Landuse Change
Impacts on Arable Supply & Demand for the Dairy Industry

19th November 2026



ADDING VALUE TO THE BUSINESS OF CROPPING

FAR®

Agenda

The What

- *Dairy use of arable products today – Nick Tait, DairyNZ*
- *The Scale of Change – Charlotte Senior, AgriIntel*

The So What

- *Neville Pendergast, Advanced Feed*
- *John Donkers, DFMS*
- *Stu Taylor, Craigmore Sustainables*
- *John McCaw, McCaw Farms*

Panel Discussion



THE SCALE OF CHANGE

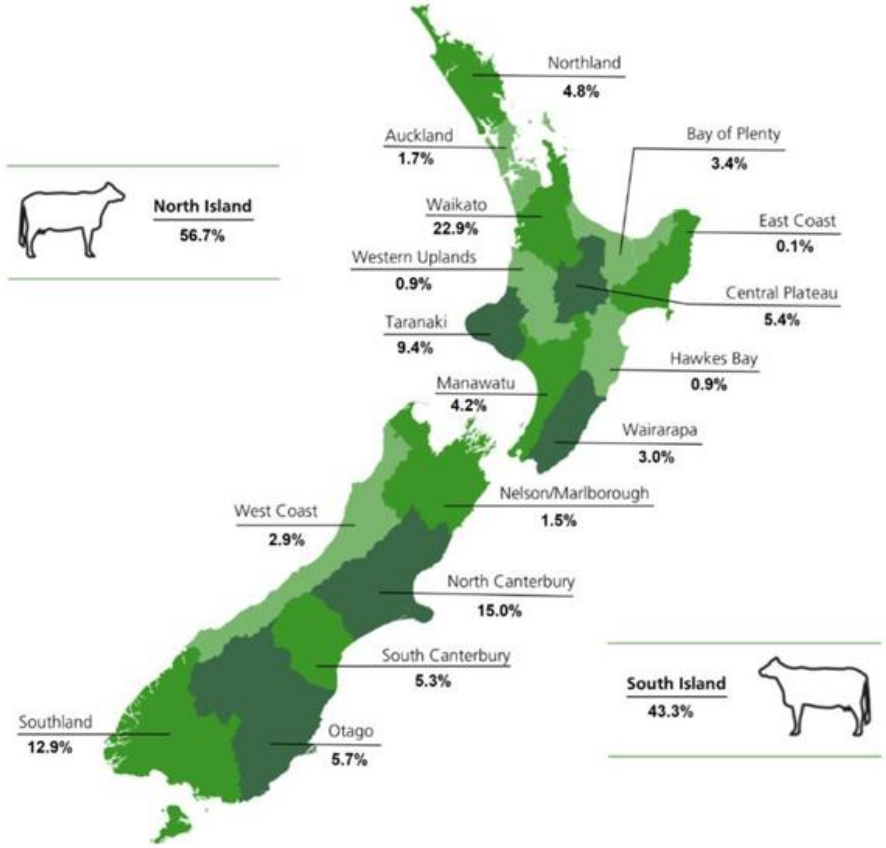
Dairy conversions and arable supply & demand

Nick Tait, DairyNZ
Charlotte Senior, Agri Intel

FAR workshop, 19 November 2026

Canterbury dairy today (Dairy Statistics 2025/26)

Region	Total herds	Total cows	Percentage of cows	Total effective hectares	Average herd size	Average kg milksolids per cow
North Island	7,148	2,678,657	57	997,212	375	**405**
South Island	3,120	2,045,841	43	696,989	656	**459**
Canterbury	**1,187**	**960,705**	**20**	**283,406**	**809**	**465**
New Zealand	10,370	4,677,580	100	1,704,182	451	**428**



DairyNZ Farm Systems

The system number describes where feed comes from. It does not describe how well the farm performs.

