Managing and monitoring your feedbase
Australian Feedbase Monitor

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Cibo Labs

The 7 most expensive words in the cattle business

"We have always done it this way"

Increasing accuracy of forage assessments

- Cibo Labs was founded in 2018

- The company is focused entirely on supporting and achieving more profitable farms and more sustainable landscapes.

- Cibo Labs utilises world-leading science in remote sensing and machine learning along side with on-farm knowledge achieving greater understanding of pasture productivity and land condition to every farm and paddock in Australia.

What do we want from forage assessments?

Accurately determine:

- How much feed on offer there is

- How long it will last stock for

- How may stock can be run

Even better

- When do feed gaps occur?

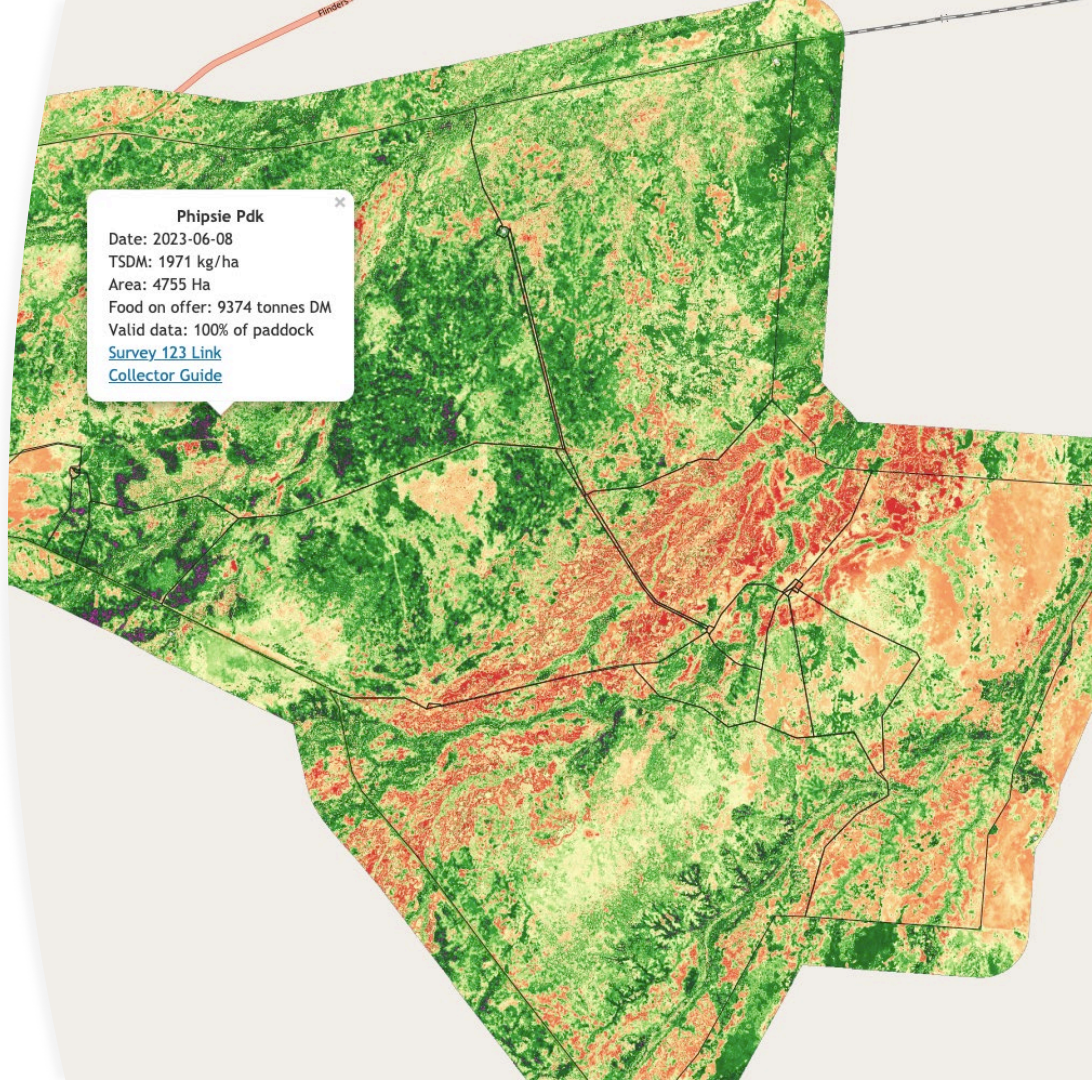- Can I match forage with supplements?

Forage budgets start with assessment

- Reliable budgets – forecasting numbers of stock or days grazing

- Require multiple assessments to ensure accuracy & account for paddock variation

- Time consuming – difficult to achieve reliably across some paddocks & landscapes

Pasture Key – Adding Accuracy to Assessments

- Satellite data – accurate; repeatable and can provide a complete overview of land under management

- Accurate to 10m^2 – provide 5-day updates

- Reflect what is growing and where it is growing

- Data to be used in forage budgets & forward planning

Phipsie Pdk
Date: 2023-06-08
TSDM: 1971 kg/ha
Area: 4755 Ha
Food on offer: 9374 tonnes DM
Valid data: 100% of paddock
Survey 123 Link
Collector Guide

The Australian Feedbase Monitor

- The AFM is a $4.7m co-funded (50:50) investment by Cibo Labs and the MLA Donor Company

- Freely Accessible to MLA Members through the MyMLA Portal (non-members $99/year)

- Linked to LPA Accounts (though MyMLA) to create account for each PIC

- Land parcels associated with a PIC can be selected & will generate forage data on a 5-day basis

- Creation of a 30-day rolling average for each PIC on an account

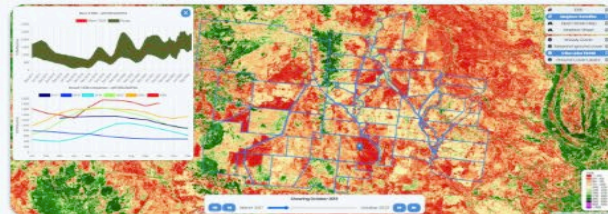# Using the Australian Feedbase Monitor

Log in through myMLA

- From your MyMLA account you can

  - Link your LPA (PIC)
  - NLIS & myMSA

- Clicking on Access the tool takes you to the CiboLabs Australian Feedbase Monitor

