Hawke's Bay Farming for Resilience Report

May 2024

AGFIRST

Ministry for Primary Industries
Manatū Ahu Matua

ON FARM SUPPORT TEAM

Acknowledgements

AgFirst: Phil Tither, Lochie MacGillivray

AgFirst and the Ministry for Primary Industries' On Farm Support team would like to thank the following members of the project panel for its ongoing support of the Hawke's Bay Farming for Resilience Pilot Project.

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Greg Morice, Morice Ltd

Notes

Annual figures are for the year to 30 June 2024 unless otherwise noted.

Currency figures are in New Zealand dollars.

Some totals may not add up due to rounding.

MPI welcomes feedback on this publication via:
onfarmsupport@mpi.govt.nz for general feedback
fmbdatarequests@mpi.govt.nz for data enquiries

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Project background

Hawke's Bay is still recovering from the effects of Cyclone Gabrielle. Good decision making will be key for farming families in their recovery and to grow resilience.

The National Institute of Water and Atmospheric Research (NIWA) officially declared the arrival of El Niño on 29 September 2023. El Niño can bring increased risks of drought and water scarcity, wildfire, heat-related human and animal health concerns, along with flooding. The Ministry for Primary Industries' (MPI) advice is that "it's important to have a plan and to be prepared".

The Hawke's Bay Farming for Resilience pilot project is a collaboration between AgFirst and MPI initiated to support the region in its readiness for a forecast dry period and the challenging financial pressures sheep and beef farmers are currently experiencing.

We aim to improve resilience through the development of key messages for communications both to rural stakeholders and communities, but also to provide intelligence to MPI and other agencies on the status of impacts on our farmers and growers.

The project seeks to pilot an integrated framework that includes a panel of local specialists to provide intelligence, insights, and modelled data to communicate near real-time data and forecast scenarios for messaging and potential on-farm interventions.

The reports will be made available to encourage proactive support to the Hawke's Bay farming community. Recipients will include Hawke's Bay Rural Advisory Group (RAG), farmers, and the agribusiness/ rural professional community.

For more information about El Niño go to: **mpi.govt.nz/el-nino**

Farm system model details

This project has established three farm categories providing regional farm system models that statistically represent sheep and beef farms in the Hawke's Bay. The data has been modelled by AgFirst in FARMAX® and calibrated by local specialists.

Farm system model 1
Summer Dry Hill

590 effective hectares

< 1,200 mm annual rainfall

18% flat land

12 ha summer rape

12 ha multi graze brassica for summer and winter use.

Used to finish 89% of lambs prime. Balance sold store.

5,166 stock units

No irrigation

60% of feed demand

Crossbred ewe flock breeding own replacements and selling a mix of prime and store lambs.

40% of feed demand

Self-replacing breeding cows and finishing steers.

Farm system model 2
Summer Safe Hill

520 effective hectares

> 1,200 mm annual rainfall

34% flat land

8 ha winter kale

4 ha summer rape

4 ha herb and clover

Finishing 88% of lambs prime.

4,823 stock units

No irrigation

65% of feed demand

Similar to Summer Dry Hill but more lambs finished.

35% of feed demand

Similar beef policy to Summer Dry Hill with the addition of dairy heifer grazing consuming 6% of feed demand.

Farm system model 3
Finishing

440 effective hectares

< 1,200 mm annual rainfall

78% flat land

10 ha winter kale

8 ha summer rape

4 ha fodder beet

50 ha in specialist finishing forage including lucerne, plantain, chicory and clovers.

6,313 stock units

Partial irrigation

52% of feed demand

Main enterprise is lamb finishing. Lambs typically purchased in the autumn and sold in the late winter/early spring.

48% of feed demand

Bull beef finishing with a combination of purchased calves and yearlings to finish as 2-year-olds.

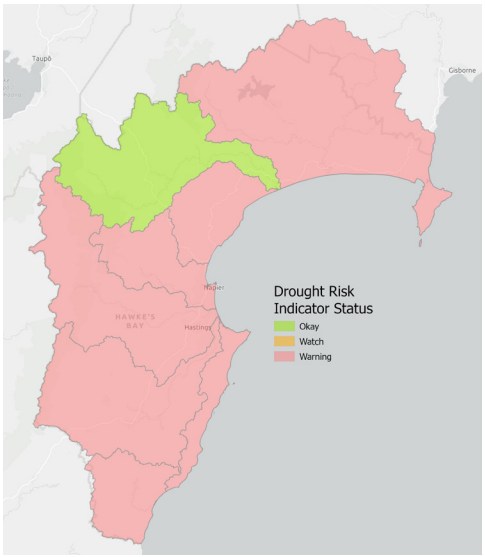
May update

Climate

April was another dry month for Hawke's Bay. Just 44% of the monthly average rainfall was recorded across the region. In southern and northern Hawke's Bay, rainfall was only a third of the monthly average. Soil moisture levels remained below median levels in some areas yet slightly increased in other areas after periods of rain.

NIWA's Hawke's Bay seasonal forecast for May to July indicates above or near average temperatures and below or near normal rainfall, soil moisture and river flows. Soil moisture deficits will take time to be replenished.

Map sourced: hbrc.govt.nz/widgets/drought-app/drought_risk.php



Pasture growth and covers

Across the three Hawke's Bay farm system models (see page 2), average pasture growth for April was 12.8 kgDM/ha per day. This is compared with 14.1 kgDM/ha in an average year, or 10% less than expected as the farms approach winter. This is particularly evident in the Summer Dry Hill farm system.