System 1



home-grown feed

All-grass, self-contained

System 2



home-grown feed

Small imported-feed or off-farm grazing component

System 3



home-grown feed

Imported feed typically extends lactation

System 4



home-grown feed

Imported feed used at both ends of lactation

System 5



home-grown feed

Imported feed used throughout lactation

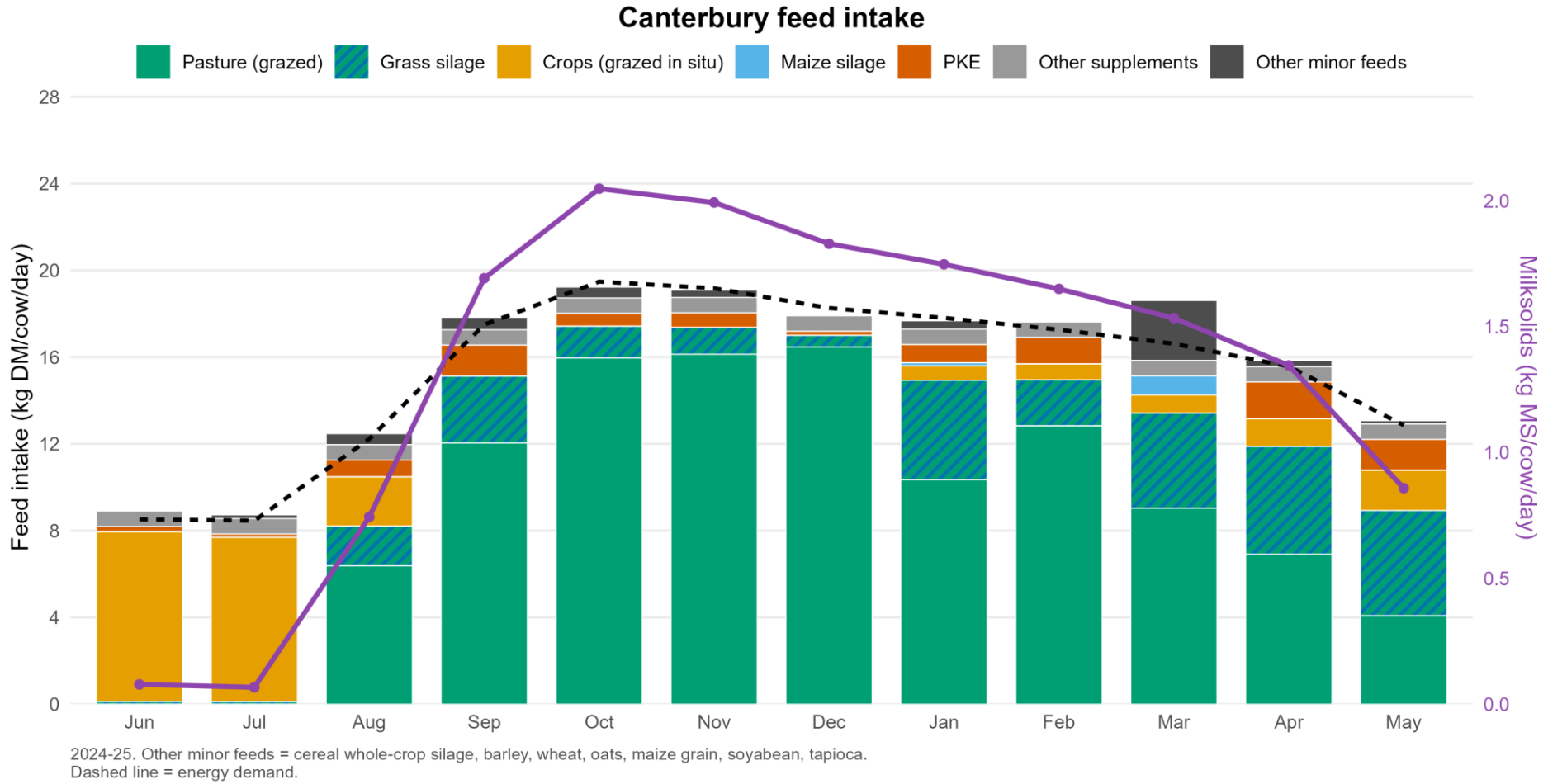
MORE HOME-GROWN FEED

INCREASING USE OF IMPORTED FEED / OFF-FARM GRAZING

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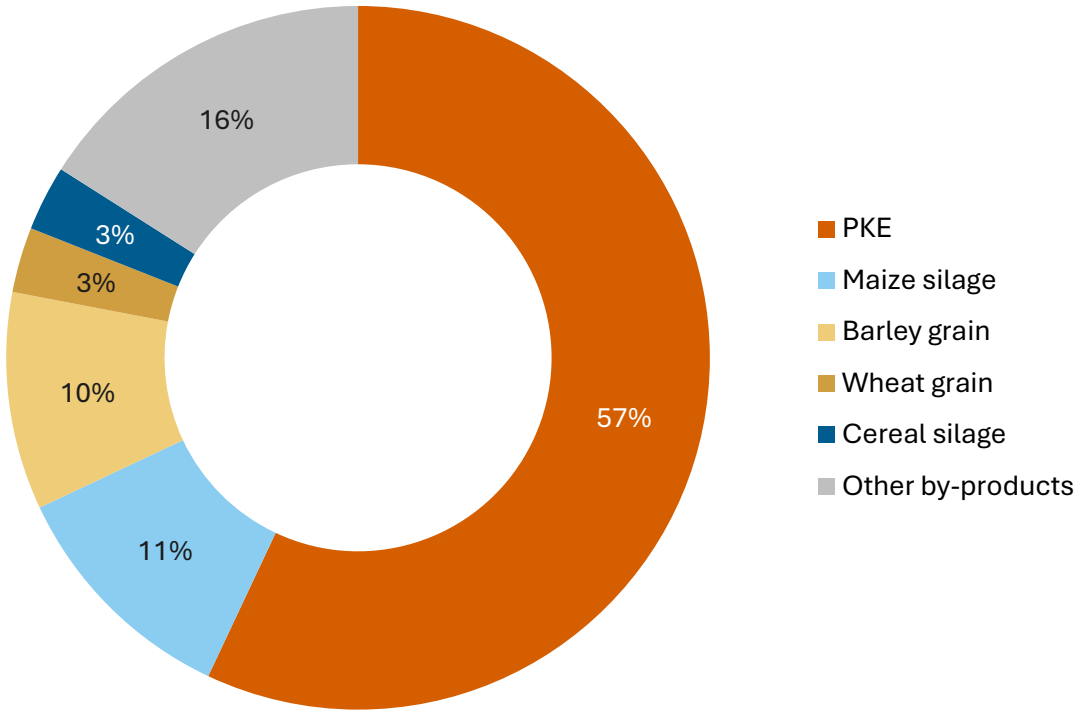
Canterbury dairy farms feed intake



2024-25. Other minor feeds = cereal whole-crop silage, barley, wheat, oats, maize grain, soyabean, tapioca.
Dashed line = energy demand.

What Canterbury cows eat beyond pasture

Imported supplement mix, Canterbury 2022-23 (MPI)



27%

of imported feed is arable product (maize silage, barley, wheat, cereal silage).

These figures are based on a report for MPI on supplementary feed use in 22/23

This report is currently being updated

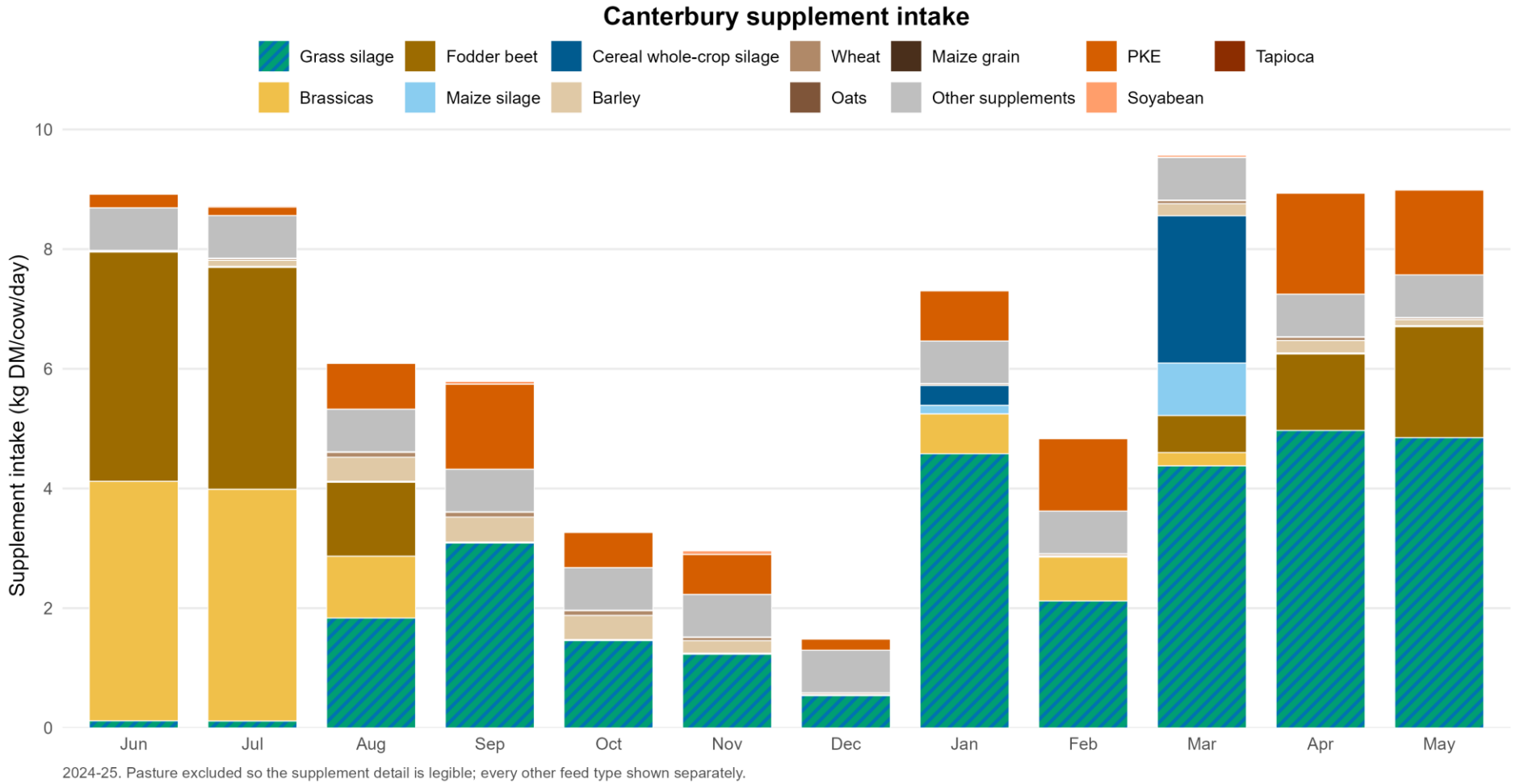
Likely changes...