Welcome, Alastair

16.7° ☁ Calderwood, NSW

⊕ Change Layout

⊕ Add Indicator

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World-first tool for better grazing management

The **Australian Feedbase Monitor** helps producers improve: grazing decisions • forage budgeting • ground cover

Access the tool

FREE for MLA members with linked LPA accounts

Australian Feedbase Monitor 2527

Edit Locations

1654 kg/ha
Last reported: 2023-07-01
This time last year: 1439 kg/ha
All time average: 1794 kg/ha

— 2018 — 2019 — 2020 — 2021 — 2022 — 2023

Australian *Feedbase Monitor*

The Australian Feedbase Monitor (AFM) is a new grazing management tool which gives land managers satellite insights into their feed capabilities.

How can you use the AFM?

- **View insightful satellite data about your property's feed capabilities which is:**
  - generated from European Space Agency's Sentinel 2 mission
  - at a farm-level, with rolling monthly pasture biomass estimates updated every five days

- **Receive data overlays for your farm's pasture biomass and ground cover at 1ha resolution for:**
  - total standing dry matter (TDSM) – the distribution of predicted TSDM as kg/ha across each land parcel
  - ground cover – the percentage of plant material, either alive or dead on or near the soil surface.

- **Use this data to:**
  - understand the trends across your property's pasture base, including rainfall, ground cover and biomass
  - support more objective and accurate feed budgeting, leading to sustainable grazing management decisions
  - improve planning and responsiveness to seasonal changes
  - identify under-performing areas on your property.

AFM User Guide

Want to take the next step with your forage budgeting?

PastureKey
Satellite Assisted Forage Budgeting

What is the Cibo Labs PastureKey Service?

The Cibo Labs PastureKey service combines world-leading satellite remote sensing and data science with on-farm knowledge to estimate feed supply for every hectare and to monitor changes in the feedbase and land condition on a weekly basis.

Do you want a higher resolution and statistics at a "paddock" level?

PastureKey is available as an annual subscription service. Pricing depends on the size and number of properties, and the level of service and support you would like. We also provide training on Satellite Assisted Forage Budgeting with the support of the MLA Profitable Grazing Systems (PGS) program.

Get more info   **Compare AFM and PastureKey**   **i   Add a farm to get started with PastureKey**

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Dashboard

🌿 YOUR FARMS

			PIC	Size	Attributes	
Rayner1	🔲 AFM	📄 Farm Reports	TEST1	2,500.9 ha	⚙ Manage	⌁ Share
PastoralSA	🔲 AFM	📄 Farm Reports	TEST2	7,599.3 ha	⚙ Manage	⌁ Share
Alice Springs	🔲 AFM	📄 Farm Reports	TEST3	350,080.2 ha	⚙ Manage	⌁ Share
UNFS	🔲 AFM	📄 Farm Reports	TEST0	486.1 ha	⚙ Manage	⌁ Share

⊕ SET UP FARMS

You are ready to go! We have retrieved your LPA properties linked to your myMLA account.

TEST4	⊕ Set up
TEST5	⊕ Set up
TEST6	⊕ Set up
TEST7	⊕ Set up
TEST8	⊕ Set up
TEST9	⊕ Set up
TESTMODE	⊕ Set up

PastureKey
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Get more info   **Compare AFM and PastureKey**   **⊙ Get started with PastureKey**

👤 PROFILE
Update your profile

Update profile

📑 SUBSCRIPTIONS
- AFM Free – MLA Member

Manage Subscriptions   **New Subscriptions available**

ⓘ RESOURCES
- **AFM User Guide**
- **Farm Reports User Guide**
- **More information about the AFM**

❓ SUPPORT
For technical questions about using the AFM tool, please contact **support@cibolabs.com.au**

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⊕ Farm setup

1. Farm Details

TEST4

Cowra MeatUP

2. Farm Address

Street Address

Suburb

Cowra

State   Postcode

NSW ⇕   2794   **Change Location**

Or

Upload a farm boundary file.

Choose File no file selected
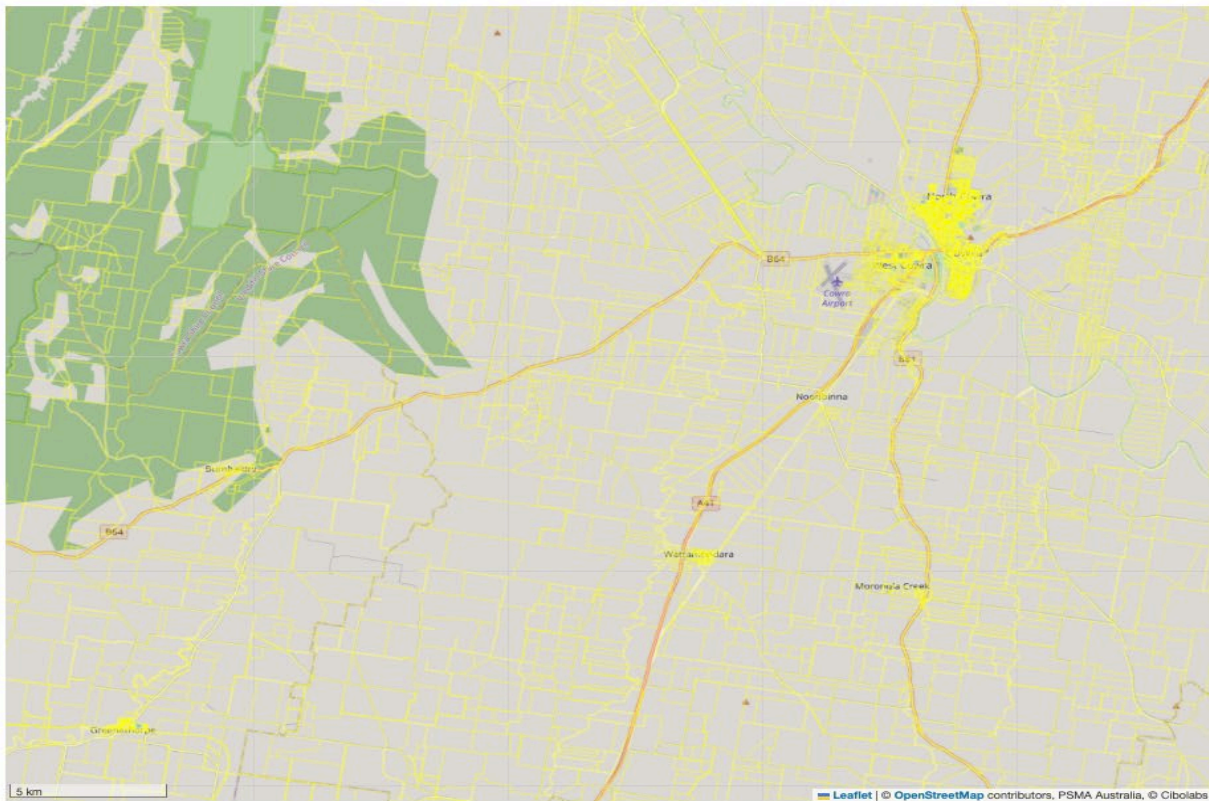
Accepted file types: .json, .geojson, .kml

