

HOW CAN NZ FARMERS SHIFT AND DIVERSIFY

Information pack
for farmers

SURGE

surgeactivism.org



ACKNOWLEDGEMENTS

Surge would like to say a huge thank you to Jackie Norman from Vegan FTA, Kate Sabin, Julia Ekwall, and all those volunteers, who have provided valuable bits and pieces for helping complete this document and to Dean Silveira for the design and layout of this document.

FOREWORD

"Farming is still our future, but farming animals is becoming a thing of the past. The world needs farmers now more than ever – we just need them to be farming something else. Something not only more sustainable, but something which will provide the population with the nutritional diversity and resilience needed in today's climate. As a former dairy and beef farmer of 18 years, I can vouch there is a quality of life and freedom away from the cowshed I had forgotten existed. The future is bright and the benefits are limitless, but we can't expect farmers to make everything happen on their own. We can all play a valuable part in helping them transition into the farmers of the future."

~ Jackie Norman, ex-farmer turned vegan advocate, and writer and interviewer for the organisation Vegan FTA

"Leaving the dairy industry was logistically difficult, we left behind our home, our livelihood and some of our family members. What we gained though was immeasurably more important... we gained the peace of no longer being responsible for causing pain, suffering and death to the beautiful beings that never deserved the fate we were handing them."

~ Jessica Strathdee, ex-dairy farmer

INDEX

1. Why is there a need to transition farms?
2. If not livestock and dairy, what options do farmers have?
 - a. Specifically for farmers in Canterbury, Southland, the Wairarapa and Waikato
3. The example of oats - why oats could be an option for NZ farmers to shift
 - a. A short history lesson: An overview of NZ dairy farming
 - b. Benefits of oat farming
 - c. Risks/disadvantages of oat farming
 - d. Oat potential
4. What organisations and companies can help farmers shift?
 - a. Organisations
 - b. Veganic agriculture, permaculture, regenerative agriculture
 - c. Hemp
 - d. Mushrooms
5. Alternative land use and landscape conservation
6. Funding and grants: What financial support is there for farmers to shift?
7. What farms have successfully shifted or are in the process of?
8. Further reading

1.

WHY IS THERE A NEED TO TRANSITION FARMS?

- Severe weather changes associated with climate change, e.g. droughts and floods
- Pollution of groundwater due to waste (mainly nitrogen leakage) from livestock farms
- Oversupply of milk due to a fall in consumer demand for dairy and dairy products and an increase in demand for plant-based milk - part of the solution for a sustainable future and climate change reduction
- Pandemics (e.g. Covid) stemming from animal farming and animal product consumption
- Very high farm debts
- Tariffs on animal farms
- Supply chain businesses (equipment, chemicals) fragility
- Corporate farming over small-scale farming
- Government policies that are not conducive to small-scale farmers
- Need for farmers to create different income streams to de-risk
- Growth in demand for organic and veganic farming
- Customers preference to buy local products
- Terrible working conditions for farm and slaughterhouse workers, many of these workers being migrants and refugees
- Poor animal care, overcrowded farms, unsanitary conditions conducive to disease for both animals and farmworkers

To learn more about the cattle farming industry, we recommend the article titled "Cattle Farming Is One of the Most Destructive Industries on the Planet" published by Sentient Media.

2.

IF NOT LIVESTOCK AND DAIRY, WHAT OPTIONS DO FARMERS HAVE?

For a very comprehensive list with multiple suggestions for farmers interested in transitioning, check out *100 Ways to Farm Stock Free* by Farmers For Stock-Free Farming.

The following is a summary of what options are available for farmers:

1. Production of fruits, vegetables, grains, and high-protein crops (peas, beans, hemp, pumpkin seeds, quinoa, etc.), which can also be used for more processed plant-based products. A full transition away from livestock/dairy would ideally imply practising veganic agriculture. The Plant Based Data library has one section with great research and information on veganic and sustainable farming.

2. Community Supported Agriculture allows consumers to be very involved in the farm and production of their food through investment in the farm, sharing the production costs, accepting a share in the harvest or providing labour.

3. Production of key ingredients for plant-based products, e.g., plant-based meats or plant-based milks. Many New Zealand food companies source ingredients from abroad but especially some vegan food companies have expressed interest in sourcing more ingredients domestically. This could be an opportunity for New Zealand farmers to transition from livestock/dairy to growing ingredients that these companies could use for their products.

In its recent report, Emerging Protein NZ points out that “the interest in emerging proteins has sparked as [farmers] look for opportunities to shift to higher-value crops that would be used for (higher value) human foods rather than animal feed. For many animal farmers, interest has been stimulated as part of an evaluation of potential responses to tightening environmental limitations (either now or expected in the future).”

4. Indoor vertical farming

5. Repurposing dairy equipment for example for brewing beer

6. Rewilding former pasture land, tree-planting, and better soil management, all of which can capture carbon (and region-/ country farmers can get paid for carbon credits this way). An “adopt-a-tree or dedicate-a-tree programme” on former pasture land might also a possibility.