- Overall more supplementary feed used
- Proportions remain relatively similar

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When dairy farms use supplementary feed



2024-25. Pasture excluded so the supplement detail is legible; every other feed type shown separately.

What one extra Canterbury cow needs on average in a year

5.7 t DM

Feed on the milking platform per cow

4.6 t home grown + 1.15 t imported
(System 4, 20% imported)

0.31 t DM

arable product imported per cow

Maize silage, barley, wheat and cereal silage: 27% of imported feed

0.044 ha

winter crop per cow

Off the platform for 70 days;
50:50 kale & fodder beet systems (average yield 17.6 t DM/ha: kale 15, fodder beet 22)

0.063 ha

heifer grazing pasture per cow

25 heifers per 100 cows at about 4 heifers/ha, weaning to 1 May before their second winter; pasture 14 t DM/ha @ 85% utilisation.

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What is the opportunity?

Supplementary feed fed during the season

~1.15t per cow extra feed

27% of this is imported feed:

- Maize silage
- Barley
- Wheat
- Cereal silage

Grass silage/baleage fed during the season

Large proportion of this is grown at home from surplus.

Generally still a good external market for this

- $120-140 bale (800kg)
- Around $0.35-$0.40 kgDM

Winter crop grown at graziers

Average per cow intake needed:

- 14kg DM offered for 70 days = 980kg DM
- 2kg DM straw for 70 days =140kg DM

Grazing fees:

- $40 - $50 per cow per week
- Crop sold in situ around 36-45c kgDM

R1 & R2 grazing

R1 yearlings 3-10 months, Oct-May
R2 heifers 11-22 months, May-May

Intake

- R1: 4-6 kgDM per day
- R2: 6-8 kgDM per day

Grazing fees:

- R1: $10-12 per week
- R2: $17-21 per week

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How many extra cows have been consented in Canterbury since January 2025?

The answer:

108,189

extra cows consented since Jan 2025 (granted + in process)



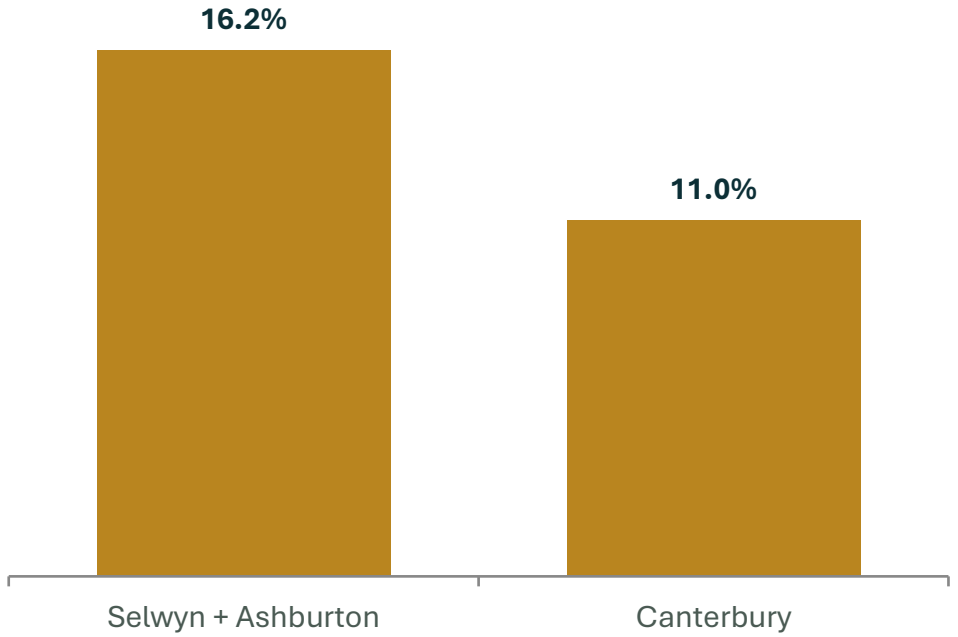
88,746 cows · 100 new conversions
Genuine conversions to dairy on 23,700 ha: a new shed and herd.

19,443 cows · 74 existing farms
Expansions: milking off added land or stocking harder on the same platform.

100,665
granted (158 consents)

+7,524
still in process (16 consents)