In most areas, actual growth for April was similar to March.

Daily pasture growth rates on the Summer Dry Hill farm system model were 10.1 kg DM/ha (20% below average), the Summer Safe Hill farm system model were 15.7 kgDM/ha (similar to average), and the Finishing farm system model were 15.2 kgDM/ha (similar to average).

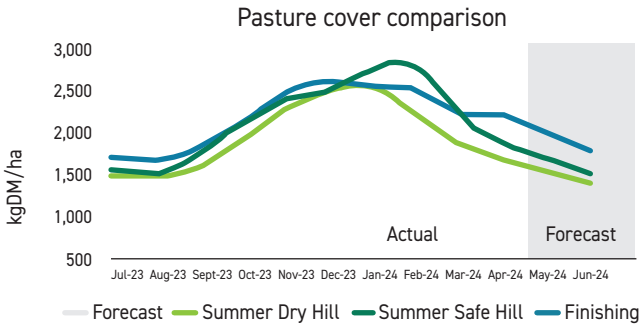
While pasture covers were high through early summer, they have reduced through autumn because of lack of rain. This has resulted in lower-than-average pasture growth rates, particularly on the Summer Dry Hill farm system model. Average farm pasture covers across the three Hawke's Bay farm system models range from 1,700 to 2,190 kgDM/ha, which on average are 4% lower (87 kgDM/ha) lower than a typical year.

Pasture forecast growth in May is between 9% and 27% lower than the long-term average across the region.

Due to expected lower feed quantity and quality, projected animal weight gains have been lowered and slaughter weight of lambs reduced.

Planned purchases of livestock for the Summer Dry Hill and Finishing farm system models have now been reduced or cancelled. In the Summer Safe farm system model, autumn nitrogen fertiliser has been used to keep pasture covers on track.

These changes have reduced the meat and wool production and revenue per hectare and increased operating expenses.



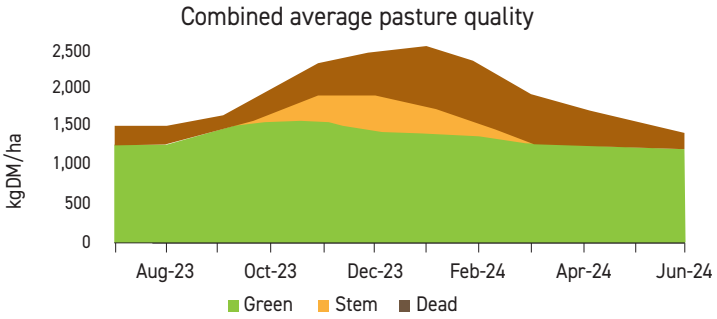
May update
Continued

Pasture quality

Most farms have used the majority of their summer surplus. Regrowth has been limited and there is less fresh high-quality feed available than normal. Across all farm system models, the average metabolisable energy (ME) of feed is only 9.5 MJ/kg/DM. While this feed quality may sustain adult stock, it is insufficient to achieve liveweight gain on younger stock.

The lack of fresh regrowth has reduced livestock weight gains on Summer Dry Hill and Finishing farm system models. These models reflect a greater number of lambs sold at lighter weights, planned purchases of replacement cattle deferred or cancelled, and for Finishing farms, a 30% reduction in lamb purchases.

The Summer Dry Hill farm system models have now sold all of their lambs and the Summer Safe farm system models will have completed sales by the end of May. Breeding farms are down to core livestock numbers. They should have adequate pasture quality to sustain stock. The focus for all farms is to match stocking rate with available feed.



Economic update

Lamb and beef prices have held better than anticipated, but remain low, compared to previous years.

As farms continue to recover from Cyclone Gabrielle while balancing low farmgate prices, the projected weighted average farm profit before tax declined by around $22.40/ha from last month's projected farm profit loss of -$1.30/ha, with the average farm now predicted to end up with a loss of -$23.70/ha. This average is made up of a projected -$102/ha loss on the Summer Dry Hill farm system model, with the Summer Safe Hill system model projected to be close to breakeven, and the Finishing farm system model projected to end with a profit of $144/ha.

AgFirst forecasts, based on pasture growth and feed quality, have reduced the meat and wool production per hectare and increased marginal operating expenses.

Lower than average pasture growth rates and feed quality are expected to reduce projected annual meat and wool production by 2% compared with April.

In addition, high input and debt servicing costs continue to bite as farmers look to find additional savings.

Product pricing

AgFirst provide a monthly update of prime schedules and store livestock prices that populate regional models and allow us to estimate expected financials and the implications of scenarios. Both lamb and beef schedules have tracked in line with expectations throughout April.

The average lamb schedule price reported for the month of April was $6.15/kg carcass and store lambs average $2.42/kg liveweight. Store lambs are relatively inexpensive, at 39% of schedule; the long-term average for April is for store lambs to sell at 46% of the carcass price.

The average prime beef schedule reported for the month of April was $5.90/kg carcass and R2 steers averaged $3.19/kg liveweight. This store price is 54% of schedule and is consistent with the long-term average.

