that's the beauty of the Challenge Series.

We are working on more Challenges for the future, so if you have an idea let us know and we can work with you to develop a sheet on a topic and share with other landholders in our region. We all have challenges, and the solutions are generally from producer ideas and changes made on local farms.

If you have already tried a Challenge sheet, let me know what you think. We appreciate feedback and suggestions for improvement and changes.

Don't forget to press the "Start" icon where you will see a video on how to use the sheet.

With the positive Bureau of Meteorology outlook there might be many rainy days to participate in the Challenge Series and hopefully help you out on your farm. But I'll leave that prediction for Graham Creed to explain.

For more information and to sign up for the Heifer Management Challenge Series, please contact – Albert Mullen, Landholder Extension Officer, Manning Great Lakes Ph: 0427 496 549 or email: [albert.mullen@lls.nsw.gov.au](mailto:albert.mullen@lls.nsw.gov.au)

# KIKUYU CHALLENGE

Getting the best from kikuyu pastures



Click Start First

Watch video here

**Challenge**

- Managing Kikuyu to maintain a quality pasture

**Change**

- Assess your current management practices
- Maintain clover content
- Soil nutrient levels for production
- Get expert advice

Click on the relevant link to access the video or PDF

FACT SHEETS	POD CAST	VIDEOS	Dairy web site Kikuyu information Suitable for Beef
<a href="#">DPI Kikuyu Fact Sheet</a> <a href="#">Kikuyu Seed Force Acacia Plateau</a> <a href="#">MLA Tips and Tools Maximising Kikuyu production</a>	<a href="#">Bill Fulkerson Kikuyu managing quality</a> <a href="#">Bill Fulkerson Autumn Kikuyu management</a>	<a href="#">Managing Kikuyu height</a> <a href="#">Response to rain</a> <a href="#">Kikuyu Research</a> <a href="#">Kikuyu Poisoning</a>	<a href="#">Grazing Kikuyu</a> <a href="#">Grazing for milk production</a> <a href="#">Kikuyu Research (see Video Link)</a> <a href="#">TechnoteKikuyu</a>

# Landholder Weeds Training

## EXPRESSION OF INTEREST



Hunter LLS, supported with funding provided by NSW State Government, will be offering Landholder Training on pest plant ID, control and management through Tocal College.

This training will be offered to a select number of fire impacted landholders and community groups members. The training will be delivered in **Taree** area in late February, **Tocal** in March and another location based on the **EOIs** in late March.

In each location three different course will be offered across three days. These are:

- Recognise Grasses- Recognise plants
- Weed management- Control weeds
- Weed movement- Machinery inspection and cleaning

These courses are accredited units through an accredited training provider. The intent of the courses is to build the weed management capacity of our local landholders and community group members. From these EOIs a panel will select landholders and community members that will most benefit from this training and be able to take their new found knowledge back to their communities and gain some wins on the fight against weeds.

### Register Your Interest Here:

<https://hunterlls.wufoo.com/forms/landholder-weeds-training-expressions-of-interest/>



THIS EVENT IS COVID-19 SAFE.

Numbers are limited due to COVID-19 restrictions. All confirmed registrations will be required to complete a pre-event checklist and comply with COVID-19 requirements.

### Contact:

Hunter Local Land Services  
Regional Weeds Coordinator  
Matt Kennedy  
P: 0428 686 178  
E: matt.kennedy@lls.nsw.gov.au

 facebook.com/hunter

[www.lls.nsw.gov.au/hunter](http://www.lls.nsw.gov.au/hunter)



Local Land  
Services

This project is supported by the NSW Government Bushfire Recovery Program



# QUALITY IS KEY TO SUCCESSFUL SUMMER FEED MANAGEMENT

Summer pastures are flourishing with a welcome soaking of rain and moderate temperatures across the region over the festive holiday season. For most producers, it has been a long time since they have managed a summer feed glut quite like this one especially with livestock prices at such a premium that buying in extra feeder stock may not be an option. While it is easy to get carried away surrounded by this much green, now is the time to keep focused, plan-ahead your management strategy, and make the most of the feed potential in your paddocks.

Forage quality – nutrient value and digestibility - is key whether you are grazing fresh summer pastures, making hay or silage for storage, or stocking dry standing summer feed, remember it is managing the quality not quantity that makes all the difference.

## Making Quality Hay & Silage While the Sun Shines

This summer break is a valuable opportunity to conserve and replenish fodder reserves and much hay and silage is in now in production across the region. Hunter LLS is urging fodder producers and buyers to remember it takes as much effort and expense to make a low feed value product as it does top quality livestock fodder, however the dividends of producing good quality hay and silage will flow through when you need it the most at the point-of-sale in your feed test results and prices or in your livestock weight gains. When replenishing drought reserves and taking account of fodder storage costs, a low yield of high-quality hay/silage is always preferable to compromising quality for quantity.

Plant maturity and timing of mowing plays an integral role in the feed value of stored fodder. The growth habits of summer pastures and fodder crops can produce a huge bulk of low-quality roughage very quickly which can be tricky to manage. Keeping this in mind, landholders are encouraged to monitor plant maturity and growth patterns closely this season.

For summer grasses, pastures should be cut when the seed stems are first emerging in the late vegetative to early reproductive growth stage. Pasture quality rapidly declines once the seed head is fully emerged and flowering occurs, and metabolisable energy (ME), protein levels and digestibility all decrease, reducing the quality of the finished hay/silage product.

“Rule one of good pasture hay/silage making is to ensure the pasture or forage crop has high feed value before cutting – this means plenty of leaf, not too much stalk, with no seed heads unless it is a grain crop.” Former Pasture Technical Specialist, NSW DPI, Neil Griffiths.

Remember, cutting summer pastures for hay/silage is a pasture management tool and can increase productivity. Making the decision to cut/mow at the recommended growth stage can also improve pasture/fodder crop regrowth for potential grazing and/or another cut given adequate nutritive value

and rainfall. It is vital to have a plan to make sure the process improves your pasture utilisation and makes the most of your total forage production whilst maximising quality.