Consented cows as % of 2025-26 regional herd

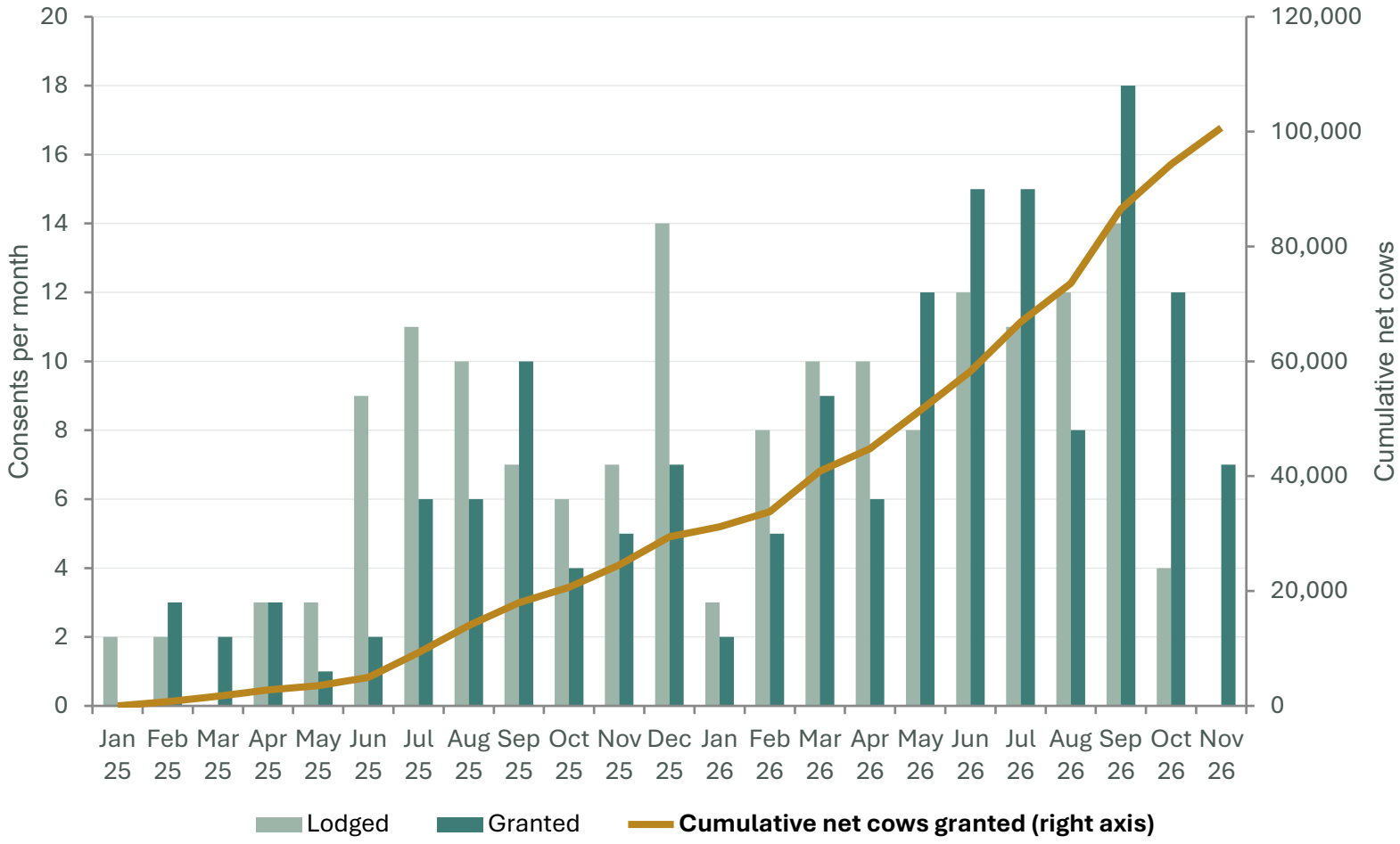


Source: 2025-26 Dairy Statistics

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Consents have accelerated through 2026



234 ha · 876 cows

the average conversion (3.7 cows/ha)

~85 days

average ECan decision time

How we worked it out

1. Consents

- 174 ECan dairy effluent consents, lodged 1 Jan 2025 – 13 Oct 2026
- Net extra cows = consented maximum less previous consent

2. Extra feed demand

- 470 kg MS/cow
- DairyNZ System 4: 20% of feed imported, 27% of it arable (MPI)
- Cow numbers: 95% of consented
- Heifer numbers: 25% of cows
- 100% off platform grazing - cows wintered and heifers grazed

3. Supply lost

- Converted land by previous use (ECan officer reports)
- FAR rotation and yields; B+LNZ farm surveys on mixed cropping farms
- Baseline arable production from FAR surveys & NZ Stats

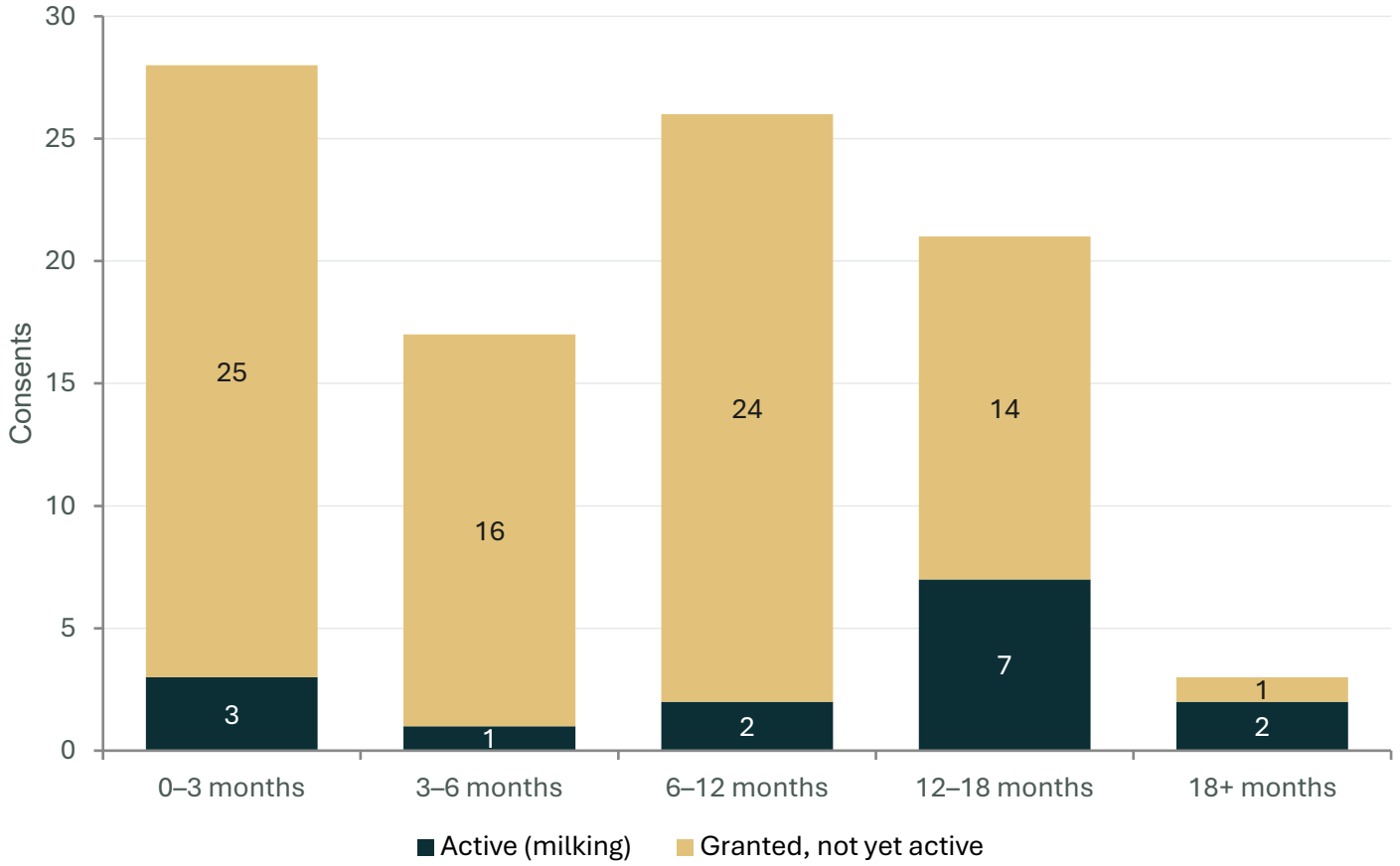
Net change in the market = extra dairy demand + arable and dairy support supply lost