May update
Continued

The AgFirst price index average (October 2023 to September 2024) for prime lamb and beef is a gross schedule of $6.55/kg and $6.08/kg respectively, continuing a trend of marginally improved prices this year, albeit from a low base. Compared to the baseline farm system model prepared at the start of January, the annual price index is $0.29 higher for prime lamb and $0.36 higher for prime beef. The AgFirst price index for bull beef is $6.06/kg. Over the last month, expectations for the annual average indicator price has stayed the same for lamb and softened slightly for beef.

Current summary	Farm system model 1: Summer Dry Hill	Farm system model 2: Summer Safe Hill	Farm system model 3: Finishing
Annual meat and wool production (kg/Effective ha)	190	242	312
Total revenue ($/Effective ha)	$929	$1,204	$1,728
Total farm expenses ($/Effective ha)	$814	$957	$1,361
Economic farm surplus (EFS) ($/Effective ha)	$115	$247	$367
Farm profit before tax ($/Effective ha)	-$102	-$5	$144

* Note: Cyclone recovery costs are not included in AgFirst's farm system models.

Things to consider

- Hawke's Bay Regional Council soil moisture monitoring sites show regional variances with many sites now in rapid decline.
- Lack of regrowth is affecting availability of quality feed for finishing stock and will potentially reduce pasture covers to carry into the winter.
- Summer Dry Hill system farmers will need to take account of the lower-than-average pasture covers and should consider adjusting livestock numbers to get through the winter/early spring.
- Scanning your ewes is crucial to remove dry ewes and allow you to focus on feeding your twin bearing ewes. This is also a great time to take out any light ewes (BSC 2) and preferential feed.
- Inputs like nitrogen fertiliser may be more cost-effective than purchasing supplements or reducing animal performance. Each farm will need to evaluate their specific economic situation. Consider applying nitrogen six weeks after rain that breaks the dry, and reducing flexible stock classes to ensure critical feed for spring.
- Consider using supplement on-hand once autumn rain arrives so that stock are kept off recovering pastures and a feed wedge can be developed.
- Triple drench resistance is continuing to cause issues. May is a great time to use a knockout drench to remove the resistant larvae which have built up on pastures over the successive drenches.
- Cases of staggers are being reported in ewes. When moving off affected pastures consider moving slowly without dogs and check regularly.
- The Rural Support Trust can help when times are tough. For a confidential chat call 0800 787 254.

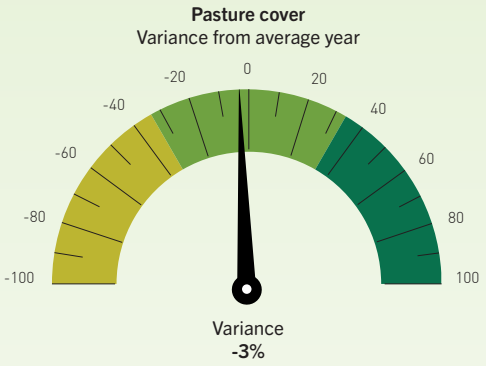
Checklist

- ☑ Make a Plan. Don't be complacent as farm covers are generally lower than average and declining. Even if you have enough pasture currently, the feed situation could turn quickly. Develop a feed budget or seek help to create one and consider your stock class priorities for grazing and sale.
- ☑ Set a pasture cover target for the beginning of lambing/calving and manage pasture cover to meet target as a minimum.
- ☑ Monitor animal health and check for parasites. Regular faecal egg counts and 10-day drench checks are an important part of your planning to monitor contamination and possible resistance on your property. Refer to beeflambnz.com/wormwise
- ☑ May is the best time to test your cattle trace element levels in the liver. This can be done by liver biopsy or testing cattle at the works. Copper and selenium levels can make a big difference in your cattle growth rates. Keep in touch with your vet to discuss supplement and drench programmes. Check for lice and fluke over the winter months where treatment may be needed.
- ☑ Check with your stock agent on processor capacity.
- ☑ Cash flow is currently driving many on-farm decisions. Review the impacts of stopping spending on next season's production. Develop a cashflow budget into next year. Bankers are keen to engage with farmers on their decisions to support next year's production. Keep talking to your bank and/or farm adviser. Being in control of your numbers will help to reduce stress.
- ☑ Attend community events and look out for each other. Discuss actions and strategies with your peers.

Farm system model 1: Summer Dry Hill
Current situation

Summary

April pasture growth rates were below average and the Summer Dry Hill farm system's model average pasture cover is 50 kgDM/ha (3%) lower than an average year.

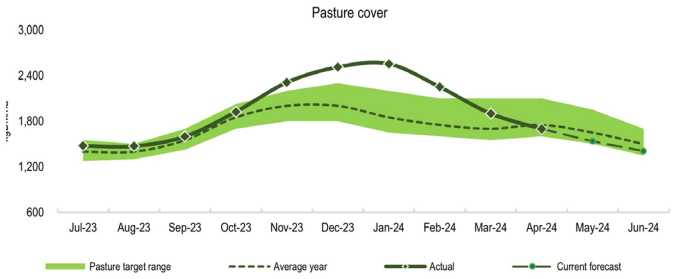


- Low pasture growth rates are expected for May. Pasture covers at 1 July are expected to be only 1,400 kg/DM/ha compared with an average year of 1,500 kg/DM/ha.
- The AgFirst price index forecast for prime lamb is an annual average of $6.55/kg carcass which is $0.29 greater than projected in January. For prime beef, the annual average is $6.08/kg carcass which is $0.36 greater than projected in January.