## Kikuyu Silage

Kikuyu is one of the most popular tropical grasses conserved as silage in Australia. Kikuyu can produce large quantities of medium quality silage (9 to 10.5 MJ ME/Kg DM). Due to Kikuyu having high crude protein levels and low levels of water-soluble carbohydrates, it is critical that plant wilting occurs to concentrate the carbohydrates and improve fermentation. The best quality kikuyu silage is made from the plant growth stage of 4 to 5 new green leaves which is when the plant is normally around 25-30cm in plant height. Pasture quality rapidly declines after this growth stage. For a full fact sheet on Kikuyu silage production go to:

[https://www.lls.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0011/1282970/LLS-200828-kikuyu-factsheet-web.pdf](https://www.lls.nsw.gov.au/__data/assets/pdf_file/0011/1282970/LLS-200828-kikuyu-factsheet-web.pdf)



## Tropical Pastures

Timing is everything with when managing tropical pastures as while production rapidly increases as stands mature, feed energy values decline. Experiments at NSW DPI, Tamworth showed Makarikari grass cv. Bambatsi, produced about 6 leaves per tiller before stem elongation occurred with pasture quality of 10.6 MJ ME/kg DM, then by late vegetative stage, pasture production had doubled and quality declined to 7.9MJ ME/kgDM.

## Dry Standing Feed Potential

Managed correctly, the bulk of dry standing perennial summer pastures across the region can rebuild drought impacted landscapes and be utilised by livestock well into winter and early spring. This dry-standing feed will be poor quality by late Autumn and will then require supplementation to increase livestock utilisation and prevent excessive animal weight loss.

In new pasture stands, it is recommended to let these tropical pastures set seed and increase root growth for the following year's plant survival and regeneration. In older stands, it is encouraged to introduce winter legumes to improve and utilise pasture quality. These legumes can be an effective source of protein in the winter and early spring pasture sward. Management of the dry standing feed is now critical to prevent it becoming rank and impacting upon the regeneration of temperate legumes.

## Feed testing

Hunter Local Land Services have NSW DPI livestock feed sampling kits available at all local offices and recommend landholders take advantage of feed quality test services when producing hay/silage. Your local rural advisors and LLS Ag Extension team staff are available to discuss your pasture and fodder test results and management plan.

<https://www.feedcentral.com.au/wp-content/uploads/2017/09/TIPS-FOR-A-PROFITABLE-HAY-SEASON-17-18-edition.pdf>

<https://www.mla.com.au/news-and-events/industry-news/archived/2016/rough-guide-for-silage/>



JOIN US ON  
FACEBOOK

**Hunter Local Land Services**

Like Hunter LLS on Facebook to keep up to date with upcoming events in your patch and all our project and rural news as it happens

**You Tube**



Tune in & subscribe to our Hunter LLS YouTube channel for a series of videos from recent events, project updates and advice from our LLS team and guest presenters.

# HOW GOOD ARE YOU AT MAKING DECISIONS?

## Enhancing your farm decision making skills

Cam Nicholson from Nicon Rural Services was a keynote speaker at the Hunter Livestock Forum 2020. In this article, Cam discusses some practical strategies and tools to assist livestock producers to improve their decision making in a changing world. It doesn't matter what we grow or how we grow it, we still need to make decisions for a sustainable enterprise and industry. Cam's presentation 'The science of decision making – the head, heart and gut' is available on YouTube. To view on YouTube search 'Hunter Local Land Services, Cam Nicholson.'

We make many decisions every day. Some are habitual, we don't even think about them. Others are harder especially when:

- there are many factors to consider, including emotional ones
- some of the factors are more important than others
- we don't have all the facts and
- getting it wrong has severe consequences.

Yet we still need to decide, even if it is to do nothing.

The best farmers I have worked with over the past 35 years have one thing in common – they are good decision makers. Even though it may not appear obvious, all of them follow a process or routine when making important decision. So it's not surprising they seem to get it 'right' more often than most.

Decision making is a skill, like reading and adding up. But can you remember when you were taught how to make a good decision, in the same way you were taught to read and write? Probably not. The good news is you can learn and practice ways to become a better decision maker.

## Key points around decision making

### Good and right decisions

Often 'good' and 'right' decisions are used interchangeably, however I believe there is a useful distinction. A 'good' decision is an informed decision whereas a 'right' decision relies on hindsight. We judge a decision as being 'right' or 'wrong' depending on the outcome. Good decisions can both be 'right' and 'wrong'.

Unfortunately in farming we need to make most decisions before the dice is rolled, so it is better to focus on trying to make good decisions and hope it turns out well.

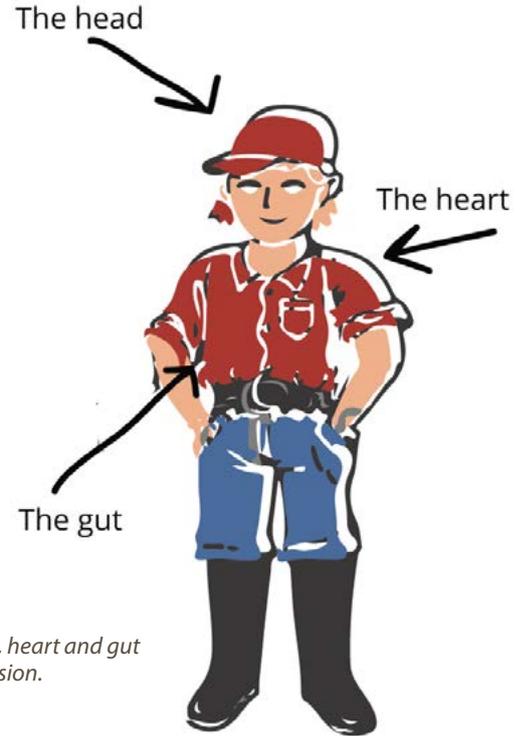


Figure 1: The head, heart and gut influence on a decision.