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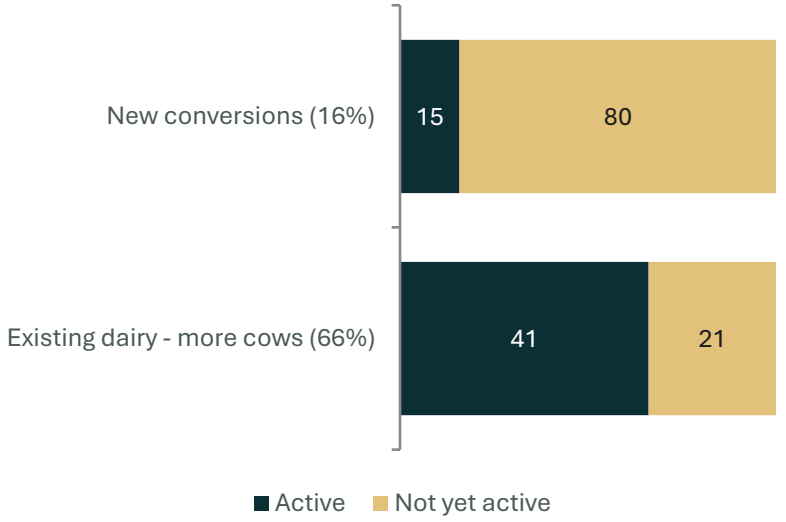
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It is a pipeline: most conversions are not milking yet

New conversions by time since consent was granted



Share of granted consents active, by type

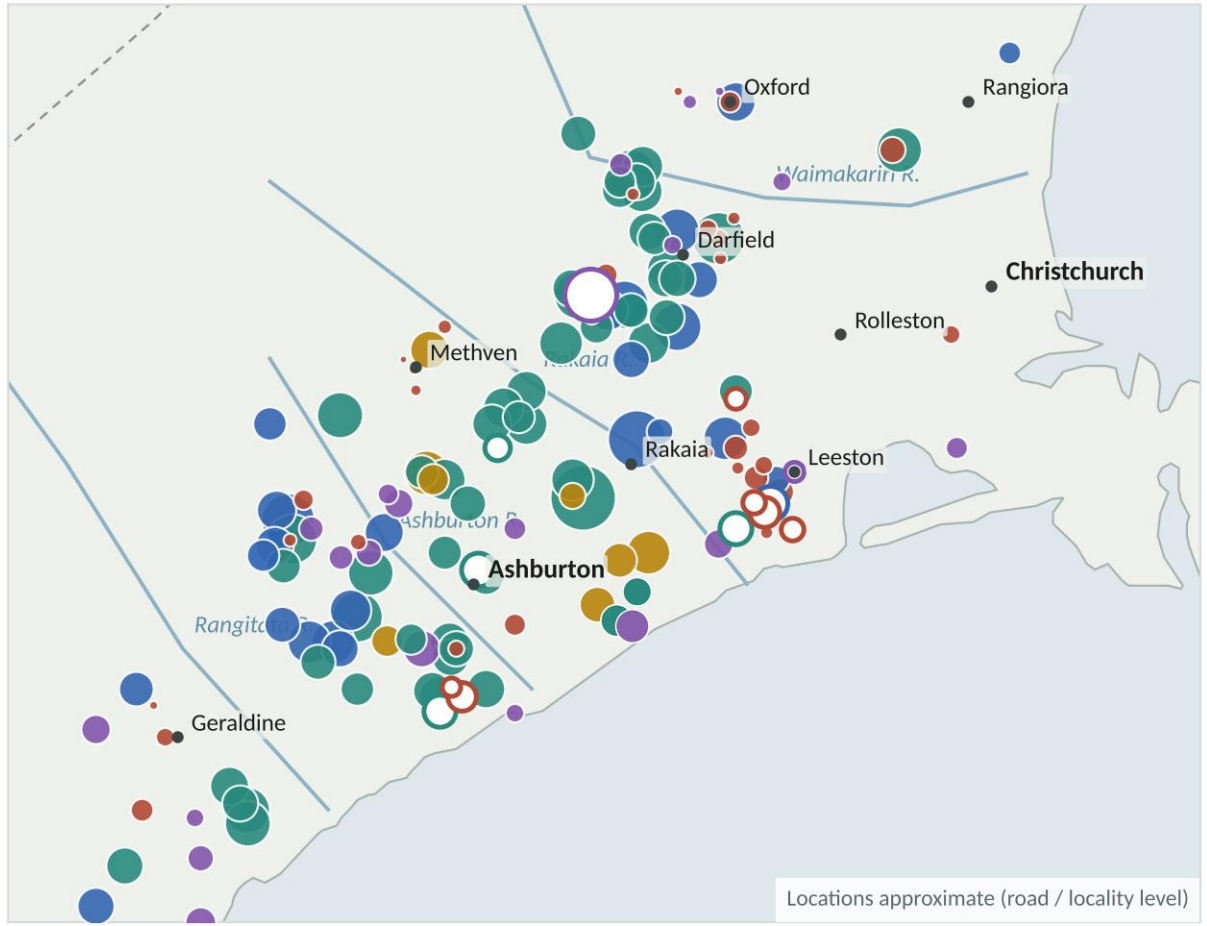


84% of granted new conversion cows not yet milked (~72,000 cows)

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Where the extra cows are going