Pasture cover

Pasture covers on 1 May for the Summer Dry Hill farm system model were reported at 1,700 kgDM/ha. This was 58 kgDM/ha lower than last month's predicted outlook and is 50 kgDM/ha (3%) lower than an average year for Summer Dry Hill farms in Hawke's Bay.

While pasture covers have reduced on Summer Dry Hill farms, they remain within the target range. However, lower pasture growth rates are forecast for May and pasture covers may only be 1,400 kgDM/ha at the end of June. This is less than the previous month's end of June projection, which expected covers to be around 1,500 kgDM/ha. The models indicate that winter pasture cover levels are likely to be below average.

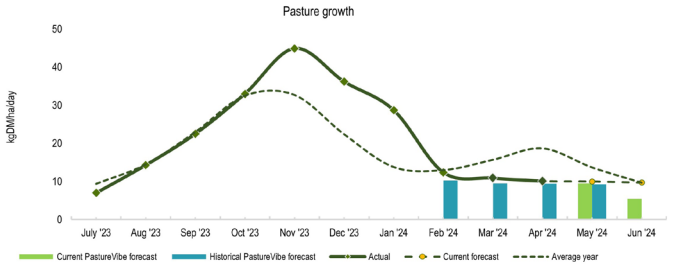


Pasture growth

April's actual average pasture growth rate was 10.1kgDM/ha/day. This is 8.6 kgDM/ha/day (46%) below the average year.

Pasture Vibe is forecasting pasture growth rates by using daily climate data supplied by NIWA. Based on Summer Dry Hill farm systems in the Hawke's Bay and NIWA predictions, pasture growth may be significantly lower than an average year in May. AgFirst has considered a number of sources to inform May's pasture growth forecast, including Pasture Vibe models, actual growth rates in April, latest soil moisture data and forecasts experienced farmers have made to their FARMAX® models.

The AgFirst forecast for Summer Dry Hill for May is 10 kgDM/day which is 27% lower than an average year.

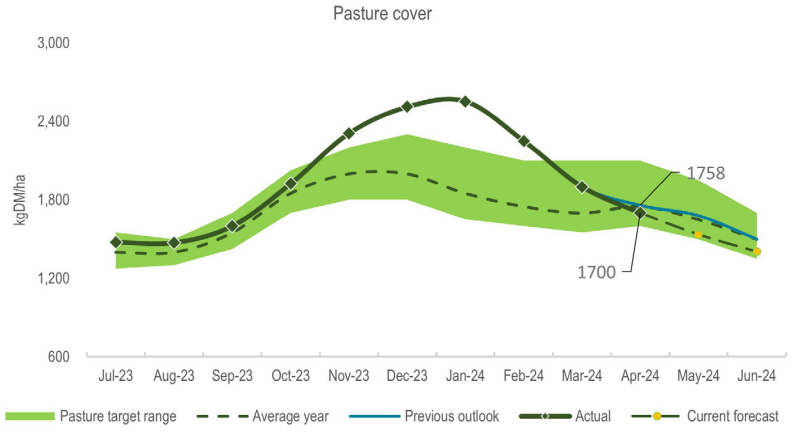


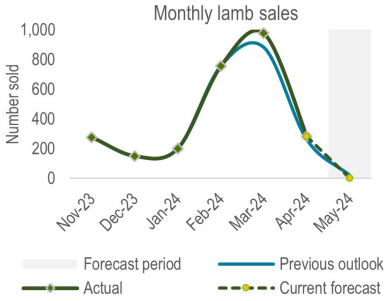
	Actuals										Current forecast		
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	**Total**
Pasture cover (kgDM/ha)	1,476	1,472	1,599	1,923	2,308	2,511	2,553	2,254	1,900	1,700	1,536	1,406	
Pasture growth (kgDM/ha/d)	7.0	14.3	22.5	33.0	44.9	36.0	28.7	12.4	10.9	10.1	10	9.7	**7.3**
Total feed demand (kgDM/ha/d)	12.6	14.8	17.5	19.8	21.2	21.0	20.4	17.1	13.6	10.9	10.7	10.9	**5.8**
Supplements/crop (% of total feed demand)	9%	7%	3%			2%	6%	9%	10%			8%	**4%**

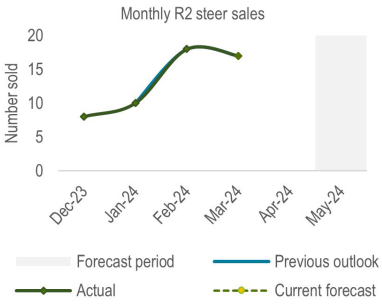
Farm system model 1: Summer Dry Hill
Comparison to previous month

Commentary

- The previous outlook predicted a pasture cover of 1,758 kgDM/ha. Pasture cover for 1 May has been updated to reflect 1,700 kgDM/ha for this farm system model. This is 3% less than an average year.
- In response to the reduced pasture cover, all of this season's lambs have been sold either prime at lighter weights or store during April and the plan to top up cattle numbers with 75 R2 steers has been cancelled. This will have a flow on effect to next year's income.
- Weight gains for replacement ewe lambs and works lambs have been reduced. Consequently, lamb carcass weights for April were reduced from 18.9 kg down to 17.7 kg carcass weight.
- Cattle liveweight gains have also lowered. March/April liveweight gains have been reduced from an average of 0.45 kg/d down to 0.25 kg/d.
- The impact of lower pasture growth rates is predicted to reduce revenue by $31/ha.
- After deducting other farm expenses, such as interest, rent and drawings (over and above wages and management), the Summer Dry Hill farm system model is anticipated to incur an overall loss of -$102/ha.







