

Hawke's Bay Farming for Resilience Report

April 2024



Ministry for Primary Industries
Manatū Ahu Matua



Acknowledgements

AgFirst: Phil Tither, Lochie MacGillivray

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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:
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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.

























The pilot project will take place over six months delivering reports from February to July 2024.

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	Farm system model 2 Summer Safe Hill	Farm system model 3 Finishing
<p> 590 effective hectares</p> <p> < 1,200 mm annual rainfall</p> <p> 18% flat land</p> <p> 12 ha summer rape 12 ha multi graze brassica for summer and winter use.</p> <p>Used to finish 89% of lambs prime. Balance sold store.</p>	<p> 520 effective hectares</p> <p> > 1,200 mm annual rainfall</p> <p> 34% flat land</p> <p> 8 ha winter kale 4 ha summer rape 4 ha herb and clover</p> <p>Finishing 88% of lambs prime.</p>	<p> 440 effective hectares</p> <p> < 1,200 mm annual rainfall</p> <p> 78% flat land</p> <p> 10 ha winter kale 8 ha summer rape 4 ha fodder beet 50 ha in specialist finishing forage including lucerne, plantain, chicory and clovers.</p>
<p> 5,166 stock units</p>	<p> 4,823 stock units</p>	<p> 6,313 stock units</p>
<p> No irrigation</p>	<p> No irrigation</p>	<p> Partial irrigation</p>
<p> 60% of feed demand</p> <p>Crossbred ewe flock breeding own replacements and selling a mix of prime and store lambs.</p>	<p> 65% of feed demand</p> <p>Similar to Summer Dry Hill but more lambs finished.</p>	<p> 52% of feed demand</p> <p>Main enterprise is lamb finishing. Lambs typically purchased in the autumn and sold in the late winter/early spring.</p>
<p> 40% of feed demand</p> <p>Self-replacing breeding cows and finishing steers.</p>	<p> 35% of feed demand</p> <p>Similar beef policy to Summer Dry Hill with the addition of dairy heifer grazing consuming 6% of feed demand.</p>	<p> 48% of feed demand</p> <p>Bull beef finishing with a combination of purchased calves and yearlings to finish as 2-year-olds.</p>

April update

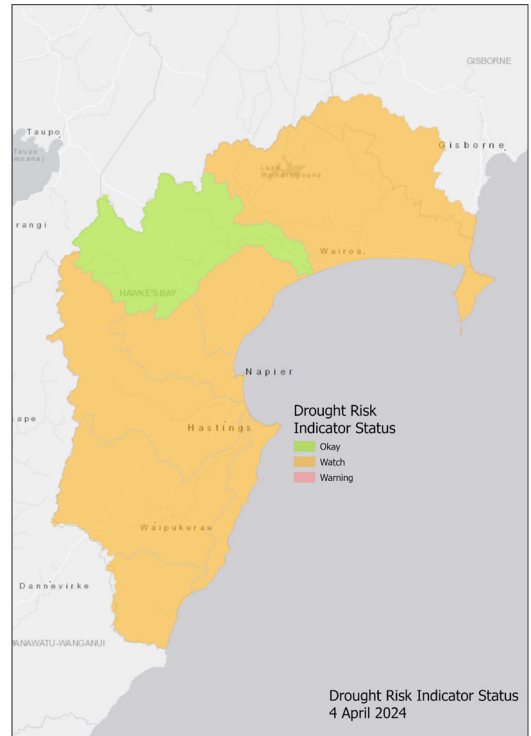


Climate

March was dry, even for Hawke’s Bay. On the Tangoio, Heretaunga, and Ruataniwha plains, rainfall was a third of the monthly average. Waikaremoana fared slightly better recording about 80% of monthly average rainfall. Soil moisture levels varied across the region, declining for some areas during the month, and then rising slightly for some after periods of rainfall.

NIWA’s Hawke’s Bay seasonal forecast for April to June indicates average to above temperatures, near or below normal rainfall and river flows, and below normal soil moisture.