3. Select Parcels

☐ Locate your property on the map and select one or more polygons that make up your property.

On the map, left click to select a parcel of land, left click it again to de-select it.
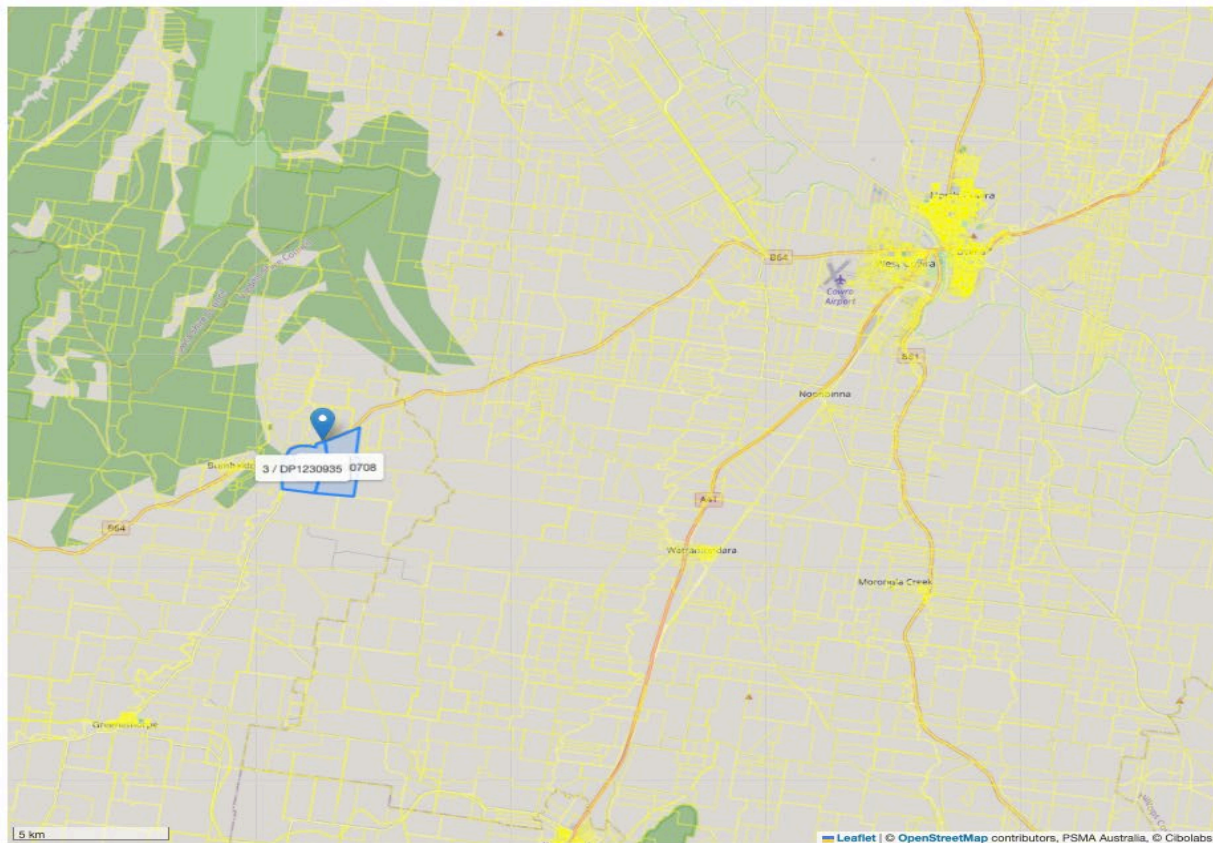
0 Parcels selected

⊘ **Finish setup**   ⊗ **Cancel setup**

5 km

Leaflet | © OpenStreetMap contributors, PSMA Australia, © Cibolabs

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⊕ Farm setup

1. Farm Details

TEST4

Cowra MeatUP

2. Farm Address

Street Address

Suburb

Cowra

State   Postcode
NSW ⌄   2794   **Change Location**

Or

Upload a farm boundary file.

Choose File   no file selected

Accepted file types: .json, .geojson, .kml

3. Select Parcels

Locate your property on the map and select one or more polygons that make up your property.

On the map, left click to select a parcel of land, left click it again to de-select it.

2 Parcels selected:

2 / DP800708   3 / DP1230935   **De-select all**

4. Locate your gate

Drag the gate location marker to the front gate of your property.