### Influences on our decisions

Decisions are influenced by our head, our heart and our gut (Figure 1). The head is the logical or orderly approach to analysing and solving a problem. The heart is the emotional influence on the decision. These are based on our values, beliefs and fears. The gut refers to the intuitive influence on a decision and is shaped by our experiences and knowledge.

The relative influence of the head, heart and gut also depends on the type of decision we need to make. The more difficult or complex a decision is, or when information is missing, the more we draw on our past experiences (gut) and values (heart) to inform the decision.

### Making decisions on balance

Rarely do hard decisions only have one thing to consider. Commonly there are multiple factors to weigh up. Not all are of equal importance, but all need to be considered. Some factors support what you might be thinking, other factors may not. In complex decisions we need to weigh up the pros and cons of multiple considerations and make decisions 'on balance'.

### I would think differently about my decision when .....

When we consider these important factors, there is always a tipping point where you change your mind. For example you might consider selling livestock if the seasonal forecast was for dry conditions compared to wet conditions. By defining these tipping points, it gives you much greater clarity over what to choose. It also helps narrow down what information you need for this decision and what is irrelevant or confusing that you can ignore.

## It's personal

No two circumstances are the same so what should be considered in a good decision will also be different for everyone. Your personality, stage in life, financial position, tolerance to risk and farm resources means every person or farming business will have a different set of considerations, probably with different tipping points and weightings.

## An approach to decision making

So how can we incorporate the head, heart and gut, the weighing up multiple factors that may not be of equal importance and describing these tipping points to make a good decision that suits you?

The following is an examples of a process called the decision matrix. It combines the elements described above into a simple table. In this example a farmer has develop a decision matrix around selling livestock.

### Decision: Do we need to adjust stock numbers?

Trigger point: Late summer		
Critical factor	Consideration	Score
Current feed supply	In top quartile (top 25%)	6
	Between 25% and 75% of growth	3
	In bottom quartile (lowest 25%)	0
Seasonal forecast (rainfall)	Well above average (decile 7 or more)	4
	Around average (decile 4 to 6)	2
	Below average (decile 3 or less)	0
Stored soil moisture	Close to field capacity	4
	Average	2
	Dry, below average	0
Current price of livestock	Below average (decile 3 or less)	2
	Around average (decile 4 to 6)	1
	Well above average (decile 7 or more)	0
Future price of livestock	Higher than selling now	2
	About the same as selling now	1
	Lower than selling now	0
Supplementary feeding	Could be done easily if required (on hand or easy to get, prepared to do it)	3
	Difficult (hard to get or not prepared to do)	0
	Max Score	21

Decision	Score
Yes, retain all stock but consider buying more stock or offering agistment	More than 16
No, maintain current stock numbers (normal operation)	10 to 16
Yes, offload a significant number of stock ASAP and reassess in May	Less than 10

To find out more about the steps in creating a decision matrix refer to the webinar presented at the Hunter Livestock Forum 2020 and available to view on the Hunter Local Land Services YouTube channel –

<https://www.youtube.com/watch?v=oisCTYiwFcc&t=102s>

You may disagree with the example and want to change the critical factors, considerations (or tipping points), scores and the value where we make a different decision. This is OK because you need to own the decision so you need to personalise it.

Once the matrix is defined it also helps focus on the information and skill required to select the scores for each critical factor. For example having access to and knowing how to read soil moisture probes is valuable to determine the stored soil moisture status. Pasture growth rates and feed budgets are useful in determining current feed supply.

Another aspect of the decision matrix is that it allows others to see your thinking and contribute. It is also a record so you can go back to the decision once the result is known and you have time to reflect. What would we improve or do differently next time this decision needs to be made?

Finally the decision matrix makes you slow down and put on paper what you think is important. Experts will say the most common trap people make is jumping to a decision too quickly. Slowing down to think usually leads to people making good decisions more often.

**Cam Nicholson** is a partner in Nicon Rural Services, a consulting business near Geelong working with the grazing and cropping industries and natural resource management. Cam has been involved in many farmer programs for Grains Research and Development Corporation, Meat & Livestock Australia, Dairy Australia, Southern Farming Systems and Landcare. Cam provides consultancy advice to farmers and lectures on animal and pasture systems at Marcus Oldham College. Together with his wife Fiona, they run a 400 ha beef and sheep farm on the Bellarine Peninsula for the long fed Japanese market, lambs and wool.

For more information please contact Cam Nicholson, [cam@niconrural.com.au](mailto:cam@niconrural.com.au)

**Need help looking after  
your piece of the  
landscape puzzle?**

**EVERY BIT  
COUNTS.**



### Supporting small farms and lifestyle blocks

Small farms and lifestyle properties play an important role in managing the patchwork of natural environment across the landscape. As many large properties are being divided into smaller farms and lifestyle holdings, they remain a key piece in the puzzle to ensure large scale healthy environmental systems are maintained. Many small landholders do not come from an agricultural or natural resource management background and present a great opportunity to raise awareness and support best practice land management through targeted engagement.

The Every Bit Counts program has been developed to provide access to the best available knowledge, advice and peer-to-peer support networks in a manner that recognises the wide range of priorities and land uses that exist on small farms and lifestyle properties.

The program works across the North Coast, Hunter, Greater Sydney and South East Local Land Services regions to target this diverse and complex landholder group and create real and long-lasting on-ground change to:

- foster improvements in the application of best practice land management, biosecurity management and emergency management
- improve access to and awareness of education opportunities
- build peer-to-peer support networks and connect with existing groups including Landcare and local government.

The Every Bit Counts information and resources portal can be found at [www.ils.nsw.gov.au/ebc](http://www.ils.nsw.gov.au/ebc)

Many common property concerns are covered from weeds to pest animals, habitat, fencing and working with neighbours. You can also look up your local small farm network and connect with other like-minded land managers. You are encouraged to sign up to the 'Blockies Bootcamp' – a free email education series designed to cover the fundamentals of rural land management.