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



Pasture growth and covers

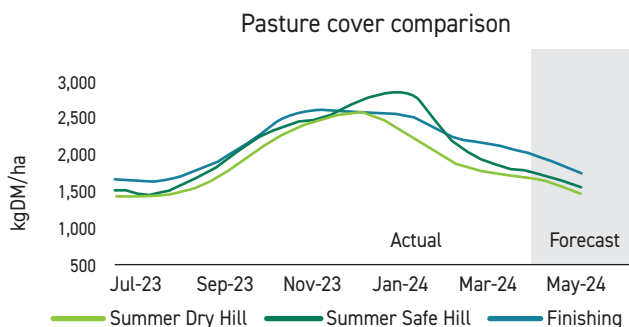
Across the three Hawke’s Bay farm system models (see page 2), average pasture growth for March was 13.8 kgDM/ha per day. This is compared with an average year of 18.8 kgDM/ha, or 27% less than expected.

Leading into autumn, daily pasture growth rates on the Summer Dry Hill farm system model were 10.9 kg DM/ha (31% below average), the Summer Safe Hill farm system model were 19.7 kgDM/ha (16% below average), and the Finishing farm system model were 12.3 kgDM/ha (37% below average).

While pasture covers were very high through the early summer period, they have rapidly reduced because of the 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 1,900 to 2,249 kgDM/ha, on average 17% lower than in early March.

April’s pasture growth rate forecast ranges between 20% and 33% 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. These changes have reduced the meat and wool production and revenue per hectare and increased operating expenses.



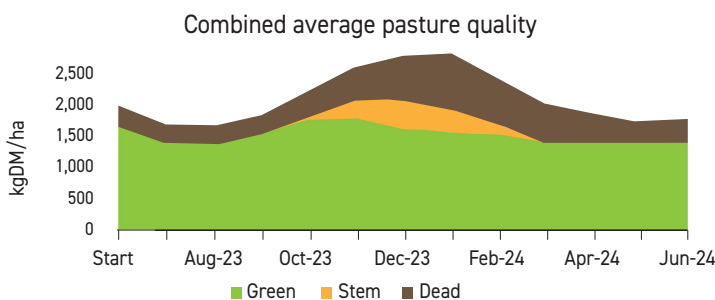
April update

Continued



Pasture quality

Pasture quality has significantly declined and may constrain growth rates of younger livestock, especially lambs, on many farms. Livestock growth rates for Summer Dry Hill and Finishing farm system models were below expectations, partly because of the decline in feed quality. While pasture covers will still be within the target range for many farms, the lack of fresh regrowth and lower metabolisable energy levels means that feed quality is a more significant limitation. Most of the summer feed crops have now been finished and farms are selling lambs at lower carcass weights and/or as stores. Across all farm system models the average metabolisable energy (ME) of feed is only 9 MJ/kg/DM. While this feed quality may sustain adult stock, it is insufficient to achieve liveweight gain on younger stock.



Economic update

Hawke's Bay farmers continue to face low lamb and beef prices, relative to previous years, but prices for both have strengthened slightly this month.

Nevertheless, despite farmers working to cut costs and find savings, the projected weighted average farm profit before tax declined by around \$20/ha, with the average farm losing around -\$1.30/ha. This average is made up of a projected -\$80/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 small profit.

Additional challenges are likely to impact farmers in the region. Lower than average pasture growth rates, reducing available feed, and lower than average feed quality because of high summer growth rates and associated management challenges, are expected to reduce projected annual meat and wool production by 4% compared with March.

Other factors include rising insurance premiums, high debt servicing costs and land out of production due to the ongoing effects of Cyclone Gabrielle.



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.

The average lamb schedule price reported for the month of March was \$6.10/kg carcass and store lambs average \$2.44/kg liveweight. Store lambs are relatively inexpensive, at 40% of schedule; the long-term average is for store lambs to sell at 45% of the carcass price in March.

The average prime beef schedule reported for the month of March was \$5.85/kg carcass and weaner steers averaged \$4.06/kg liveweight. This weaner store price is 69% of schedule and is similar to the long-term average of 68%.

The AgFirst price index average (October 2023 to September 2024) for prime lamb and beef is a gross schedule of \$6.55/kg and \$6.09/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 \$0.37 higher for prime beef.