The gate location marker is created on the map when you select your 1st parcel.
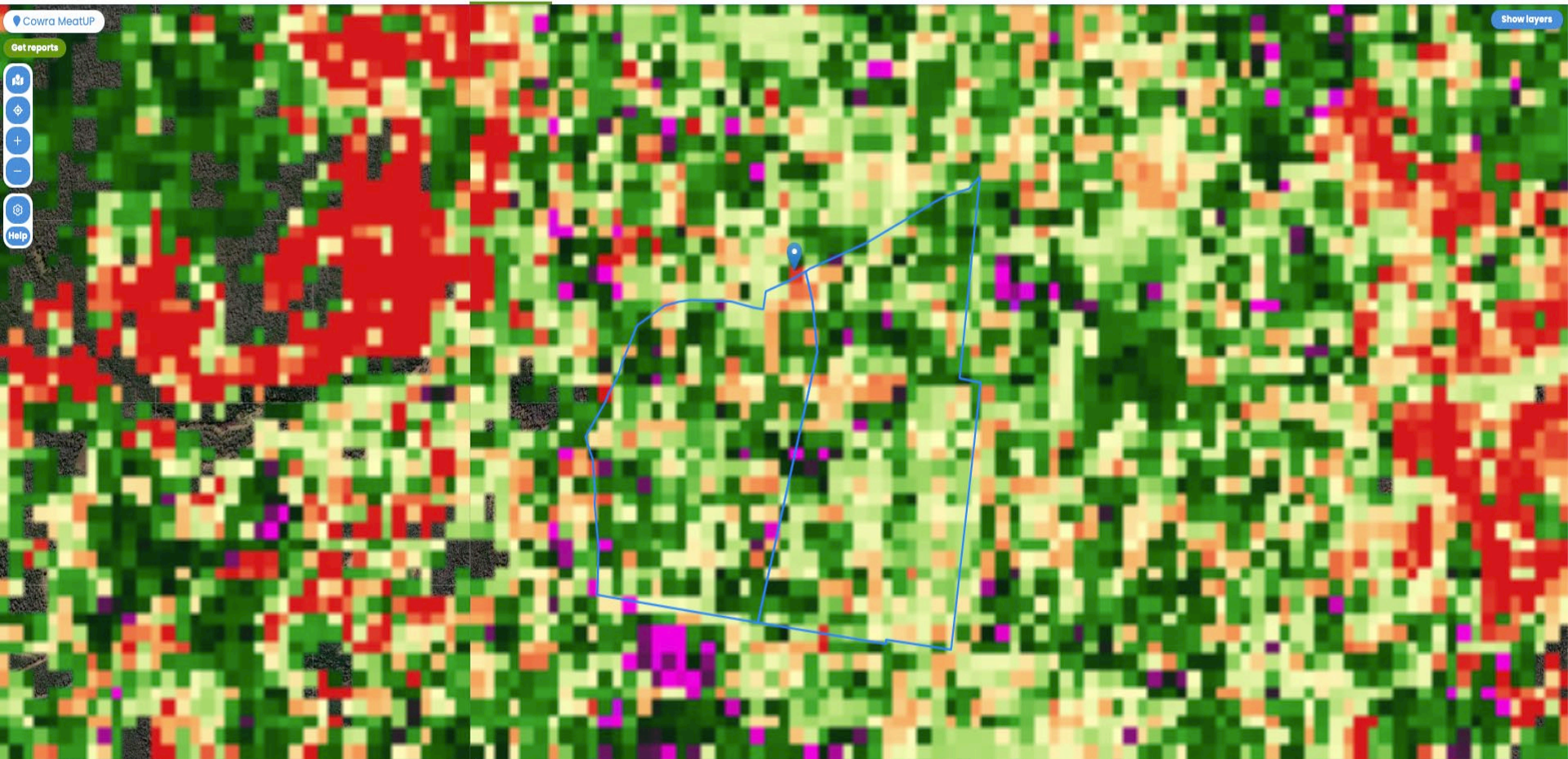
Finish setup   **Cancel setup**

3 / DP1230935   0708

5 km   Leaflet | © OpenStreetMap contributors, PSMA Australia, © Cibolabs

Cowra MeatUP charts

Mean Total Standing Dry Matter 'Cowra MeatUP'

Mean TSDM — Range

TSDM (kg/Ha)

4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0

Mar 2017 · Jun 2017 · Sep 2017 · Dec 2017 · Mar 2018 · Jun 2018 · Sep 2018 · Dec 2018 · Mar 2019 · Jun 2019 · Sep 2019 · Dec 2019 · Mar 2020 · Jun 2020 · Sep 2020 · Dec 2020 · Mar 2021 · Jun 2021 · Sep 2021 · Dec 2021 · Mar 2022 · Jun 2022 · Sep 2022 · Dec 2022 · Mar 2023 · Jun 2023

Annual Total Standing Dry Matter comparison 'Cowra MeatUP'

2017 · 2018 · 2019 · 2020 · 2021 · 2022 · 2023

TSDM (kg/Ha)

3,000
2,500
2,000
1,500
1,000
500
0

Jan · Feb · Mar · Apr · May · Jun · Jul · Aug · Sep · Oct · Nov · Dec
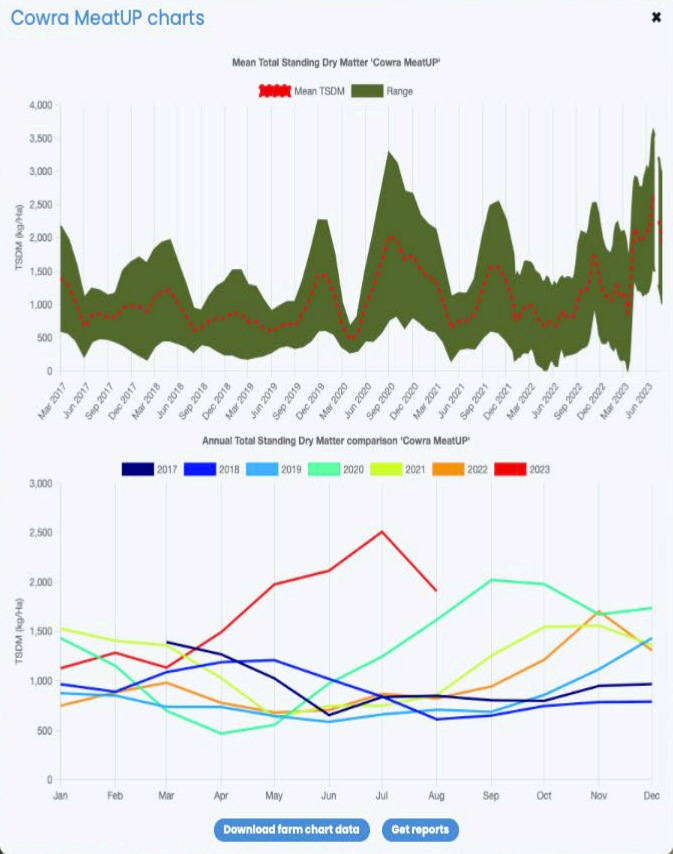
Download farm chart data · Get reports