COUNTED CONSENTS SINCE 1 JAN 2025

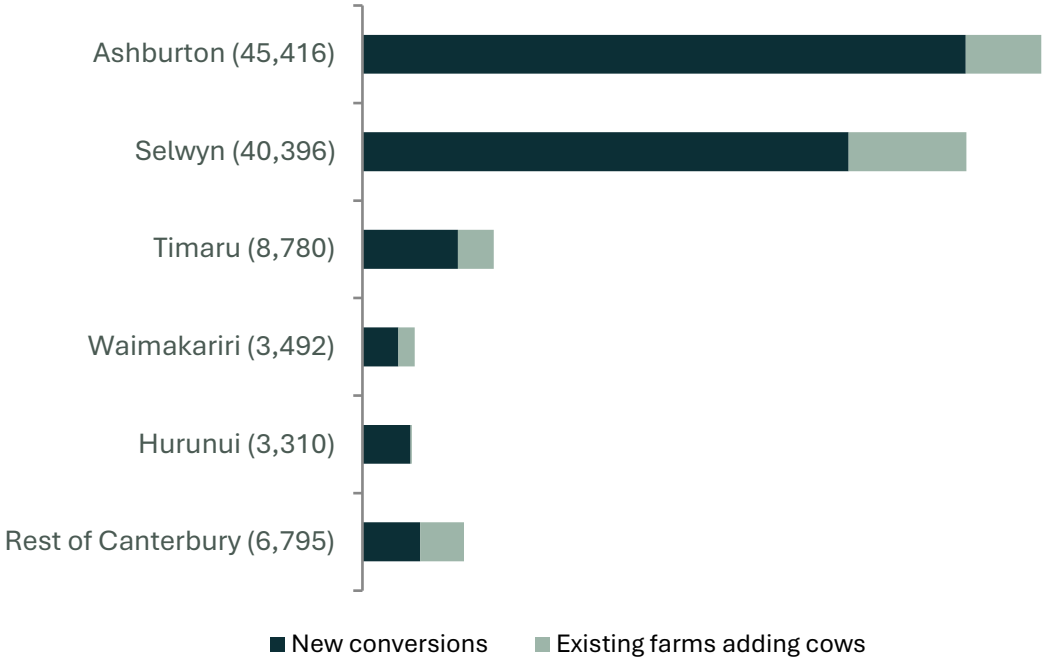
174
158 granted · 16 in process

108,189
net extra consented cows

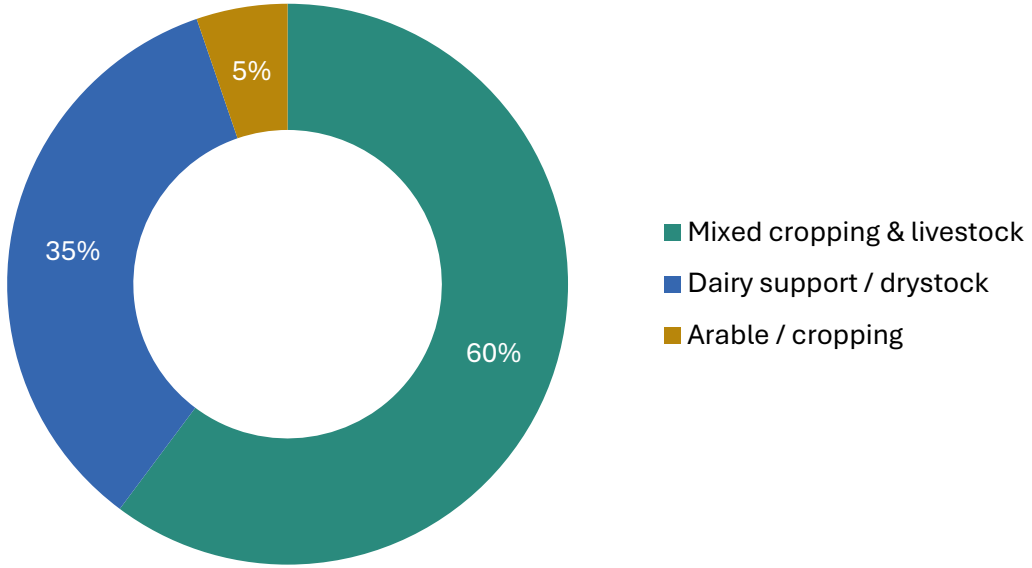
PREVIOUS LAND USE	#	cows
New conversions		
Mixed cropping & livestock	60	54,241
Dairy support / drystock	34	29,865
Arable / cropping	6	4,640
Existing dairy farms		
Existing farm – more cows	47	9,557
Existing farm – added block	27	9,886
Hollow = in process (not yet granted)		

Mostly mixed cropping and dairy support land, concentrated mid-Canterbury

Net extra consented cows by district

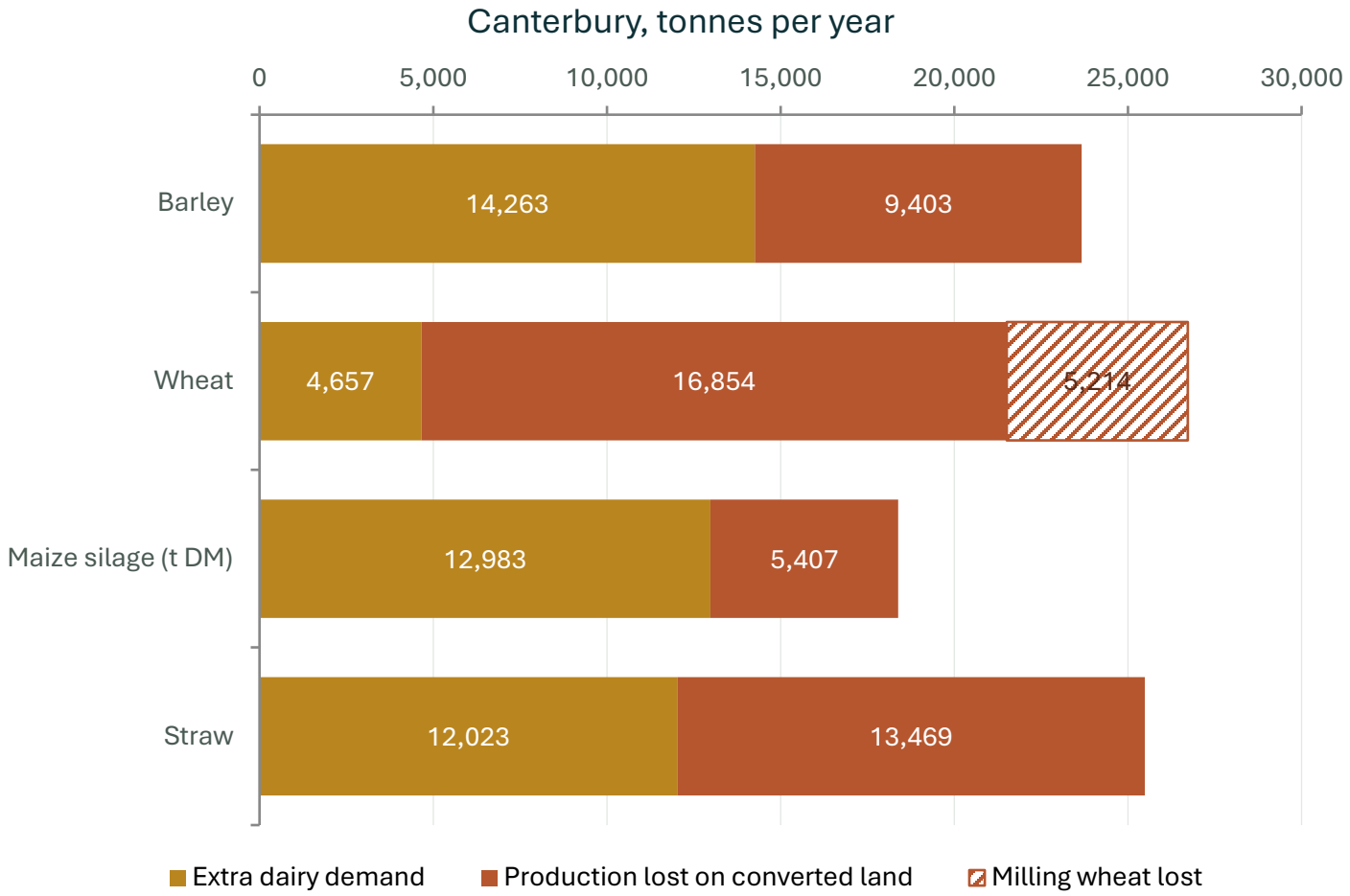


Previous use of converted land (23,742 ha)