# Revegetation and Planting Workshops

## A practical guide to successful native planting on your property

This revegetation and planting workshop will provide you with practical skills in preparing, planning, planting and maintaining a revegetation project on your property. Including:

- How to assess your site (e.g. vegetation type, soils, waterways, weed management)
- Identifying your goals and developing an appropriate design
- Site preparation
- Selecting the right plants and planting methods
- Post-planting maintenance

### Register your place:

Wollombi- Wednesday 3rd of March 2021 9:30am-2:30pm

<https://hunterlls.wufoo.com/forms/lh-revegetation-planting-workshop2021/>

Taree- Thursday 4th of March 2021 9:30am-2:30pm

<https://hunterlls.wufoo.com/forms/mgl-revegetation-planting-workshop2021/>

Merriwa- Saturday 13th of March 2021 9:30am-2:30pm

<https://hunterlls.wufoo.com/forms/uh-revegetation-planting-workshop2021/>

A packed lunch will be provided on the day. For the planting demonstration please bring a hat, gloves, sun screen and water bottle and wear sturdy shoes.



THIS EVENT IS COVID-19 SAFE.

Numbers are limited due to COVID-19 restrictions. All confirmed registrations will be required to complete a pre-event checklist and comply with COVID-19 requirements.

### Contact:

Hunter Local Land Services

Community Engagement Officer

Kath McLoughlin

P: 0427 151 092

E: [kath.mcloughlin@lls.nsw.gov.au](mailto:kath.mcloughlin@lls.nsw.gov.au)

 [facebook.com/hunter](https://facebook.com/hunter)

[www.lls.nsw.gov.au/hunter](http://www.lls.nsw.gov.au/hunter)



This project is supported by Hunter LLS, through funding from the Australian Government's National Landcare Program.



# PASTURE DIEBACK – DON'T LET YOUR PASTURE DIE WONDERING



Pasture dieback spread across a paddock in the Tweed Valley.



Symptomatic Seteria plant

## A drought in perfect conditions

Pasture dieback has been confirmed in the Tweed Valley since March 2020. So far, all reports in NSW have been associated to the Tweed Valley region of the Far North Coast.

As we move into our pasture growing season, keep a close eye on your sown and native summer growing grasses to ensure they are growing as you would expect them to be relative to seasonal conditions and soil fertility. If they aren't growing to conditions, look for the following symptoms.

### What to look for

Pasture dieback only effects grasses. Broad leaf plants are not affected by dieback. Symptoms in summer growing grasses are most evident when pastures are actively growing (Spring to Autumn), especially following significant rainfall.

- Yellowing, reddening and purpling of leaves. Discolouration can vary between species. Starts with the oldest leaves and typically begins at the leaf tip and moves along the leaf blade towards the stem.
- Stunted and unthrifty plants. Plants have fewer leaves and tillers, smaller seed heads and a smaller root system, easily pulled from the soil with minimal effort.
- Patches of discolouration, less than 1m<sup>2</sup> to several square meters in size. Common to first be seen in a single grass species before being seen as clearly in other grasses. Broad leaf paspalum has often been the first grass to show symptoms.
- Rapid increase in size of the infected area patches merge especially following significant rainfall in spring-autumn.
- Grasses die and remaining plant material crumbles easily when handled.
- Patches where grasses have been killed are colonised by broadleaf weeds and legumes.

Many of the dieback plant symptoms can also be caused by a range of other factors. Including: mineral deficiency, moisture stress, cold temperatures, herbicide damage, water logging and nematodes. It is important to eliminate these before assuming dieback. However a combination of symptoms, including a rapid increase of the affected area following significant rainfall are good indicators of pasture dieback.

### Cause:

Research to date indicates that pasture dieback is not caused by a single agent, but likely a complex interaction of multiple agents and factors. Research to identify the causal agents is continuing.

Two insects are currently also under investigation for their role in the condition: pasture mealybug (*Heliococcus sp. nr summervillei*) and white ground pearl (*Margarodes australis*). Pasture mealybug has been found at pasture dieback sites in the Tweed Valley. This association with pasture dieback is currently being studied.

You will not see these insects from the quad bike, horse or ute - you have to get down into the pasture sward and look very closely, often with a magnifying glass.

### What to do:

Let us know! Help us identify where pasture dieback is occurring by reporting it to the authorities. If you suspect symptoms of pasture dieback -

- Call the Exotic Plant Pest hotline on 1800 084 881
- Email [biosecurity@dpi.nsw.gov.au](mailto:biosecurity@dpi.nsw.gov.au) with a clear photo and your contact details



Mealybugs on *Setaria*

## Control options

**Talk to us or your advisor about what may be an option for your property because:**

- A number of techniques have been tested to control pasture dieback but to date, no successful methods have been identified that consistently restore long-term pasture productivity. Burning and cultivation have been found to provide short-term relief of symptoms only. Research is ongoing.
- Pasture mealybug is a pest of pasture grasses irrespective of its role in pasture dieback. Australian Pesticides and Veterinary Medicines Authority (APVMA) have released an emergency permit (PER88482) for the use of the systemic insecticide spirotetramat (registered as Movento®) for the control of pasture mealybug in mixed pastures. This insecticide is best used for small incursions only. Before using the insecticide ensure that pasture mealybug is present. It is important to read and adhere to the APVMA permit and Movento® label. More details about the insecticide Movento can be found here [www.crop.bayer.com.au/find-crop-solutions/by-product/insecticides/](http://www.crop.bayer.com.au/find-crop-solutions/by-product/insecticides/)

## How to keep farming with dieback

**Talk to us or your advisor about your unique situation because:**

- The death of pastures due to pasture dieback can lead to feed shortages, low ground cover and colonisation by weeds. Maintaining a feed base for cattle is then the primary concern. Suitable options will depend on the type of country, number of cattle, and financial position of the farm.
- Sowing alternative forages is the most logical for those with suitable land types and there are options available. This will provide valuable feed, as well as maintain ground cover to prevent erosion and provide competition for

weeds. North Coast Local Land Services and NSW DPI are working further on finding other alternative feed base options for NSW.