		Current situation	Previous month	Variance	
Production and economic summary	Annual meat and wool production (kg/Effective ha)	190	194	-2%	↓
	Total revenue ($/Effective ha)	$929	$960	-3%	↓
	Total farm expenses ($/Effective ha)	$814	$819	-1%	–
	Economic farm surplus (EFS) ($/Effective ha)	$115	$141	-18%	↓
	Farm profit before tax ($/Effective ha)	-$102	-$80	-$22	↓

Assumptions and caveats

When calculating economic performance metrics set out in the table, the change in livestock inventory uses market value of stock/kg multiplied by liveweights.

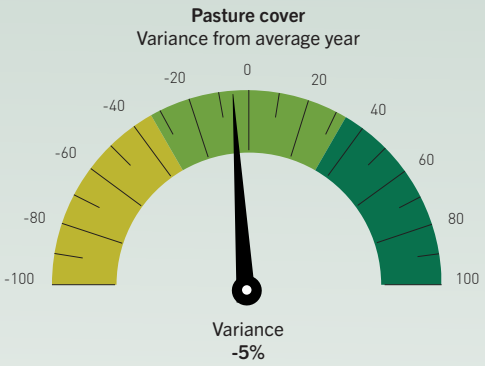
Product pricing: AgFirst provide a monthly update of prime schedules and store livestock that populate these regional price models to estimate expected financials and the implications of scenarios.

The AgFirst price index annual prices currently used in this farm system model for prime lamb is a gross schedule of $6.55/kg, for prime beef it's $6.08/kg and bull beef is $6.06/kg.

Farm system model 2: Summer Safe Hill
Current situation

Summary

Summer Safe Hill farm system's model average pasture cover is 100 kgDM/ha (5%) lower than an average year.



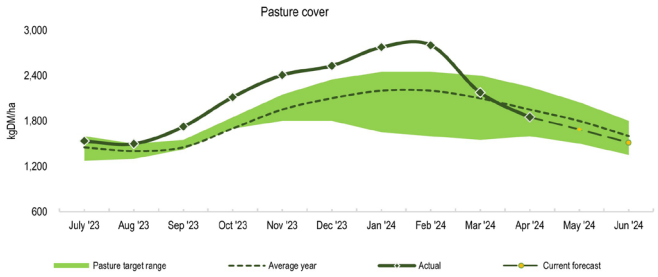
- Slightly lower pasture growth is forecast for May. Pasture covers at the end of June are expected to be only 1500 kg/DM/ha versus an average year where we would expect them to be 4-5% higher (1560 kg/DM/ha) at the start of July.
- Lower autumn pasture growth rates and feed quality has resulted in a 2% decrease in projected annual meat and wool production compared to last month.
- The AgFirst price index forecast for prime lamb is an annual average of $6.55/kg carcass, which is $0.29 greater than projected in January. For prime beef, the annual average is $6.08/kg carcass, which is $0.36 greater than projected in January.

Pasture cover

Pasture covers on 1 May for the Summer Safe Hill farm system model were reported at 1,850 kgDM/ha. This was 29 kgDM/ha lower than last month's predicted outlook, and 100 kgDM/ha (5%) lower than an average year for Summer Safe Hill farms in Hawke's Bay.

Pasture covers have been above average but have fallen rapidly through autumn. By mid-May it is expected to be about 1,700 kgDM/ha, which is less than an average year.

May's pasture growth rate for the Summer Safe Hill farm system model is forecast to be 2% less than the long-term average, lowering pasture cover by end of May to less than the average year, unless adequate rainfall occurs.

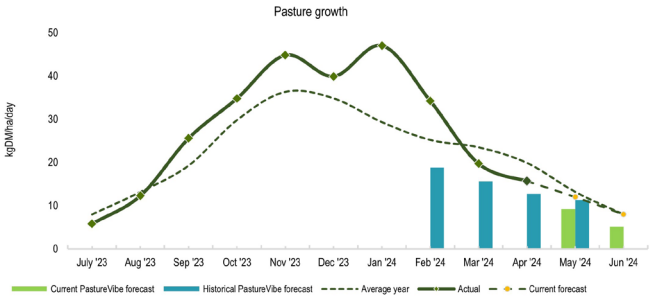


Pasture growth

April's actual average pasture growth rate was 15.7 kgDM/ha/day. This is 4.2 kgDM/ha/day (21%) lower than the average year.

Pasture Vibe is forecasting pasture growth rates by using daily climate data supplied by NIWA. Based on Summer Safe Hill farm systems in the Hawke's Bay and NIWA predictions, pasture growth may be significantly lower than an average year in April.

AgFirst has considered a number of sources to inform May's pasture growth forecast, including Pasture Vibe models, actual growth rates in April, latest soil moisture data and forecasts experienced farmers have made to their FARMAX® models. The AgFirst forecast for Summer Safe Hill farms for May is 12 kgDM/day, which is 9% lower than an average year.