Cowra MeatUP
Get reports
Help

Show layers
Show legend

Aug 2023
Mar 2017 · Aug 2023

500 m
Leaflet | © ESRI, Cibo Labs Pty Ltds

Cowra MeatUP charts

Mean Total Standing Dry Matter 'Cowra MeatUP'

- - - Mean TSDM ▬ Range

TSDM (kg/Ha)

Annual Total Standing Dry Matter comparison 'Cowra MeatUP'

■ 2017 ■ 2018 ■ 2019 ■ 2020 ■ 2021 ■ 2022 ■ 2023

TSDM (kg/Ha)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Download farm chart data   Get reports

Mar 2017   Aug 2023   Aug 2023

Annual Total Standing Dry Matter comparison 'Cowra MeatUP'
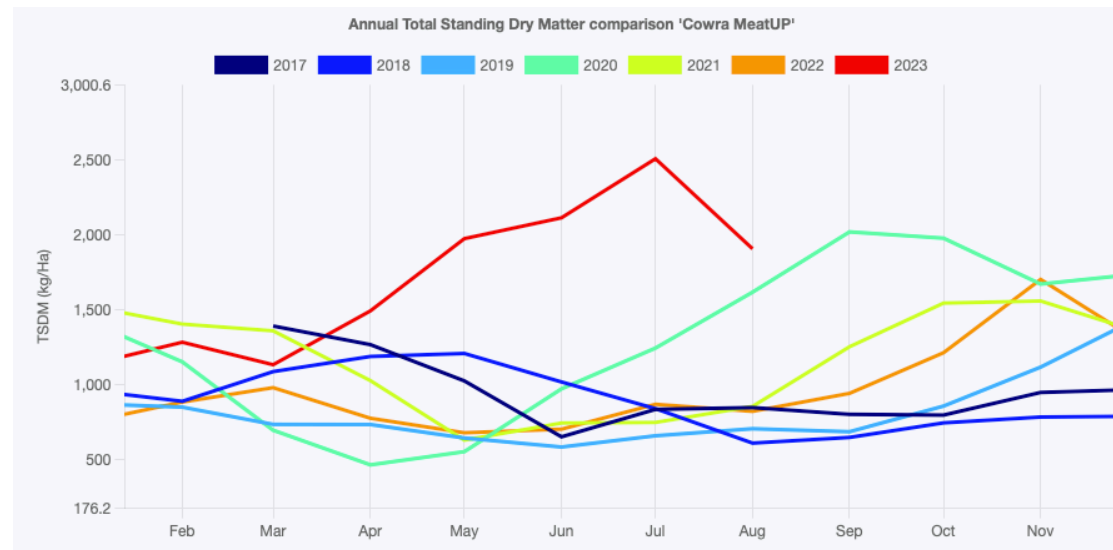
Using the AFM for strategic decisions

The AFM provides a baseline
- Is the season performing better or worse
- Reflect on past decisions
- A starting value for forage budgets

Finding daily growth rates

All years vs. Regional SW Slopes

kgs/ DM/day

Legend: 2017, 2018, 2019, 2020, 2021, 2022, 2023, Regional Values

Forage budget – how much do we grow

- Basic forage budgets

  - Require accurate Feed on Offer

  - Pasture growth – kg/DM/day

  - Livestock number & class

| Field	Data
Paddock	
a) Paddock size	350 ha
b) Current feed on offer (FOO)	1729 Kg DM/ha
c) Pasture quality	60% dig, 8.2 MJ ME/kg - Gone to seed ✕ ▾
d) Consumption wastage factor	20 %
e) Pasture growth	30 Kg DM/ha/day
f) Desired FOO when animals removed	1200 Kg DM/ha
Stock 1	
Stock type	Cows ✕ ▾
Average weight	600 kg/Hd ✕ ▾
Physiological state	Late Preg (Last 3 Months) ✕ ▾
Twins / singles / not applicable	Not Applicable ✕ ▾
g) Number of animals grazing	68
h) Estimated pasture intake (kg DM/Hd/day)	7.6
Maintenance energy required (MJ ME/Hd/day)	99
Stock 2 *(optional)* ⌄	
Stock 3 *(optional)* ⌄	
Results	
m) Feed on offer (Kg DM/ha)	529
n) Daily intake per ha + wastage (Kg DM/ha/day)	17.8
o) Change in feed on offer (Kg DM/ha/day)	-14.8
Number of days paddock will last	35.8