At this stage we do not recommend re-sowing perennial summer growing grasses into dieback affected areas immediately. All the summer growing perennial grass species commonly sown in NSW are susceptible to pasture dieback. The susceptibility of temperate species is not known but is being investigated further.

Broad-leaf plants are not affected by pasture dieback. Legumes, herbs and brassicas are options that can be sown into dieback affected areas, but their suitability and management from a grazing perspective all need to be considered in context to your farm. There is also plant back periods to consider if broadleaf weed control has been conducted in the pasture dieback affected areas.

## Further reading

<https://www.dpi.nsw.gov.au/agriculture/pastures-and-rangelands/establishment-mgmt/pests-and-diseases/pasture-dieback>

Nathan Jennings, Senior Land Services Officer, Agricultural Advice, North Coast Local Land Services.

Call 0437 083 147 or email [nathan.jennings@lls.nsw.gov.au](mailto:nathan.jennings@lls.nsw.gov.au)

# SOIL MOISTURE MONITORING AFTER RAINFALL IS A GAME CHANGER

## Hunter Smarter Farming: Irrigating for Profit Project

This past quarter for Hunter Smarter Farming: *Irrigating for Profit Project* Gloucester dairy farmers Tom Middlebrook of Bowman Farm and Adam Forbes of Kywong Flat, has been nothing short of ideal. Whilst good flows are maintained in the Bowman and Barrington Rivers, both young farmers are making confident decisions to set themselves up for any scenario that prevails over the coming spring and summer.

July and August into early September saw winter pastures across the three monitored sites respond favourably to peppering rainfall events (total 127mm) at the right time during the low evapotranspiration (ET<sub>o</sub>) period. This saw soil moisture sits above full point on the soil moisture graphs.

The 'critical decision time' came after a good rainfall event on 9 and 10 September (33mm) that was followed by a dry spell, until 19 October delivered 57mm of rain. So, how did each of them respond during this period?



Figure 1 Tom Middlebrook maintains the telemetry of his soil moisture monitor that has become a critical irrigation decision support tool at Bowman Farm.

## Bowman Farm

- As Tom watched soil moisture slowly decline after 10 September (Figure 2) and his Swan Systems daily forecast notification indicate ETo was rising with no rainfall predicted, he responded with five irrigations of 18mm over a four week period.
- This response saw soil moisture maintained within the Readily Available Water (RAW) zone on the graph (dark green) but soil moisture did still decline.
- If Tom's soil moisture had not been high to begin this period, he would have needed more irrigation events to keep within the RAW.
- Last grazing of the winter pasture of Barley/Italian Rye/Brassica was undertaken on 21 October (14 grazings achieved).
- The late October rainfall event saw soil moisture rise to sit perfectly in the "sweet spot" for direct drilling of the summer Sorghum on 29 October. The soil temperature probe at the monitoring site also helped to make the decision that conditions were ideal for establishment.
- The decision to plant Sorghum rather than Maize this season was based upon confidence that grazing areas could be maintained through strategic irrigation this coming season, with river flow and a full storage dam for other areas of the farm in place. If starch is needed, prices at 50% below last year means that purchasing is more economical.

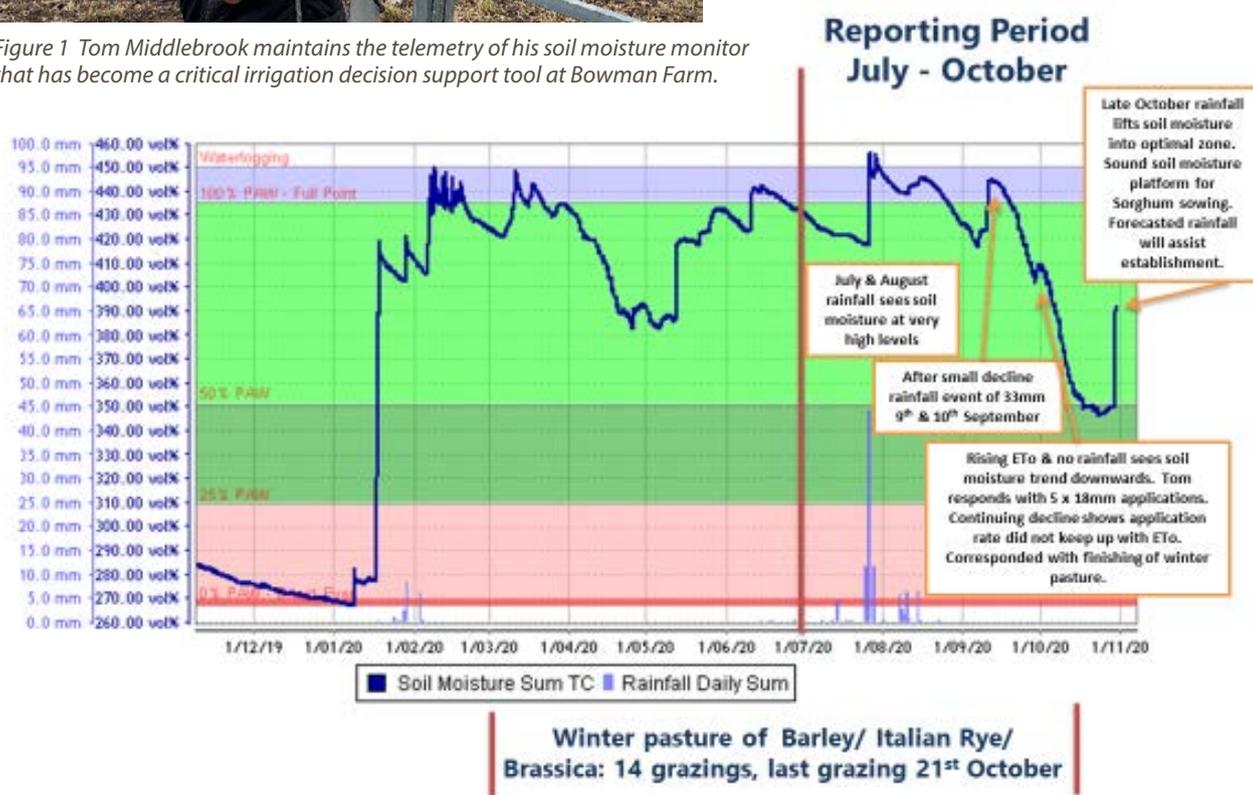


Figure 2. Bowman Farm soil moisture graph demonstrating critical point for irrigation decisions between 10th September to 19th October dry period when ETo was also rising.