April update

Continued

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)	194	242	318
Total revenue (\$/Effective ha)	\$960	\$1,217	\$1,778
Total farm expenses (\$/Effective ha)	\$819	\$958	\$1,370
Economic farm surplus (EFS) (\$/Effective ha)	\$141	\$259	\$408
Farm profit before tax (\$/Effective ha)	-\$80	\$7	\$183

Things to consider

- Hawke's Bay Regional Council soil moisture monitoring sites show regional variances with many sites now in rapid decline.
- Feed quality is negatively affecting livestock growth rates on some farms.
- Summer Dry Hill system farmers should consider adjusting livestock numbers to get through the late autumn and winter, if April continues to be dry.
- Evaluate the advantages and disadvantages of retaining finishing livestock into the autumn versus preserving pasture cover for winter. Nitrogen fertiliser may be useful to offset feed demands of additional stock.
- In tight financial times many farmers will aim to avoid marginal costs such as nitrogen fertiliser. However, these inputs may be more cost-effective than purchasing supplements or reducing animal performance. Each farm will need to evaluate their specific economics.
- Facial eczema spore counts have been variable, ranging from zero in some areas to 105,000/gram in Ashley Clinton and 47,500/gram in Ocean Beach. Fortunately, the cooler nights seem to be helping.
- Worm resistance is continuing to cause issues on multiple properties with triple drenches not working effectively and novel drenches hard to get due to supply issues.

Checklist

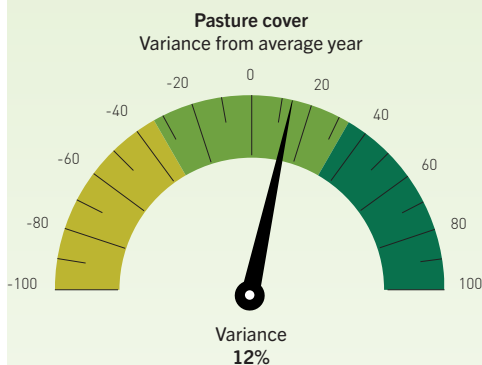
- Make a plan. Don't be complacent as your feed situation could turn quickly. Consider your stock class priorities for grazing and sale, and develop a feed budget.
- Set a pasture cover target for the end of April and manage pasture cover to at least meet target as a minimum.
- Monitor for parasites. 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
- Monitor animal health and check spore counts. Keep in touch with your local vet.
- Check with your stock agent on processor capacity and potential delays.
- Cash flow is currently driving many on-farm decisions. Review the impacts of stopping spending on next season's production. Keep talking to your bank and/or farm adviser.
- 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

Although March pasture growth rates were below average, Summer Dry Hill farm system's model average pasture cover is 200 kgDM/ha (12%) higher than an average year.



- While prices are down, compared with previous years, lamb and beef market prices have held better than anticipated.
- 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 \$6.09/kg carcass which is \$0.37 greater than projected in January.

Pasture cover

Pasture covers on 1 April for the Summer Dry Hill farm system model were reported at just over 1,900 kgDM/ha. This was 220 kgDM/ha lower than last month's predicted outlook but is 200 kgDM/ha (12%) higher 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. Lower pasture growth for April is forecast and suggests that pasture covers may only be 1,500 kgDM/ha at the end of June. This is in contrast to last month's end of June projection that expected covers to exceed 1,700 kgDM/ha. The models indicate that winter pasture cover levels are likely to be average.