≈ 8,400 ha of arable cropping lost (35% of new conversion area)

Grain, maize and straw: lost crop matters as much as new demand



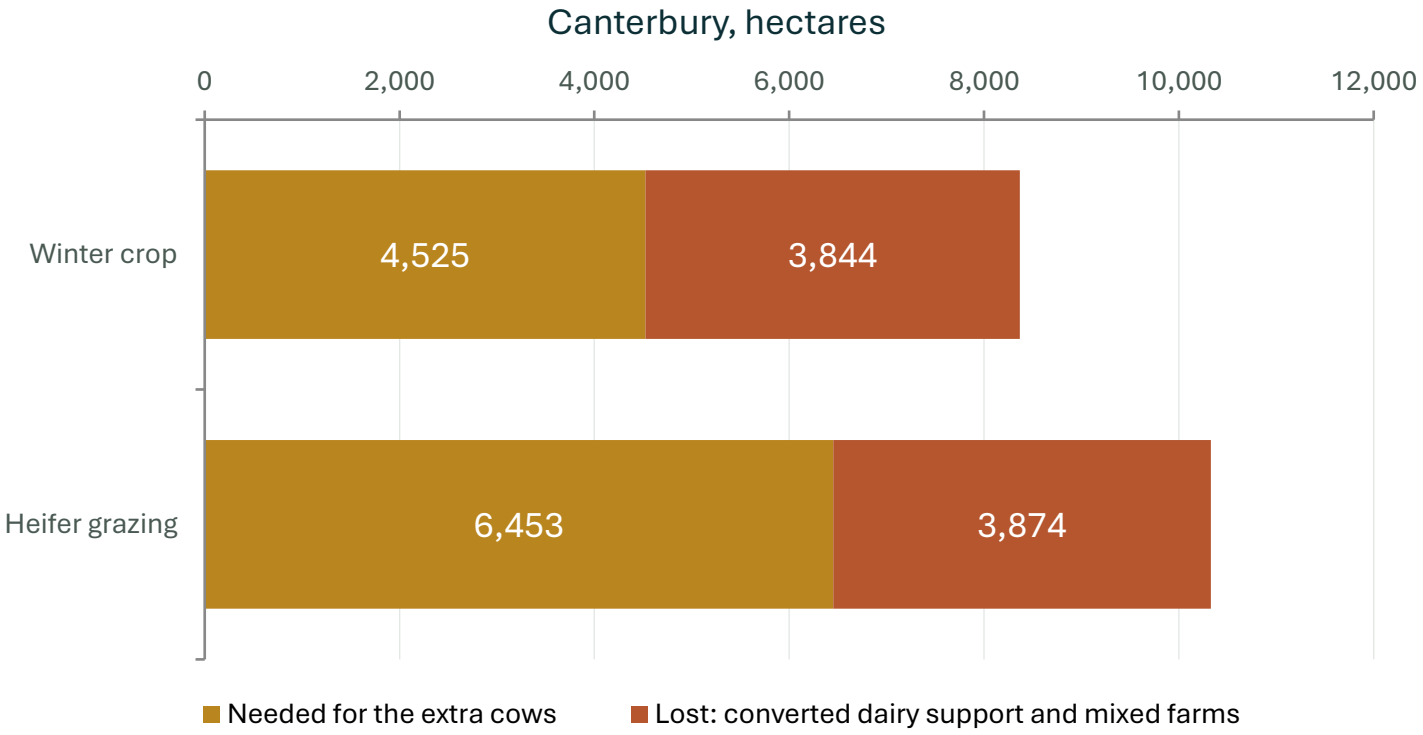
Net tighter	Canterbury	Sel + Ash
Barley	23,700 t (10%)	19,500 t (10%)
Wheat	26,700 t (9%)	22,900 t (12%)
Maize silage	18,400 t DM (12%)	15,000 t DM (17%)
Straw	25,500 t	21,200 t

In hectares: 5,300 ha of cereal to replace.

Plus ~1,050 t of grain in calf meal.

Baseline production: FAR AIMI & NZ Stats

Winter feed and grazing: a double squeeze, the biggest opportunity



~8,400 ha

winter crop tighter

~10,300 ha

heifer grazing tighter

How confident are we in these estimates?

Factors that could increase or decrease the estimated demand for crops and grazing

Could be lower

- **Not all conversions will proceed** - only 16% of granted conversions are milking so far
- **Fewer cows milked than consented max.**
- **Growers respond** - more cropping, higher yields
- **More PKE** if grain $ rise

Areas of uncertainty

- **Cropping area lost** - actual cropped area on mixed and dairy support farms is uncertain.
- **New dairy systems** - how much supplementary feed will they use?

Could be higher

- **Additional cropping land lost –** smaller expansions of existing dairy platforms onto cropping or support land aren't captured.
- **Conservative feed assumptions**
- **Only replacement heifers counted**
- **More consents coming**

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Summary

+108,000

extra cows

100 new conversions + 74 existing farms.

+11% on the 25/26 Canterbury herd.

~8,400 ha

arable cropping lost

35% of the 23,700 ha converted to dairy.

~10%

tighter for barley and wheat

~50,000 t a year ≈ 5,300 ha of cereal.

Maize silage 12% tighter.

~8,400 ha

winter crop needed

4,500 ha for extra cows + 3,800 ha lost.

~10,300 ha

heifer grazing pasture needed

6,500 ha for 25,700 extra heifers a year + 3,900 ha lost.

It is a pipeline: only 16% of granted conversions are milking, so the impact builds over the next 1-3 seasons.