- Sorghum allows the option to cut silage if a feed wedge becomes available prior to autumn.
- The summer forage crop will be closely monitored during establishment to maintain soil moisture in the lower RAW zone over the next five weeks to encourage good root development then increase soil moisture levels as the plant is matured. With a rooting depth of up to 1.5m, rate per irrigation will need to increase and Tom should be checking his soil moisture at the 80cm probe depth to ensure his irrigations and rainfall are effective to this depth.

### Ky Wong Flat

- According to Adam, the ryegrass growth response he has had on F3 from turning irrigation on between 10 September and 19 October has been phenomenal.
- He believes that at this critical point the benefit of having soil moisture monitors on site was integral to his decision to apply 115mm (x 6 applications) over a four week window.



Figure 3. Adam Forbes at the monitoring site of F3 where he says he would not have irrigated as heavily during the recent dry spell if it wasn't for the soil moisture monitors.

- "I wouldn't have done that without the probes being there" he admits, "I've never seen ryegrass grow so quickly. I estimate 110-120 kgDM/ ha/day which is phenomenal"
- Traditionally he would have deferred irrigating until drying was visual, certainly resulting in production.
- The graph for F3 (Figure 4) clearly shows that the irrigations raised levels to within RAW but quickly dried as ETo was also rising. The last two applications on the graph show that rates were really not adequate enough to keep within the RAW but the event of 53mm delivered on 19 October provided the response needed.
- As the soil type on F3 is a light soil, soil moisture declines very quickly. Although growth is still very active, Adam needs to increase the frequency of irrigation to ensure plant stress and therefore lost production does not occur. Adam planned to monitor the effect of forecasted rain in coming days and respond accordingly.
- As always, the balance between two opposing areas under the same pivot was evident during the period. F6, a heavier soil, was above full point on the graph almost throughout. The irrigations applied tipped soil moisture to almost saturation but did not visually appear 'saturated' according to Adam.
- As the Oats on F6 were sprayed out on 25 August and sowing of the Lucerne/ Chiccorry on 14 September, ETo on the site would have been lower than predicted during the dry-spell. Irrigations assisted establishment with first grazing occurring on 2 November.
- This period has highlighted the need for Adam to consider his options to variably irrigate these two very different soil types as there is opportunity to lower rates, at most times, on F6.

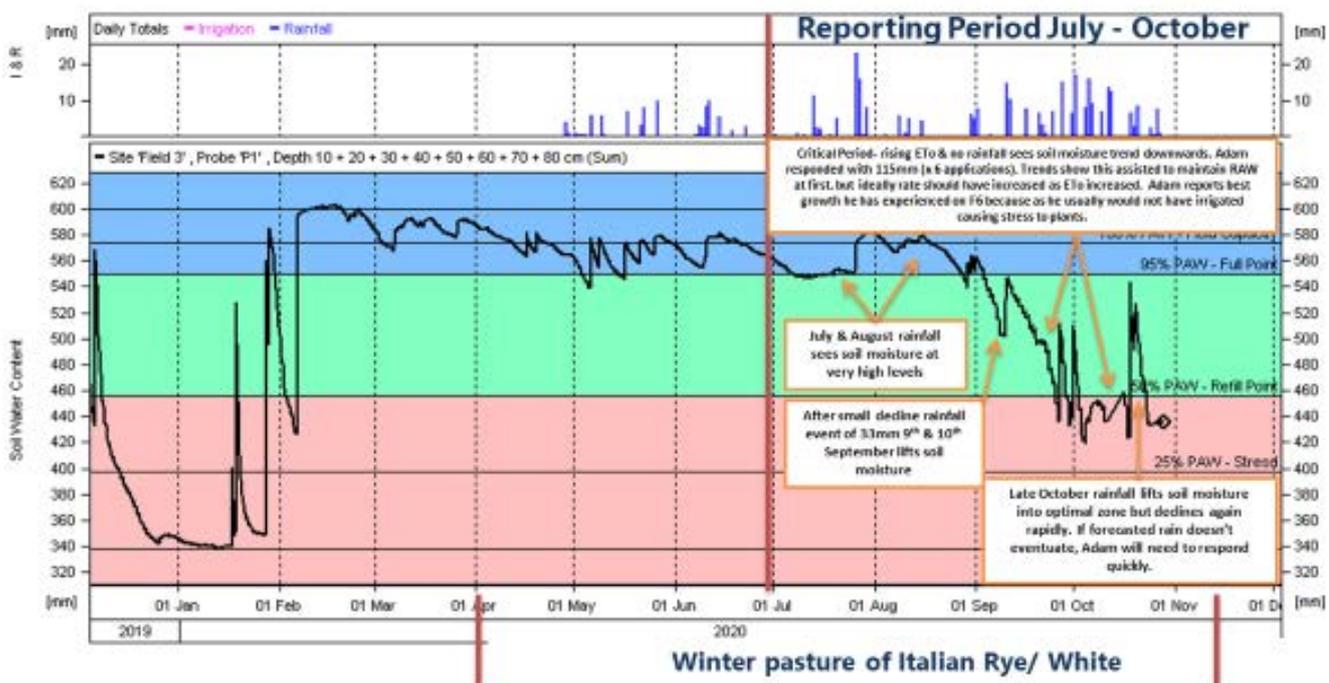


Figure 4. Ky Wong Flat F3 soil moisture graph & rainfall/irrigation demonstrating that irrigation assisted to maintain soil moisture in the RAW early in the dry spell but became a battle later in that period. Good late October rainfall helped to lift levels but quickly declined.