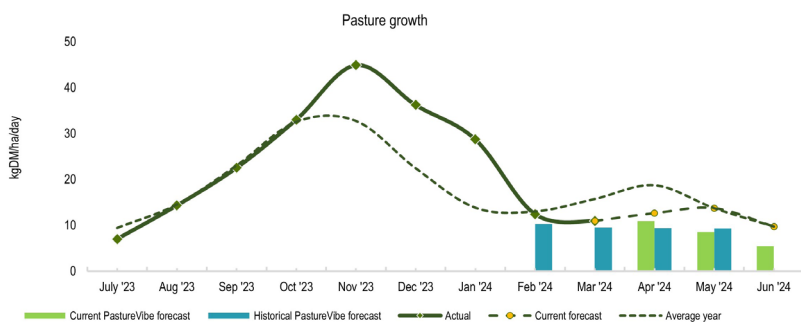


Pasture growth

March's actual average pasture growth rate was 10.9 kgDM/ha/day. This is 4.8 kgDM/ha/day (31%) 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 April. AgFirst has considered a number of sources to inform April's pasture growth forecast, including Pasture Vibe models, actual growth rates in March, latest soil moisture data and forecasts experienced farmers have made to their FARMAX® models.

The AgFirst forecast for Summer Dry Hill for April is 12.6 kgDM/day which is 33% lower than an average year.



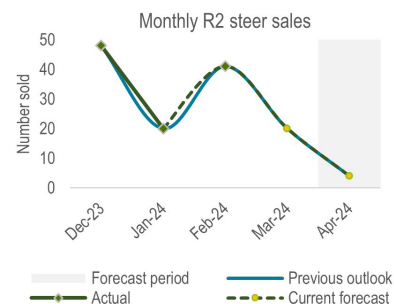
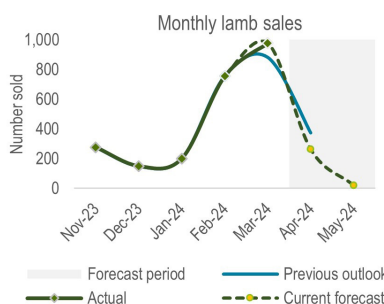
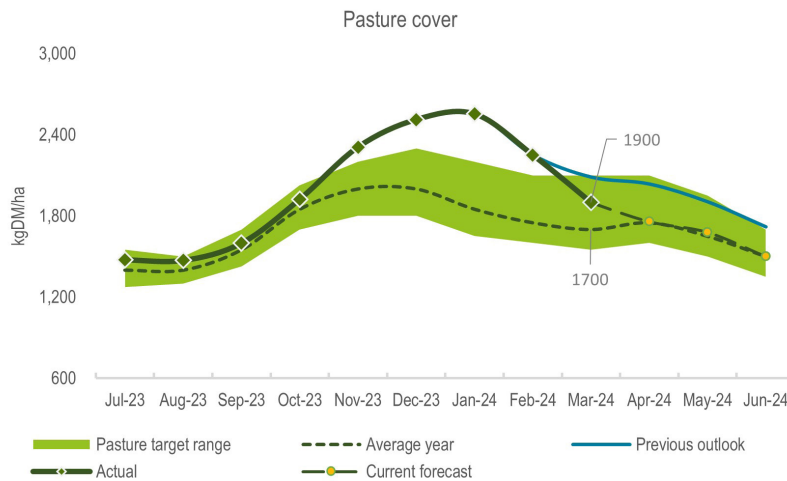
	Actuals									Current forecast			
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Pasture cover (kgDM/ha)	1,476	1,472	1,599	1,923	2,308	2,511	2,553	2,254	1,900	1,758	1,679	1,500	
Pasture growth (kgDM/ha/d)	7.0	14.3	22.5	33.0	44.9	36.0	28.7	12.4	10.9	12.6	13.7	9.7	7.5t
Total feed demand (kgDM/ha/d)	12.6	14.8	17.5	19.8	21.2	21.0	20.4	17.1	13.6	12.3	12.2	12	5.9t
Supplements/crop (% of total feed demand)	9%	7%	3%			2%	6%	9%	9.6%			7.5%	4.4%

Farm system model 1: Summer Dry Hill

Comparison to previous month

Commentary

- The previous outlook had predicted a pasture cover of 2,250 kgDM/ha. Pasture cover for 1 April has been updated to reflect 1,900 kgDM/ha for this farm system model. This is less than expected, but still 12% greater than an average year.
- Lower pasture growth rates mean it is likely most ewes have been either maintaining or slightly reducing liveweight. This may affect the tail end of mating.
- Weight gains for replacement ewe lambs and works lambs have been reduced. Consequently, lamb carcass weights for March were reduced from 19.3 down to 18.4 kg carcass weight.
- Cattle liveweight gains have also lowered. March/April liveweight gains have been reduced from an average of 0.45 down to 0.25 kg/d.
- The impact of lower pasture growth rates on feed quality and quantity is expected to cause a reduction in revenue of \$29/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 -\$80/ha.