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Questions



Data sources

Dairy consents: ECan new dairy effluent discharge consents, LGOIMA 3592 / 3592C (lodged 1 Jan 2025 – 13 Oct 2026); ECan consent search, officer and notification reports (status checked 15 Nov 2026)

Dairy herd and systems: DairyNZ New Zealand Dairy Statistics 2025/26; DairyNZ farm systems (System 4) and feed intakes

Imported feed mix: MPI Technical Paper 2024/38, Table 40: supplementary feed use, Canterbury 2022/23

Arable rotation, yields and straw: FAR representative rotation, crop yields and straw baled and sold (Donna Lill, FAR, Nov 2026)

Grain production baselines: FAR AIMI (Arable Industry Marketing Initiative) production, 2022–25: Canterbury and North/Mid Canterbury

Other baselines: Stats NZ Agricultural Production Statistics 2025 and 5-year averages (maize silage; grazing of dairy stock)

Mixed and dairy support farms: Beef + Lamb NZ Economic Farm Survey 2024/25 (Class 8 mixed cropping)

Winter crop yields: PGG Wrightson (kale 15, fodder beet 22 t DM/ha)

Calf meal: Advanced Feed (60 kg per calf, 70% grain)

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How each land use change is counted

Previous land use	Converted	Arable crop lost	Dairy winter crop lost	Heifer grazing lost
Arable / cropping 6 conversions	**1,248 ha**	100% in crop **1,248 ha**	6.6% of crop (FAR rotation) **80 ha**	None
Mixed cropping & livestock 60 conversions	**14,295 ha**	50% in crop **7,150 ha**	25% of crop **1,790 ha**	10% of pasture **710 ha**
Dairy support / drystock 34 conversions	**8,199 ha** (5,924 ha supplied dairy)	None	1/3 of dairy support area **1,970 ha**	2/3 × 80% of it **3,160 ha (+790 ha silage)**
Existing dairy farms adding cows 74 farms	**Not known**	Not counted	Not counted	Not counted
Total	**23,742 ha**	**8,400 ha**	**3,840 ha**	**3,870 ha**

Demand: every extra cow milked (95% of 108,189 ≈ 102,800) needs 0.31 t DM of arable feed a year

Net change = new demand + supply lost.

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Key assumptions

Milking cow diet (DairyNZ System 4)

Diet	% diet	kg DM/cow/d	t DM/cow/yr
Home grown (pasture + on-platform)	80%	15.62	4.59
Imported supplements	20%	3.91	1.15

Imported supplement mix (MPI, Canterbury 22-23)

Supplement	% imported	kg DM/cow/day	t DM/cow/yr
PKE	57%	2.23	0.655
Maize silage	11%	0.43	0.126
Barley grain	10%	0.39	0.115
Wheat grain	3%	0.12	0.034
Cereal silage (whole crop)	3%	0.12	0.034
Other by-products	16%	0.62	0.184
Total	**100%**	**3.91**	**1.148**

Cow: 450 kg Friesian-Jersey, 470 kg MS/cow (N Canterbury 2024/25: 466)

Intake: 16.6 kg DM eaten/cow/day; 19.5 kg offered at 85% utilisation

Herd milked: 95% of consented max for feed; consent counts at 100%

Wintering: 100% off the milking platform, 70 days; 50% kale (+ straw) / 50% fodder beet (+ baleage)

Winter yields: Kale 15 t DM/ha, fodder beet 22 t DM/ha (PGGW)

Arable yields: Feed wheat (11 t/ha), barley (8 t/ha), maize silage (66 tDM/ha), 35% wheat straw baled and sold, 67% barley straw baled and sold

Replacements: 25% of cows (allows for heifer losses); grazed weaning to 1 May before 2nd winter, 14 t DM/ha × 85%

Dairy area: From ECan officer reports; 18 conversions estimated at cows ÷ 3.7 (new-conversion average)

Land in arable: Arable farms 100%, mixed 50%, dairy support 0% = 35% of area. Mixed 50% in arable rotation ≈ 38% of farm in cash crop (rotation ~75% cash crop), in line with B+LNZ Class 8 at 36–39%

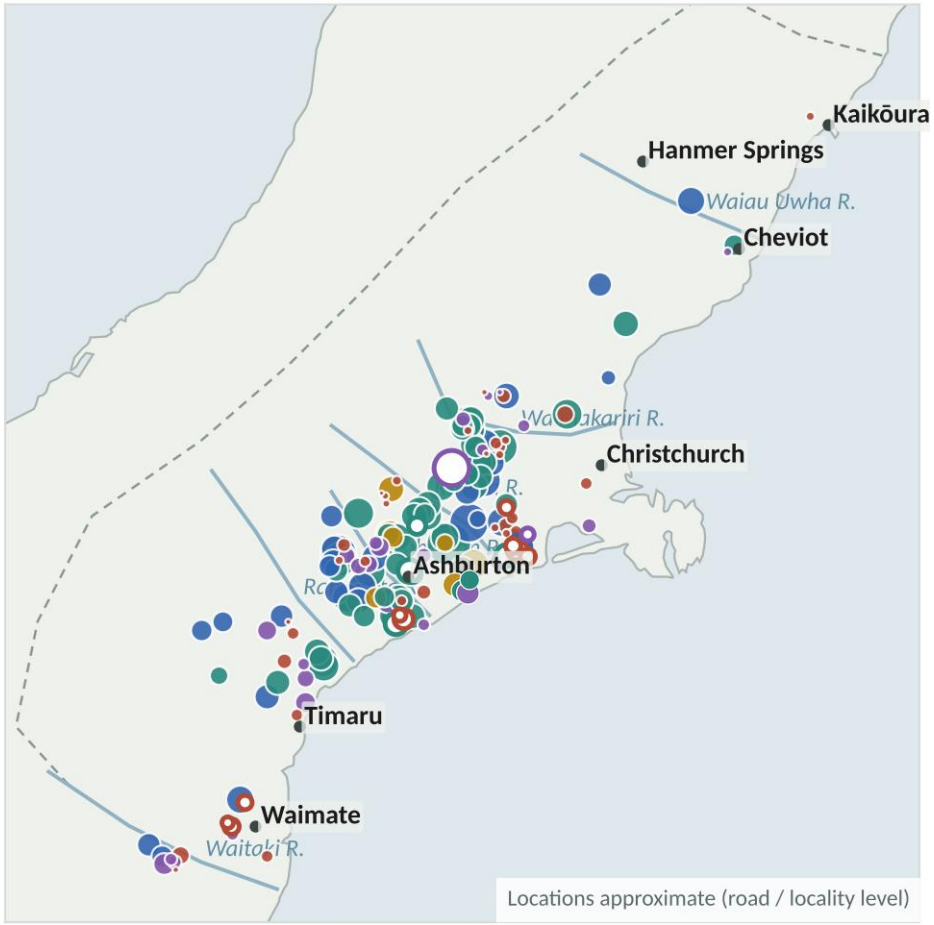
Dairy support lost: Sheep & beef 0%, part-beef 50% per consent; 1/3 winter forage, rest 80% grazing / 20% silage; mixed farms 25% of crop in winter feed, 10% of pasture in heifer grazing

Data window: Consents lodged 1 Jan 2025 – 13 Oct 2026; status as at 15 Nov 2026

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All Canterbury consents



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Net extra cows = consented maximum less any previous consent; all of it is used in the model.