## Upcoming considerations

- Prediction for the November to January period is a 75% chance of 300-400mm of rainfall, most of this forecast is for late December/ January.
- The coming period is critical for both sites to ensure that irrigation is strategically used to maintain soil moisture within RAW. If forecasted rainfall early in November does not raise soil moisture, irrigation at higher rates/ greater frequency than the past period will be needed to both lift soil moisture and counteract rising ETo.
- At Kywong Flat, timing of irrigation to coincide with off-peak power limits applications to 18mm per night, but more at the weekend. Adam may need to consider more applications per week to maintain F3, though this needs to be balanced with the transition of the rye into kikuyu and the requirements of F6.
- At Bowman Farm, effective irrigation and rainfall to depth needs to be closely monitored, not just overall soil moisture. Higher rates of irrigation, possibly less frequently, may need to be adopted to suit this deep rotted forage crop.

## Visit the project website!

Access the website for the latest seasonal videos from Tom and Adam!

[www.hunter.ils.nsw.gov.au](http://www.hunter.ils.nsw.gov.au)

Search: Irrigating for profit

Contact: Marguerite White  
Hunter Smarter Farming: Irrigating for Profit Project

Email: [mwhite@icdprojectservices.com.au](mailto:mwhite@icdprojectservices.com.au)

Phone: 0447 500 415



## FLY WORRY IN CATTLE AND SHEEP

*Seasonal animal health advice for summer from our Manning Great Lakes District Vet Dr Lyndell Stone*



The warm wet weather is providing one of the best growing seasons for several years, but with it brings a range of livestock health issues to watch out for due to biting insects.

For Cattle this means Buffalo fly worry. Buffalo fly have just made their way to the Mid Coast area, as I write this in late January, and we can expect their numbers to start building. Buffalo fly worry is both a production loss and welfare issue for your cattle so please monitor numbers on your stock and when they reach worrying levels (often around 200 per beast) it is time to implement control measures to limit production loss. But don't treat too early as it's a balance between treating cattle and extending the life of the chemicals. Cattle can tolerate a small number of flies. Be guided by how your cattle are behaving – dairy cattle for example may require earlier treatment intervention when levels reach 30 fly per beast says Dr Lyndell Stone, District Veterinarian, Hunter Local Land Services.

The buffalo fly, *Haematobia irritans exigua*, is a small biting fly, about 4mm long in size. They bite and feed off cattle about 40 times each day causing intense irritation that can result in significant weight loss, a decline in milk production and hide damage from constant rubbing. They can be spotted on the backs, head and sides of cattle. Annoyed cattle can be seen trying to dislodge them and the constant irritation of painful fly bites disrupts grazing time resulting in the weight loss and decline in milk production. Many infested cattle also develop hair loss and sores around their eyes as well as on the face, neck and shoulders a tell-tale sign of buffalo fly.



Bulls and dark-coated, especially black cattle, appear to be the most prone to severe infestation. Some cattle are more susceptible and allergic to bites and can be intensely irritated by just a few fly. These animals might skew your farm response to earlier intervention than would normally be required. Thus consider culling their genetics from the herd.

Both non-chemical and chemical treatment options are available. Non-chemical options include buffalo fly traps and tunnels, Dung beetles and culling allergic cattle. Chemical treatment options can be applied using back liners, back-rubbers as well as ear tags. Producers are reminded to note any withholding periods after treatment and to practice chemical rotation to reduce resistance developing by rotating between Organophosphates (OPs) and Synthetics Pyrethroids (SPS) from year to year.



*Buffalo fly or grey coloured blood sucking biting insects about 4mm long with pointed backward facing wings*



*Buffalo fly back rubber. A range of Buffalo fly treatment and application options are available to suit most enterprise circumstances. This producer at Gloucester has opted to use Back rubbers.*

It is also important to not to automatically reach for pour-on drenches containing Macrocytic Lactone (ML) solely for buffalo fly control. If you are also treating intestinal parasites fair enough – but otherwise use a product for buffalo fly. Using a ML drench solely for Buffalo fly will contribute to drench resistance unnecessarily. Fly prevention options and further information is available on the NSW Department of Primary Industries Primefact Buffalo flies and their control, available from [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

The flies live permanently on the host animal, with females only leaving to lay eggs in freshly deposited dung and can only live for one or two days away from the host. Newly emerged flies will fly for up to 10 km in search of a host

“Buffalo fly aren’t known to survive over winter in our area, but rather migrate from the north with the right conditions. However, truck transport of cattle carrying buffalo fly can

spread the fly into new herds and new districts, thus good biosecurity practice is essential so as to not import fly prematurely to an area” Dr Lyndell Stone, District Veterinarian with Hunter Local Land Services said. Once here they only disappear with the onset of colder weather.

Producers are also reminded that the wet weather brings mosquitos and we are approaching Three Day Sickness (Bovine Ephemeral Fever) season in cattle. While autumn 2020 saw many cases of BEF in the Hunter and elsewhere in NSW we shouldn’t be complacent thinking that most of our regional herd was infected last year and is now immune.

Any cattle born after April 2020 or introduced to the Coast from Non BEF areas are at risk, as are any cattle that missed infection in 2020. Research from a local dairy herd found that despite widespread regional infection in 2020, 30% of the herd missed developing protective antibodies and thus can be infected when BEF next arrives. It is important to monitor stock that may be infected and be prepared with treatment and nursing care. High quality nursing care for recumbent cattle is crucial for good recovery. The Spring 2020 Animal Health News has more information on BEF as does the HLLS You tube channel on how to treat affected animals. Back issues of the Animal Health Newsletters discussing these and many more seasonal Animal Health issues can be accessed at [\*\*Newsletters - Website - Local Land Services \(nsw.gov.au\)\*\*](http://Newsletters - Website - Local Land Services (nsw.gov.au))

Please call if we can help you with further information or to report buffalo fly sightings or suspect cases of BEF, so HLLS can get a better idea of BEF and Buffalo fly distribution this year.