		Current situation	Previous month	Variance
Production and economic summary	Annual meat and wool production (kg/Effective ha)	194	206	-6% ↓
	Total revenue (\$/Effective ha)	\$960	\$989	-3% ↓
	Total farm expenses (\$/Effective ha)	\$819	\$826	-1% ▬
	Economic farm surplus (EFS) (\$/Effective ha)	\$140	\$163	-14% ↓
	Farm profit before tax (\$/Effective ha)	-\$80	-\$61	-\$19 ↓

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.

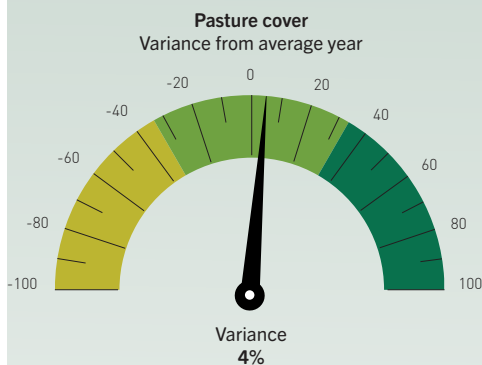
The AgFirst price index annual prices used in this farm system model for prime lamb is a gross schedule of \$6.55/kg and for prime beef, \$6.09/kg.

Farm system model 2: Summer Safe Hill

Current situation

Summary

Summer Safe Hill farm system's model average pasture cover is 75 kgDM/ha (4% higher than an average year).



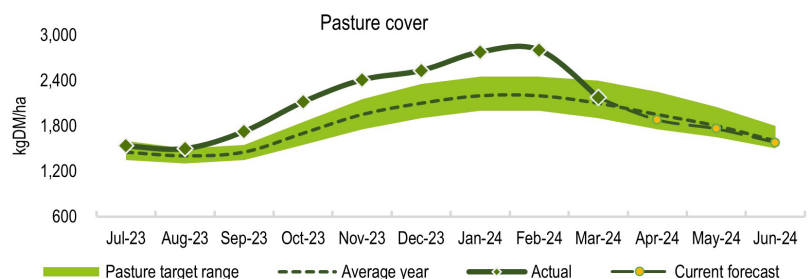
- Lower autumn pasture growth rates and feed quality has resulted in a 2% decrease in projected annual meat and wool production compared to an average year (to 242 kg/ha).
- While prices are low, compared with previous years, lamb and beef prices have held better than anticipated.
- The AgFirst price 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 \$6.09/kg carcass which is \$0.37 greater than projected in January.

Pasture cover

Pasture covers on 1 April for the Summer Safe Hill farm system model were reported at 2,175 kgDM/ha. This was 201 kgDM/ha lower than last month's predicted outlook, but 75 kgDM/ha (4%) higher than an average year for Summer Safe Hill farms in Hawke's Bay.

Pasture covers have been high and are coming down rapidly. By mid-April it is expected to be about 1,900 kgDM/ha, close to an average year.

However, April's pasture growth rate for Summer Safe farm system models is forecasted to be 20% less than the long-term average, lowering pasture cover by end of April to less than the average year, unless appreciable rainfall occurs.

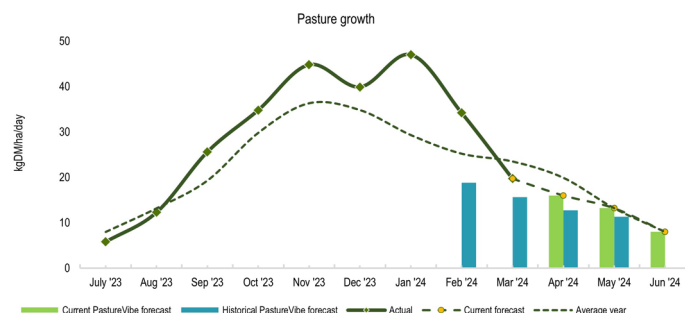


Pasture growth

March's actual average pasture growth rate was 19.7 kgDM/ha/day. This is 3.8 kgDM/ha/day (24%) 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 April's pasture growth forecast, including Pasture Vibe models, actual growth rates in March, latest soil moisture data and forecasts experienced farmers have made to their FARMAX® models. The AgFirst forecast for Summer Safe Hill for April is 16 kgDM/day which is 20% lower than an average year.