Historically what do we grow?
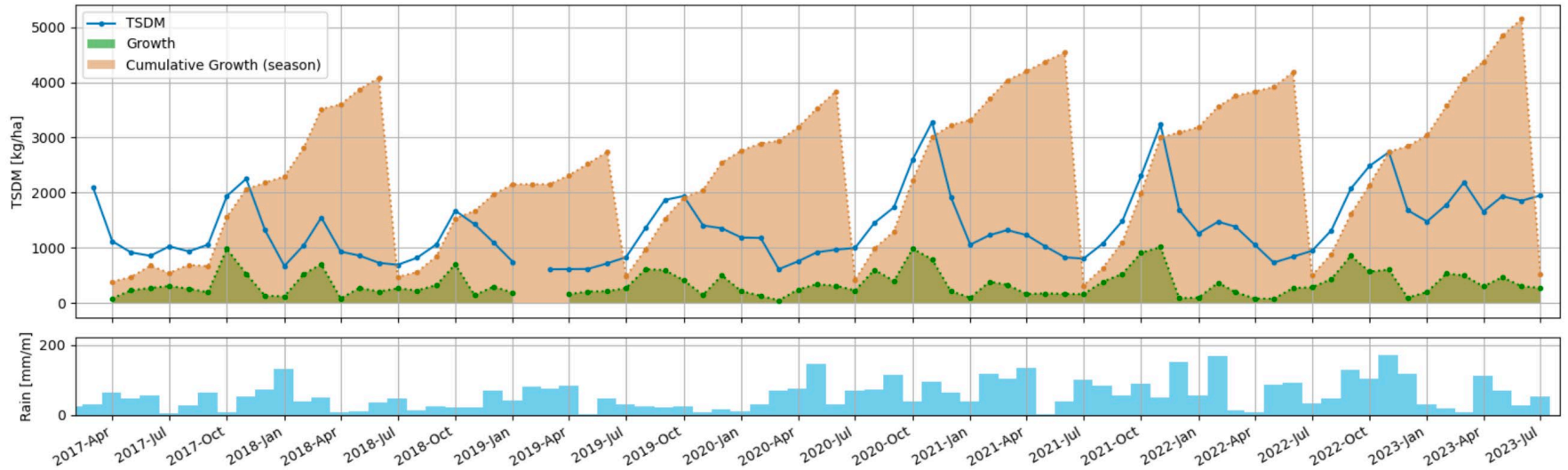
Pasture Growth records

What does this mean?

Growth events
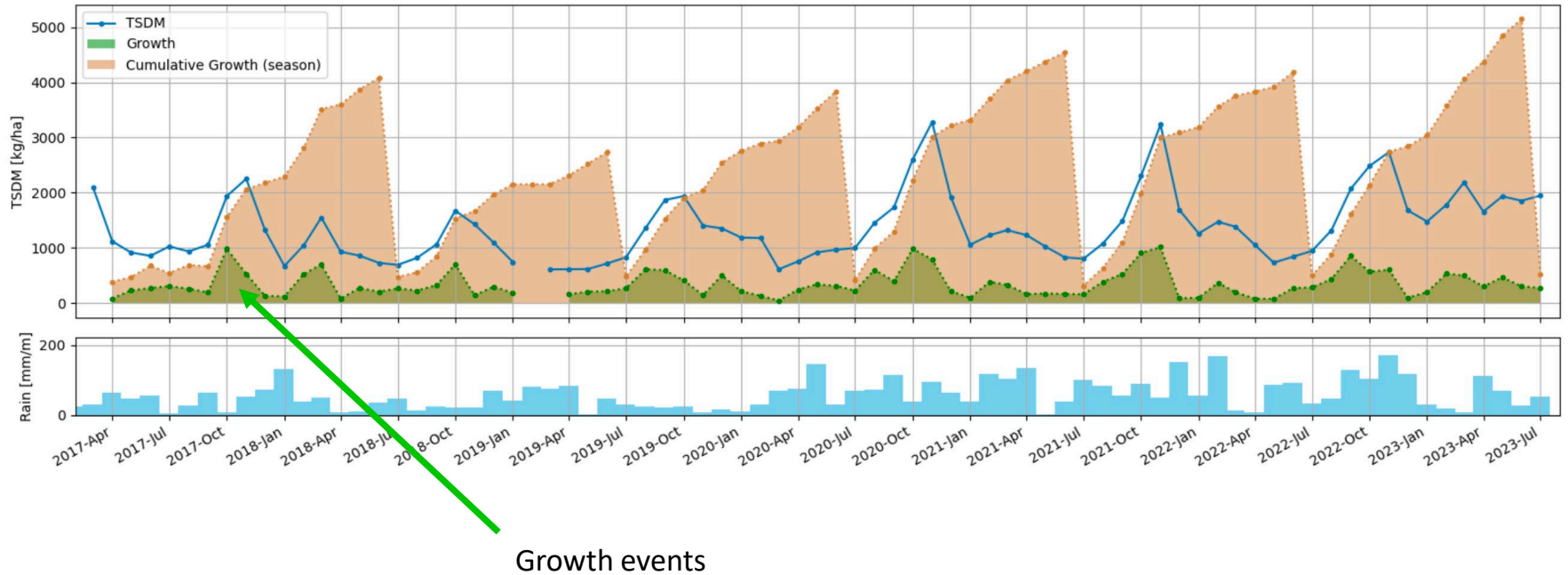
What does this mean?
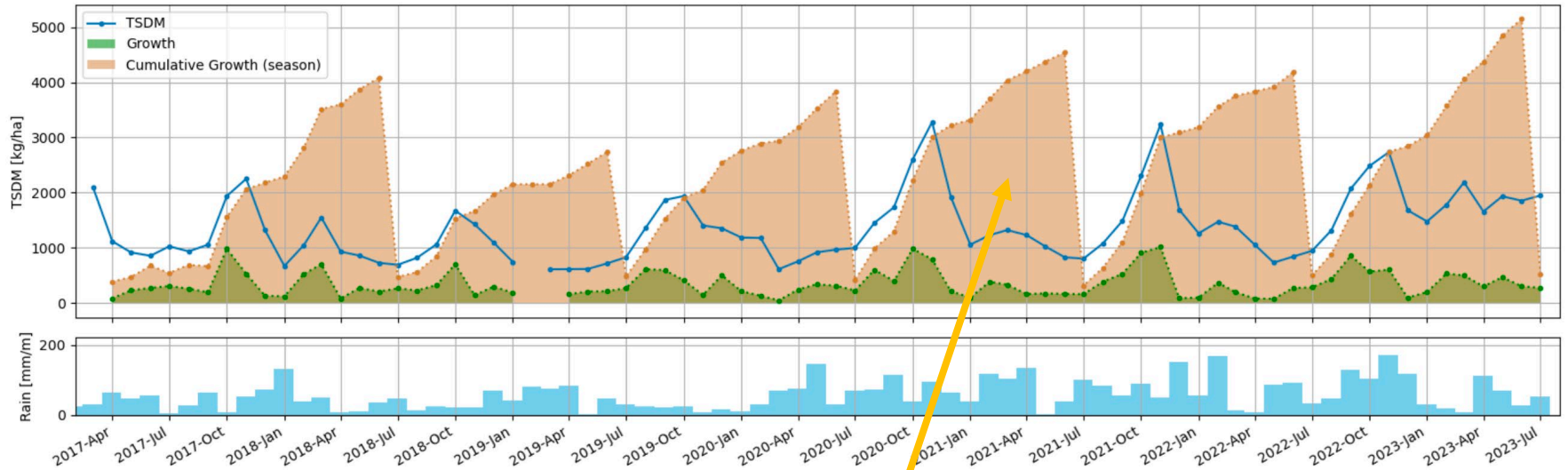
Accumulated growth (month on month)