### **Sheep and Fly strike**

Warm, moist conditions also favour the breeding of the Australian sheep blowfly *Lucilia cuprina* which means a higher risk of fly-struck sheep.

It is important to monitor sheep closely, especially during high-risk fly periods, and treat struck sheep quickly.

Controlling the risk of flystrike leads to better health and welfare outcomes for your sheep. Management strategies can also play an important part of strike prevention. Control dags by treating underlying causes such as worms or bacterial diarrhoea. Think about the timing of shearing and crutching.

Chemical control can also be used to treat or prevent flystrike. As flies can develop resistance to chemicals, it is best to use an integrated management plan rather than relying on chemical alone. In the long term, the best solution is to breed sheep that are less susceptible to flystrike. Wrinkles, breech cover and dags all increase the moisture on the skin, which attracts the flies.

Further information is available online on the DPI website under “**Chemicals registered to treat lice and flystrike on sheep**” and also [\*\*FlyBoss.com.au\*\*](http://FlyBoss.com.au)

## For all challenge series factsheets

<https://www.lls.nsw.gov.au/regions/hunter/articles,-publications-and-plans>

Welcome to our Challenge Series of Fact Sheets  
<https://www.youtube.com/watch?v=NPWHA3AiUOo>

### Challenge Series – Kikuyu Getting the best from kikuyu pastures

Managing kikuyu height  
<https://www.youtube.com/watch?v=1kKN3ZYGYN>

Response to rain  
<https://www.youtube.com/watch?v=2ISWQ8P2rRw&t=123s>

Kikuyu Research  
<https://www.youtube.com/watch?v=dTdg72cPL-4&t=49s>

Kikuyu Poisoning  
<https://www.youtube.com/watch?v=WwKiqzQJELc&t=65s>

### Challenge Series - Singleton Trial Site Spring-Summer Pasture Making the most of nitrogen

<https://www.youtube.com/watch?v=TxldVGQjBVU>

### Andrew Mulligan Animal health

<https://www.youtube.com/watch?v=2iXVXBdSEnU>

### Challenge Series - Pasture Planning

Rye Grass management  
<https://www.youtube.com/channel/UCkJXs5O0C5WmAlsxNNYny6Q/videos>

Brassica Management  
[https://www.youtube.com/watch?v=UN1CV8sB\\_DU](https://www.youtube.com/watch?v=UN1CV8sB_DU)

Perennial Grasses  
<https://www.youtube.com/watch?v=COq3glu-Rao>

Tropical Grasses & temperate Legumes  
<https://www.youtube.com/watch?v=1kKN3ZYGYN>

### Challenge Series – Farm Water – dams – building & location

Managing Dams and Stock Water  
<https://www.youtube.com/watch?v=JZEElBeph2U&t=42s>

Stream order – where you can build a dam  
<https://www.youtube.com/watch?v=8kCE23H6GXQ>

### Challenge Series – Interpreting the Weather

Climate Drivers  
[https://www.youtube.com/watch?v=MHIBZpRg\\_iE](https://www.youtube.com/watch?v=MHIBZpRg_iE)

## For more information about Hunter Local Land Services:

 1300 795 299

 [admin.hunter@lls.nsw.gov.au](mailto:admin.hunter@lls.nsw.gov.au)

 [www.lls.nsw.gov.au/regions/hunter](http://www.lls.nsw.gov.au/regions/hunter)

 [www.facebook.com/HunterLLS/](http://www.facebook.com/HunterLLS/)

 Hunter Local Land Services  
816 Tocal Road (private Bag 2010)  
Paterson, NSW 2421  
Australia

PATERSON OFFICE: Ph 4938 4900

Col Freeman, Senior Lands Services officer -  
Sustainable Agriculture  
[col.freeman@lls.nsw.gov.au](mailto:col.freeman@lls.nsw.gov.au) Ph 0428 043 427

David Deane, Lands Services officer - Pastures  
[david.deane@lls.nsw.gov.au](mailto:david.deane@lls.nsw.gov.au) Ph 0411 108 961

TAREE OFFICE: Ph 6591 3543

Albert Mullen, Senior Lands Services officer  
Landholder Extension  
[Albert.mullen@lls.nsw.gov.au](mailto:Albert.mullen@lls.nsw.gov.au) Ph 0428 670 524

Peter Beale, Senior Lands Services Officer - Agronomy  
[peter.beale@lls.nsw.gov.au](mailto:peter.beale@lls.nsw.gov.au) Ph 0427 007 468

Daintry Gerrand, Regional Agricultural  
Landcare Facilitator  
[daintry.gerrand@lls.nsw.gov.au](mailto:daintry.gerrand@lls.nsw.gov.au) Ph 0429 198 472

SCONE OFFICE: Ph 6540 2400

Sarah Giblin, Team Leader – Agricultural Extension  
[sarah.giblin@lls.nsw.gov.au](mailto:sarah.giblin@lls.nsw.gov.au) Ph 0409 785 172

MERRIWA OFFICE: Ph 6549 8600

Teresa Hogan, Lands Services Officer - Livestock  
[teresa.hogan@lls.nsw.gov.au](mailto:teresa.hogan@lls.nsw.gov.au) Ph 0417 352 694

## REGIONAL DROUGHT SUPPORT TEAM

Maria Cameron, Regional Drought Support Officer  
[maria.cameron@lls.nsw.gov.au](mailto:maria.cameron@lls.nsw.gov.au) Ph 0409 636 765

Drought Administration Officer – Anne Lantry  
[anne.lantry@lls.nsw.gov.au](mailto:anne.lantry@lls.nsw.gov.au) Ph 0428 394 668