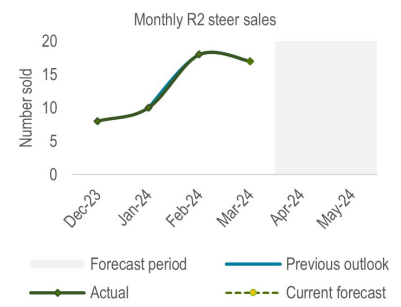
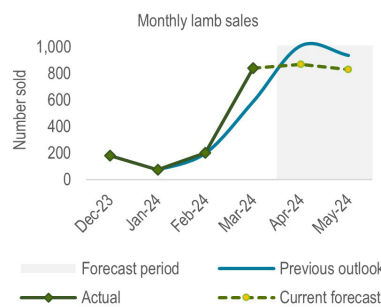
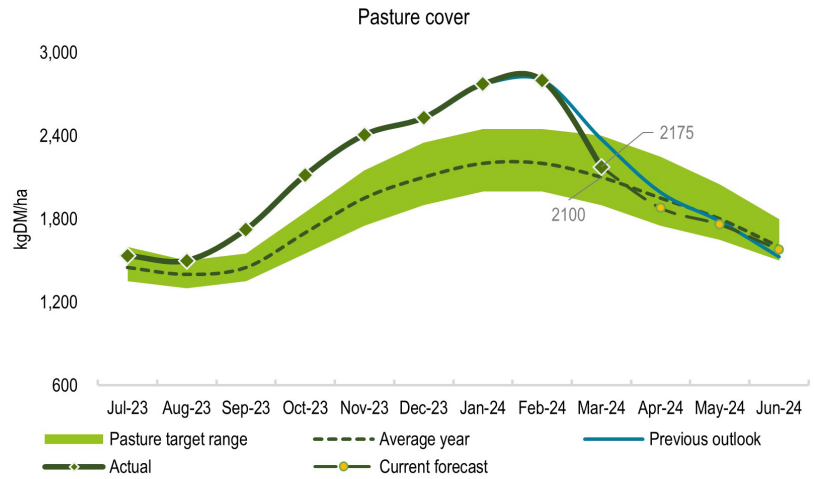
	Actuals									Current forecast			Total
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Pasture cover (kgDM/ha)	1,535	1,500	1,760	2,158	2,461	2,555	2,694	2,801	2,175	1,879	1,760	1,578	
Pasture growth (kgDM/ha/d)	5.8	12.3	26.8	35.5	46.1	39.2	41.8	34.2	19.7	16.0	13.2	8.0	9.2t
Total feed demand (kgDM/ha/d)	12.5	14.4	17.3	20.0	22.9	25.6	24.8	22.1	22.2	18.1	14.2	12	6.9t
Supplements/crop (% of total feed demand)	18%	11%	0.6%				2%	2.3%	0.5%			12.5%	2.8%

Farm system model 2: Summer Safe Hill

Comparison to previous month

Commentary

- The previous outlook had predicted a pasture cover of 2,376 kgDM/ha. Pasture cover for 1 April has been updated to reflect 2,175 kgDM/ha for this farm system model. This is 6% more than an average year.
- Ewes are mostly in good condition on Summer Safe Hill farms. But, it is expected they will be at maintenance through April.
- Average ewe mating date is anticipated to be about 8 April.
- Liveweight gains on replacement ewe lambs are likely to fall for April. Ewe lamb mating will likely reduce from 70% to 40%.
- 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.
- 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 generate an overall farm profit before tax for the year of \$7/ha.