Historically what do we grow?

Dead (low quality feed)

Using the data for better feeding decisions

- Supplementation decisions should reflect

    - Pastures

    - Livestock Needs

- Supplements have windows of usefulness

All protein supplements have "windows of usefulness"

**Table 1: Window of Usefulness for Protein Supplements by Herbage Mass (D.M)**

Protein Source	'Plentiful' Over 2,500 kg/ha	'Reducing' 2,500-1,500 kg/ha	'Low' 1,500-800* kg/ha
Blocks	√ √ √	√ √	N.S.
Roller drum	√ √ √	√ √	N.S.
Protein meals	√ √ √	√ √ √	√
Manufactured protein pellets	√ √ √	√ √ √	√
Lupins	√ √ √	√ √ √	√
White Cotton Seed	√ √ √	√ √ √	√

√ √ √   Within window
√ √   The window is closing make your next decision now.
√   The window is all but closed, move to supplying energy.
N.S.   The window is closed, move to supplying energy not protein.
*   Below 800 kg DM/ha destock the paddock

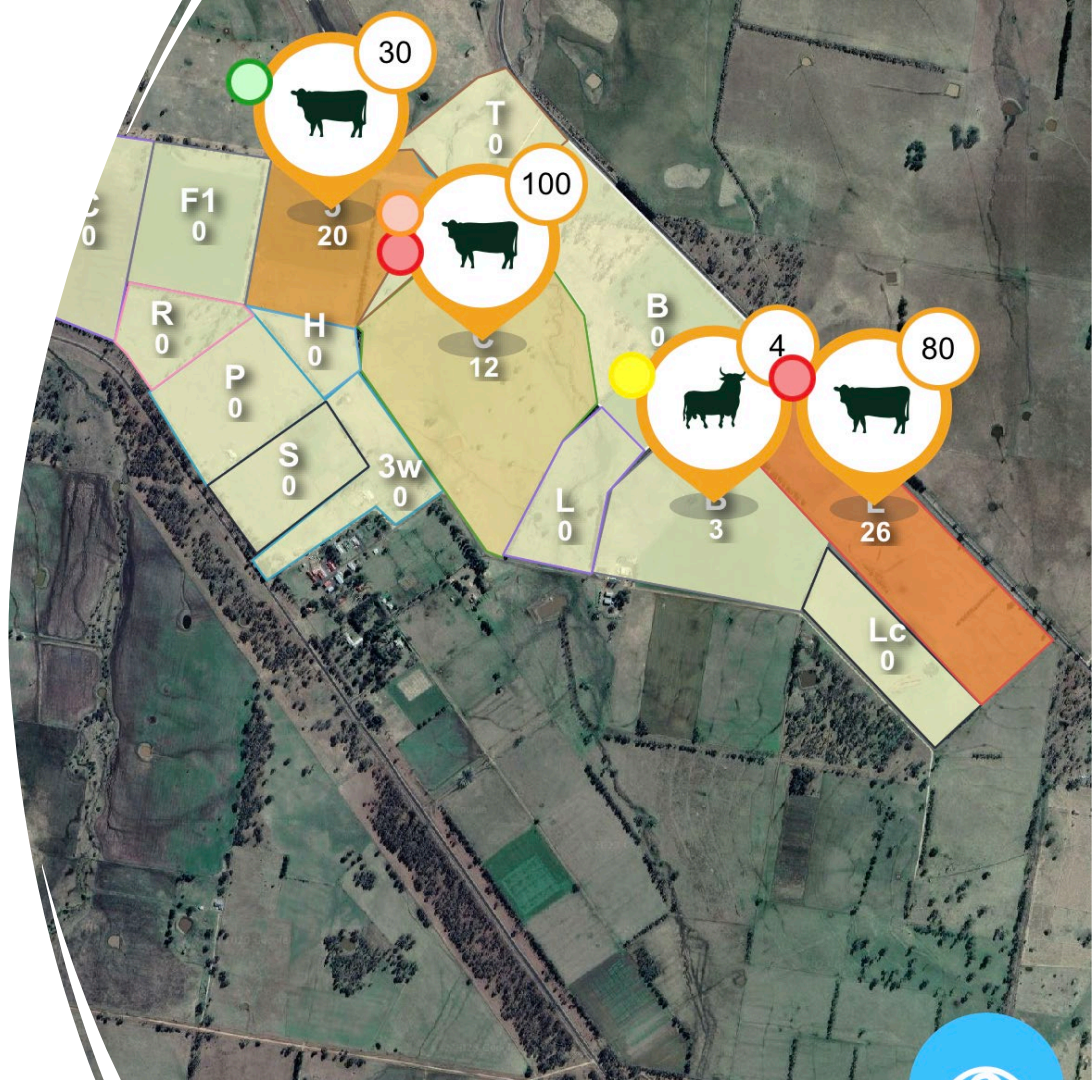# Options for supplementation
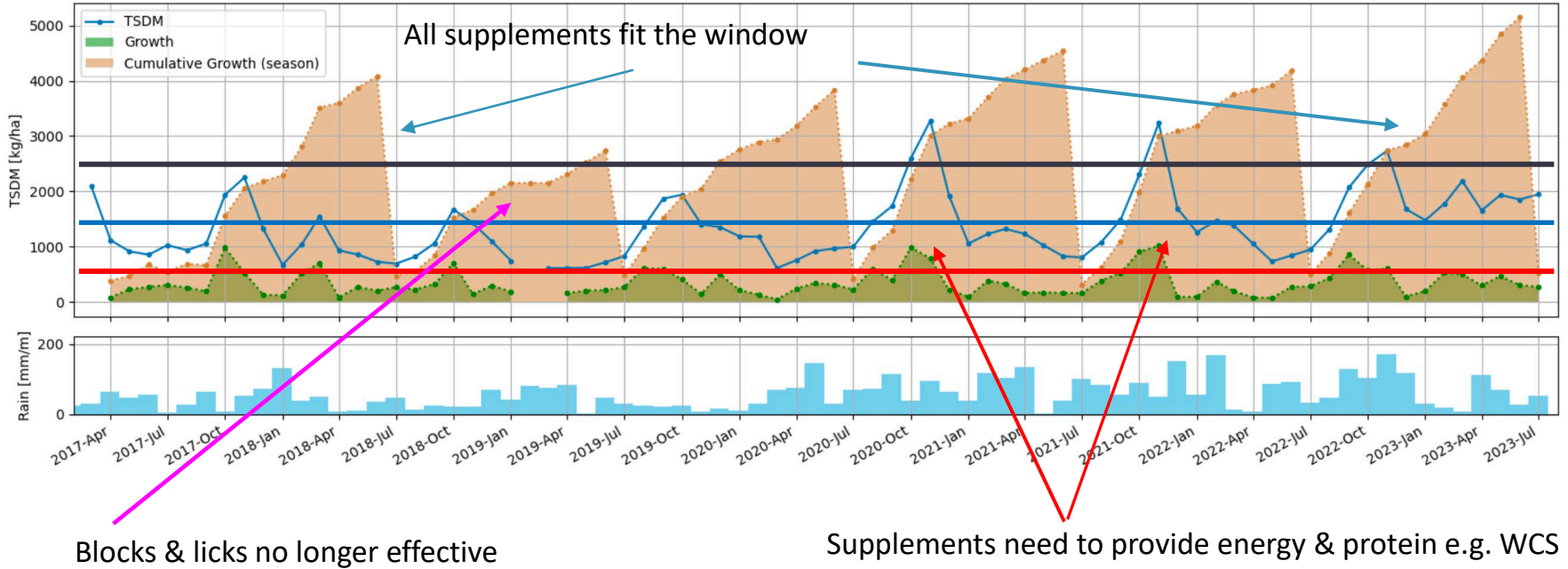
Feed budgets