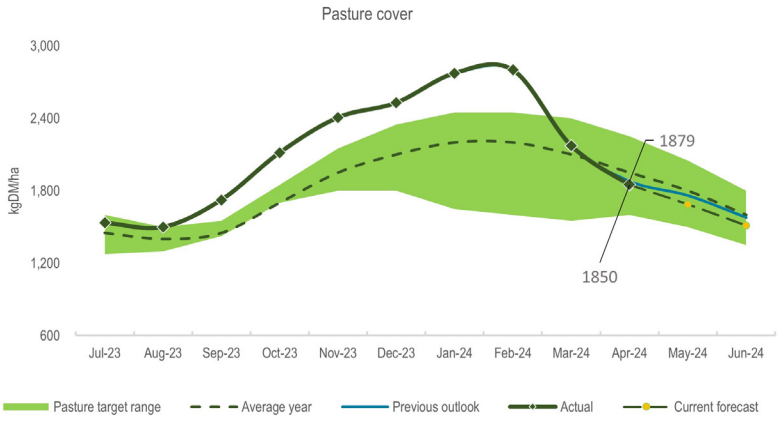


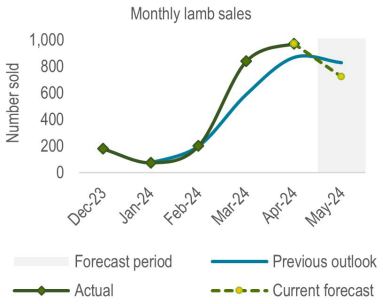
	Actuals										Current forecast		
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Pasture cover (kgDM/ha)	1,535	1,500	1,760	2,158	2,461	2,555	2,694	2,801	2,175	1,850	1,688	1,512	
Pasture growth (kgDM/ha/d)	5.8	12.3	26.8	35.5	46.1	39.2	41.8	34.2	19.7	15.7	12	8	**9.1**
Total feed demand (kgDM/ha/d)	12.5	14.4	17.3	20.0	22.9	25.6	24.8	22.1	22.2	19.9	15.3	12.8	**7.4**
Supplements/crop (% of total feed demand)	17%	10%	1%				1%	2%				12%	**3%**

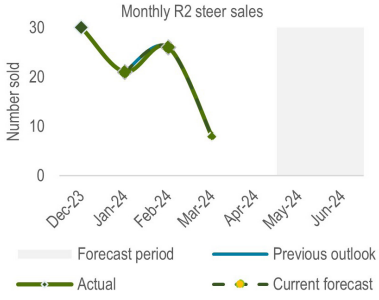
Farm system model 2: Summer Safe Hill
Comparison to previous month

Commentary

- The previous outlook predicted a pasture cover of 1,879 kgDM/ha. Pasture cover for 1 May has been updated to reflect 1,850 kgDM/ha for this farm system model. This is 5% less than an average year.
- This farm model has factored in an application of nitrogen to about 30% of the effective farm area, lifting pasture cover at the end of June by 100 kgDM/ha to stay on target. This will cost $15,000, but is a useful lever to protect next year's production. Other levers could include reducing stock numbers and/or utilising supplements.
- In response to the reduced pasture cover, lambs have been sold lighter in April at an average carcass weight of 18.1 kg versus a baseline plan of 18.8 kg.
- Ewes are mostly in good condition on Summer Safe Hill farms. But liveweight loss over the early winter period is expected to be higher than normal due to lower pasture covers
- After deducting other farm expenses, such as interest, rent and drawings (over and above wages and management), the Summer Safe Hill farm system model is anticipated to be near breakeven (model estimate of -$5/ha).







		Current situation	Previous month	Variance
Production and economic summary	Annual meat and wool production (kg/Effective ha)	242	242	0%
	Total revenue ($/Effective ha)	$1,204	$1,217	-1%
	Total farm expenses ($/Effective ha)	$957	$958	0%
	Economic farm surplus (EFS) ($/Effective ha)	$247	$259	-5%
	Farm profit before tax ($/Effective ha)	-$5	$7	-$12

Assumptions and caveats

When calculating economic performance metrics set out in the table, the change in livestock inventory uses market value of stock/kg multiplied by liveweights.

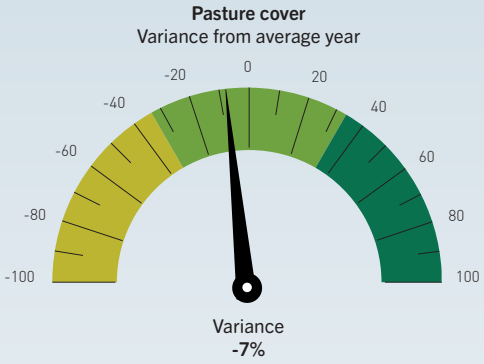
Product pricing: AgFirst provide a monthly update of prime schedules and store livestock that populate these regional price models to estimate expected financials and the implications of scenarios.

The AgFirst price index annual prices currently used in this farm system model for prime lamb is a gross schedule of $6.55/kg, for prime beef it's $6.08/kg and bull beef is $6.06/kg.

Farm system model 3: Finishing
Current situation

Summary

Finishing farm system's model average pasture cover is 160 kgDM/ha (-7%) lower than an average year.