		Current situation	Previous month	Variance
Production and economic summary	Annual meat and wool production (kg/Effective ha)	242	246	-2%
	Total revenue (\$/Effective ha)	\$1,217	\$1,202	1%
	Total farm expenses (\$/Effective ha)	\$958	\$931	3%
	Economic farm surplus (EFS) (\$/Effective ha)	\$259	\$271	-4%
	Farm profit before tax (\$/Effective ha)	\$7	\$17	-\$10

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.

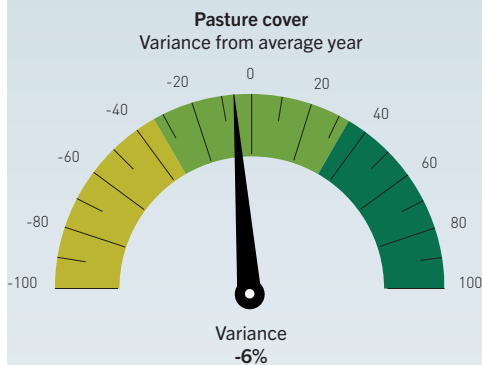
The AgFirst price index annual prices used in this farm system model for prime lamb is a gross schedule of \$6.55/kg and for prime beef, \$6.09/kg.

Farm system model 3: Finishing

Current situation

Summary

Finishing farm system's model average pasture cover is 151 kgDM/ha (6%) lower than an average year.

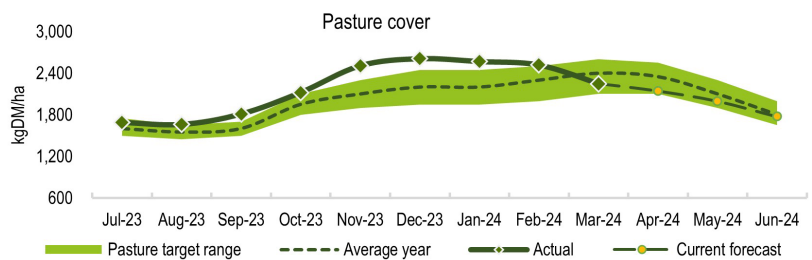


- Finishing farms aim to carry high autumn pasture covers to enable extra high-margin stock to be wintered.
- To remain on target, the farm system model reduced store lamb purchases by around 50% and delayed purchases of R2 bulls through to May.
- While prices are down, compared with previous years, lamb and beef prices have held better than anticipated.
- 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 \$6.09/kg carcass which is \$0.37 greater than projected in January.

Pasture cover

Pasture covers on April 1 for the Finishing farm system model were reported at 2,249 kgDM/ha. This was 231 kgDM/ha lower than last month's predicted outlook and 151 kgDM/ha (-6%) lower than an average year for Finishing farms in Hawke's Bay.

By mid-April pasture cover on Finishing farms is expected to decline to 2,200 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.



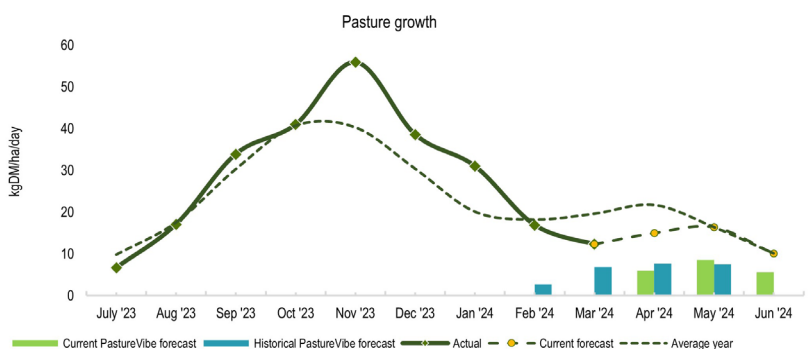
Pasture growth

March's actual average pasture growth rate was 12.3 kgDM/ha/day or 3.4 kgDM/ha/day (22%) 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 April.

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

The AgFirst forecast for Finishing farms for April is 15 kgDM/day which is 31% lower than an average year.