- Moving from AFM to PastureKey

- Paddock level (10m^2) resolution

- 15 day rolling average

- Data sharing across platforms such as AgriWebb
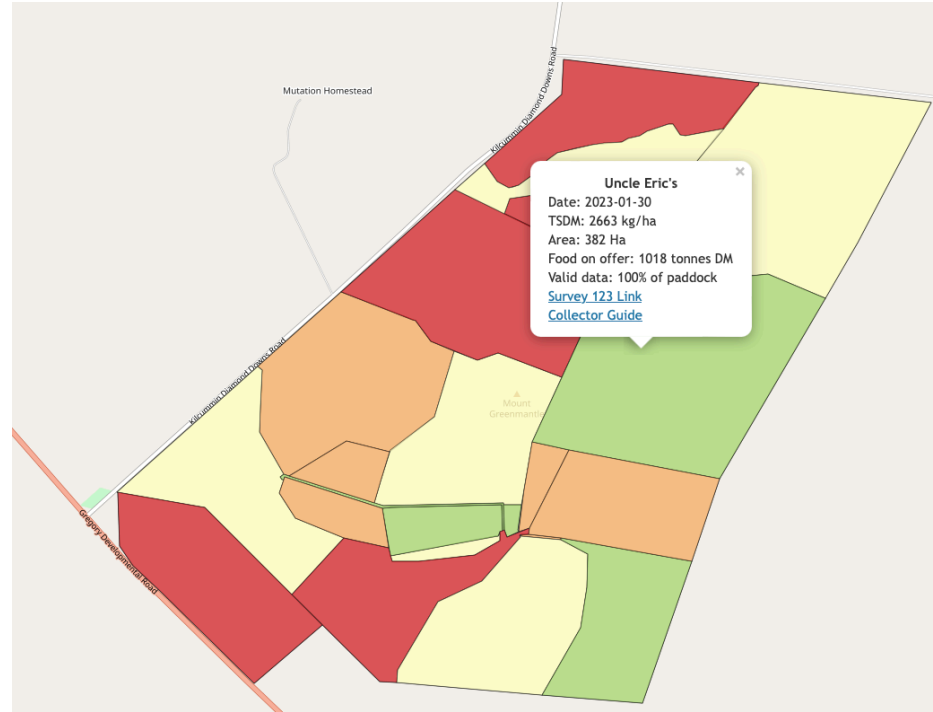
Integrate with AgriWebb

- Paddock details are automatically updated from Cibo Labs

- You input your growth rates and you can adjust your FOO manually for each paddock

Take home messages

- The AFM offers all producers access to accurate, regular and objective assessments

- Access is free to MLA members (make sure your details are correct with MLA membership if you receive a message saying you are not recognized)

- MLA Help Desk on 1800 865 255 or send an email to membership@mla.com.au

- Use the information to add value & accuracy to your decisions & with other tools such as feed budget & stocking rate calculators

Tools and resources

- www.cibolabs.com.au

- www.mla.com.au/mymla

- https://www.mla.com.au/extension-training-and-tools/

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