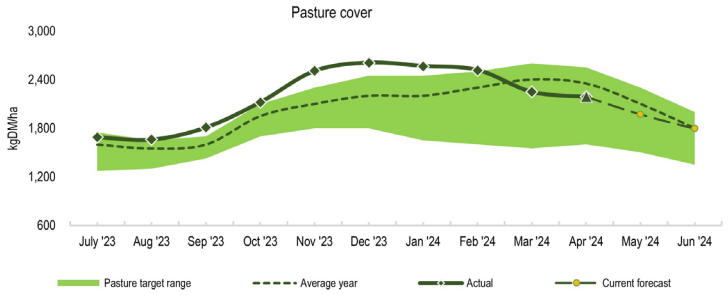


- Lower pasture growth is forecast for May. However, because finishing farms have flexible policies, it is expected they can reduce planned purchases and ensure pasture covers at the end of June stay on track for an expected pasture cover at 1 July of 1,800 kg/DM ha.
- Finishing farms aim to carry high autumn pasture covers to enable high margin stock to be wintered.
- The AgFirst price index forecast for prime lamb is an annual average of $6.55/kg carcass which is $0.29 greater than projected in January. For prime beef, the annual average is $6.08/kg carcass which is $0.36 greater than projected in January.

Pasture cover

Pasture covers on May 1 for the Finishing farm system model were reported at 2,190 kgDM/ha. This was 49 kgDM/ha higher than the previous month's predicted outlook, but 160 kgDM/ha (-7%) lower than an average year for Finishing farms in Hawke's Bay.

By mid-May pasture cover on Finishing farms is expected to decline to 2,000 kgDM/ha. While this is a comfortable level of pasture, it is less than the average year and around 200 kgDM/ha less than predicted last month.



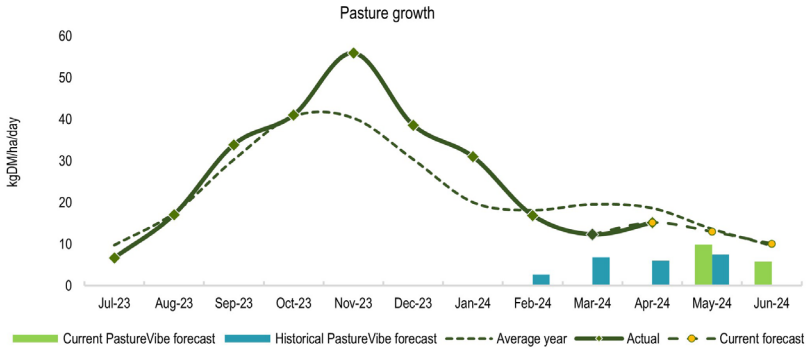
Pasture growth

April's actual average pasture growth rate was 15.2 kgDM/ha/day or 6.5kgDM/ha/day (30%) lower than the average year.

Pasture Vibe is forecasting pasture growth rates by using daily climate data supplied by NIWA. Based on finishing farm systems in the Hawke's Bay and NIWA predictions, pasture growth may be significantly lower than an average year in May.

AgFirst has considered a number of sources to inform May's pasture growth forecast, including Pasture Vibe models, actual growth rates in April, latest soil moisture data and forecasts experienced farmers have made to their FARMAX® models.

The AgFirst forecast for Finishing farms for May is 13 kgDM/day, which is 22% lower than an average year.

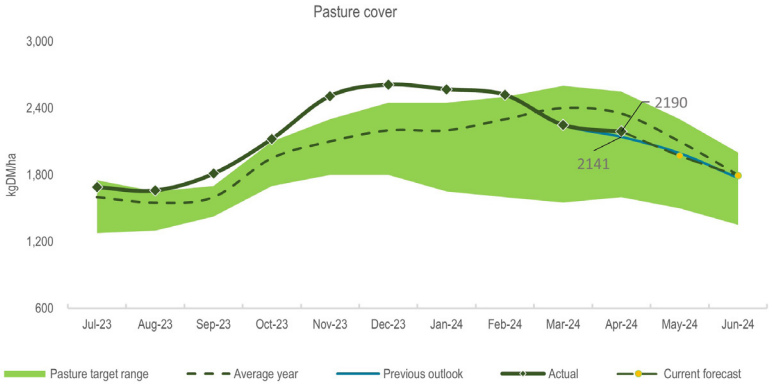


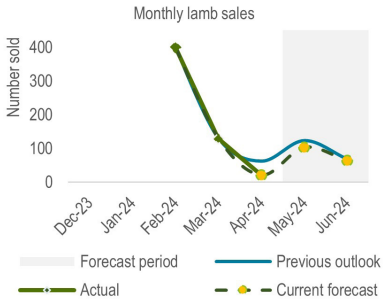
	Actuals										Current forecast		
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Pasture cover (kgDM/ha)	1,690	1,661	1,811	2,122	2,508	2,610	2,569	2,519	2,249	2,190	1,971	1,794	
Pasture growth (kgDM/ha/d)	6.7	17.1	33.9	41	55.9	38.6	31	16.9	12.3	15.2	13	10.1	**8.9**
Total feed demand (kgDM/ha/d)	20.4	26.2	28.9	25.7	21.7	19.8	17.5	12.3	8.9	9.7	14.2	16.1	**6.8**
Supplements/crop (% of total feed demand)	30%	19%	2%			3%	6%	13%	8%		6%	34%	**10%**

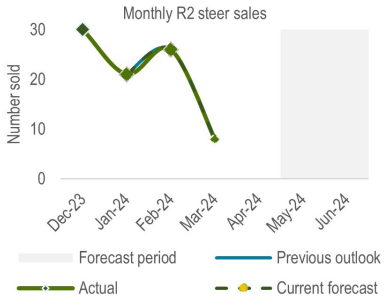
Farm system model 3: Finishing
Comparisons to previous month

Commentary

- The previous outlook predicted a pasture cover of 2,141 kgDM/ha. Pasture cover for 1 May has been updated to reflect 2,190 kgDM/ha for this farm system model. This is 7% below an average year.
- In response to the reduced pasture cover, lamb purchases in April and forecast for May have reduced by 700 lambs. This is 30% less than originally planned and delayed purchases of R2 bulls through to May.
- Lower pasture growth rates are expected to reduce annual meat and wool production by 2% compared to last month's update.
- After deducting other farm expenses, such as interest, rent and drawings (over and above wages and management), the Finishing farm system model farm profit before tax is estimated to be $144/ha.