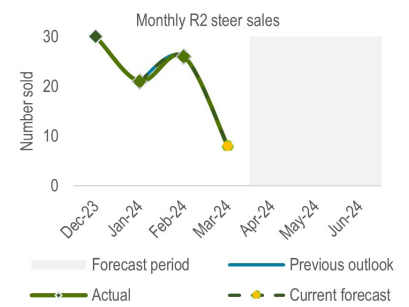
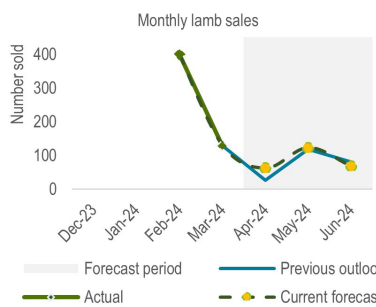
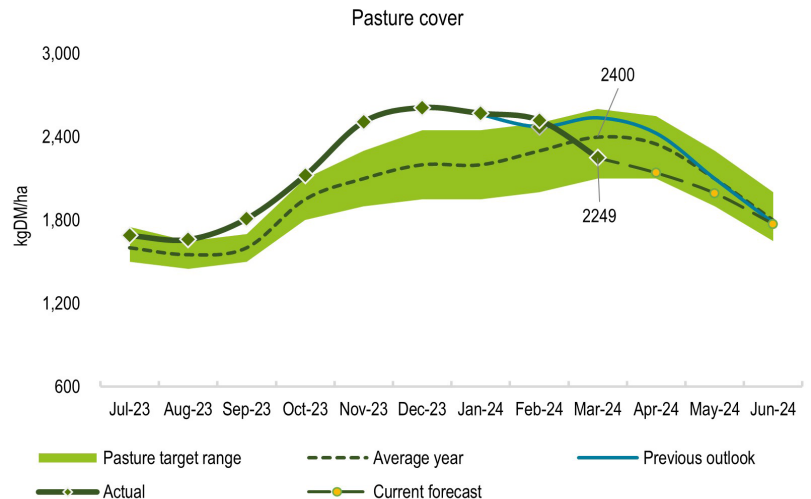
	Actuals									Current forecast			
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Pasture cover (kgDM/ha)	1,690	1,661	1,811	2,122	2,508	2,610	2,569	2,519	2,249	2,141	1,994	1,772	
Pasture growth (kgDM/ha/d)	6.7	17.1	33.9	41	55.9	38.6	31	16.9	12.3	15	16.4	10.1	9.0t
Total feed demand (kgDM/ha/d)	20.4	26.2	28.9	25.7	21.7	19.8	17.5	12.3	8.9	10.8	15.5	17.3	6.9t
Supplements/crop (% of total feed demand)	30%	19%	2%	0%	0%	3%	6%	13%	8%	0%	6%	32%	9%

Farm system model 3: Finishing

Comparisons to previous month

Commentary

- The previous outlook had predicted a pasture cover of 2,480 kgDM/ha. Pasture cover for 1 April has been updated to reflect 2,249 kgDM/ha for this farm system model. This is 6% below an average year.
- Lower pasture growth rates are expected to reduce annual meat and wool production by 4%.
- 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 \$183/ha.



		Current situation	Previous month	Variance	
Production and economic summary	Annual meat and wool production (kg carcass/Effective ha)	318	331	-4%	↓
	Total revenue (\$/Effective ha)	\$1,778	\$1,857	-4%	↓
	Total farm expenses (\$/Effective ha)	\$1,370	\$1,391	-2%	↑
	Economic farm surplus (EFS) (\$/Effective ha)	\$408	\$466	-12%	↓
	Farm profit before tax (\$/Effective ha)	\$183	\$233	-\$50	↓

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 and for prime beef, \$6.09/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: <ul style="list-style-type: none">• 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 quantitative measure of the amount of energy in a feed that an animal can use, it is often directly related to digestibility. Its units are mega joule per kilogram of dry matter (MJME/kgDM).
AgFirst price index	<p>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.</p> <p>The actual sales values will be different for each farm system depending on sales pattern, grades and weights.</p>