		Current situation	Previous month	Variance	
Production and economic summary	Annual meat and wool production (kg carcass/Effective ha)	312	318	-2%	↓
	Total revenue ($/Effective ha)	$1,728	$1,778	-3%	↓
	Total farm expenses ($/Effective ha)	$1,361	$1,370	-1%	–
	Economic farm surplus (EFS) ($/Effective ha)	$367	$408	-10%	↓
	Farm profit before tax ($/Effective ha)	$144	$183	-$39	↓

Assumptions and caveats

When calculating economic performance metrics set out in the table, the change in livestock inventory uses market value of stock/kg multiplied by liveweights.

Product pricing: AgFirst provide a monthly update of prime schedules and store livestock that populate these regional price models to estimate expected financials and the implications of scenarios.

The AgFirst price index annual prices currently used in this farm system model for prime lamb is a gross schedule of $6.55/kg, for prime beef it's $6.08/kg and bull beef is $6.06/kg.

Appendix

Climate tools and information

NIWA's Drought Forecasting Dashboard is a one-stop-shop for monitoring and predicting the risk for rainfall, dryness and potential drought across the country and provides week-to-week predictions of up to 35 days.
Access the tool at: **shiny.niwa.co.nz/drought-forecast**

Hawke's Bay Regional Council has also developed a web tool called the Drought Risk Indicator to help farmers to prepare and plan for dry conditions.
Access the tool at: **hbrc.govt.nz/environment/farmers-hub/extreme-dry-hub/drought-risk-indicator**

For further information visit the Hawke's Bay Regional Council's website to view its State of Environment reports using the latest data gathered by its science team from environmental monitoring projects.
Read the reports at: **hbrc.govt.nz/environment/state-of-the-environment/soe-monthly-reports**

Definitions used in this report

Term	Definition
Actuals	Each month the farm system models are updated with actual farm data and performance metrics such as animal growth rates, pasture covers, and livestock sales.
Current forecast	The current forecasts are derived from a combination of actual data, amendments to planned events such as livestock sales and purchases, updated climate forecasts, and insights from the expert panel.
Previous outlook	The forecast that was generated the month before which is compared against the current forecast.
d	Day
t	Tonnes
Pasture target range	The pasture cover target is the zone recommended for the average farm cover measured in kilograms of dry matter per hectare (kgDM/ha). The target depicts the optimum range for balancing pasture growth and animal intake as calculated by long-term FARMAX® modelling.
Pasture Vibe	Pasture Vibe is a computer model that calculates pasture growth rate. Supplied with climate data updated nightly by the National Institute of Water and Atmospheric Research (NIWA). PastureVibe can forecast up to three months of future daily pasture growth. For more information go to: **pasturevibe.com**
kgDM/ha	Pasture mass is the amount of pasture per hectare and is usually measured in kilograms of dry matter per hectare (kgDM/ha). Dry matter is the plant material left behind when the water in it is removed. Dry matter per hectare is a unit for measuring pasture production.
Kg product	The net production weight of all animal products produced on farm per effective hectare farmed. This includes: • open and closing livestock numbers and their liveweights converted to carcass weight (kg); • animal sales and purchase numbers and their weights converted to carcass weight (kg); • liveweight of grazing livestock arriving on the property and grazing livestock leaving the property converted to carcass weight (kg); • wool and velvet production including sales less opening weight on-hand plus closing weight on-hand (kg); • total effective grazing area (ha).
Economic farm surplus (EFS)	A measure of farm business profitability, independent of ownership or funding. It is used to compare performance between farms. Farm income minus farm working expenses. EFS includes an adjustment for unpaid family labour and management.
Farm profit before tax	Includes all items in the EFS, but also includes Rent/Lease and Interest to provide a measure of profitability specific to the ownership and debt structure of the farm.
Annual production	The net production of weight in kilos of all animal products (meat and wool) produced on your farm per effective hectare farmed (livestock weights are converted to a carcass weight).

Continued over page

Appendix

Definitions used in this report continued

Term	Definition
Metabolisable Energy (ME)	A quantitive measure of the amount of energy in a feed that an animal can use, it is often directly related to digestability. Its units are mega joule per kilogram of dry matter (MJME/kgDM).
AgFirst price index	The three FARMAX® farm system models have a price file which records actual prices paid for both prime stock and store stock for year-to-date and forecasts monthly schedules and store stock prices for the rest of the financial year. In order to gauge market change AgFirst report an index price which is the average schedule for the meat company year i.e. from 1 October 2023 through to 30 September 2024. The actual sales values will be different for each farm system depending on sales pattern, grades and weights.

Te Kāwanatanga o Aotearoa
New Zealand Government