7. Renewable energy as wind and solar farming that, depending on the region/country, can be sold to governments or energy companies.

8. Offer a few rooms to create a B&B or “glamping”

9. Rent out rooms for storage or as event spaces (e.g. for weddings, conferences, fairs, etc.)

10. Ecotourism on reforested land/land unsuitable for producing crops

11. Farm tourism which includes services like accommodation, recreational activities, educational and entertainment activities. It provides an avenue for the sale of produce from farms and to cope with the effects of competition and change in policies. For an example of how vegan B&B's or hotels could look like, take a look at VeggieHotels. Some of the places feature farmhouses that were renovated. Many of these former farms still grow produce to serve at the new hotels.

12. Turn the farm into a sanctuary and start an "adopt an animal" and/or educational programme

Three types of diversification are possible:

- Agricultural diversification = use of farm resources to produce new sources of income (e.g. crop products, animal products, and farm woodland)
- Structural or business diversification = farm households have a variety of income from business activities (e.g. tourism, and value-added activities) that are run on the farm or are partly dependent on the farm-based land and capital assets
- Passive diversification = includes leasing of agricultural land and buildings

It is highly recommended that farmers don't only rely on one source of income but instead try to establish 2 to 3 different sources of revenue.

According to a very detailed study by the Plant and Food Research titled “Opportunities in plant-based foods- PROTEIN”, New Zealand-grown crops that could be used as protein sources for human consumption include **“alfalfa (lucerne), barley, beans (various), canola, hemp, kumara, linseed, lupin, white maize, oats, peas (yellow), peas (green/wrinkled), potato, walnut, and wheat”**.

Crops with market potential like **“soy, amaranth, quinoa, millet, sorghum, arrowroot/taro, chia, rice, chickpea, sunflower, sesame, [...] tree nuts, and peanuts”** are not grown much in New Zealand, yet, but niche locations that have the right soil, water and climate, would allow for their production.

The Foundation for Arable Research (FAR) has also been conducting several studies and has found that following the crops have good potential in NZ: milling wheat (a lot is imported but there has been great support to grow it locally), sunflowers (mainly for oil), oats, durum wheat, fava beans, lupins, chickpeas, and lentils. See FAR's study for more detail.

Additionally, sowing a pasture mix can help regenerate the soil that has been degraded by intensive livestock farming the soil. The crops sown can also serve as an additional source of income. Such a mix could be made out of sunflowers, kale, plantain, phacelia, vetch, buckwheat, various types of clover, oats, ryecorn, prairie grass and linseed. This is a very diverse and thus soil-enriching polyculture rather than just a monoculture of, for example, ryegrass. It has already been used to regenerate land for instance degraded by intensive dairy farming.

Specifically for farmers in Canterbury, Southland, the Wairarapa and Waikato

Apart from these case studies, according to a few agronomists and farmers we spoke with, the following crops can be grown in Canterbury, Southland, the Wairarapa and Waikato, which are some of the main dairy-producing regions in New Zealand. Most of these crops are not grown much yet in these regions, so there is a lot of potential both for local consumption and export.

(Note, just because we highlight these regions, it doesn't mean that the crops listed below can't be grown in other regions as well. Dairy and livestock are produced all over New Zealand and shifting current cattle/sheep land to grow some of the crops listed below is possible.)

Canterbury:

- Hemp (see for example [The Brothers Green](#) or [Hemp Connect](#))
- Peas (there are approximately 220 growers in Canterbury who grow for [Wattie's](#))
- Quinoa (lots of areas have high potential for [quinoa](#))
- Soybean (one of New Zealand's top 6 potential '[star crops](#)')
- [Sunflowers](#) e.g. for oil (see [FAR's study](#))
- Oats (Canterbury is the largest harvester of oats in NZ - [see oats grown by region](#))
- Barley (Canterbury is the largest harvester of oats in NZ - [see barley grown by region](#))
- Wheat (Canterbury is the largest harvester of wheat in NZ - [see wheat grown by region](#))

Southland:

- Hemp (a former Mātaura Paper Mill is converting to a hemp propagating and manufacturing business)
- Oats (Southland is the second-largest producer of oats in NZ - see Oats Grown by Region)
- Barley
- Wheat

Wairarapa:

- Durum wheat (see FAR's study)
- Peas (especially since the announcement that an insect pest had been successfully eradicated, which had resulted in a ban on growing peas in the region)
- Oats

Waikato

- Fruit and vegetables, particularly potatoes, onions, asparagus, kiwifruit, blueberries, carrots and apples in 'one of New Zealand's most prominent growing areas', though several policies are needed to ensure the horticultural potential of the region can be met sustainably

3.

THE EXAMPLE OF OATS - WHY OATS COULD BE AN OPTION FOR NZ FARMERS TO SHIFT TO

The following section is a brief overview of NZ dairy farming and the potential of oat production according to an oat farmer (below abbreviated as B.) located near Dunedin who grows oats on 20 hectares. His ancestors were dairy farmers but he and his parents have always been oat growers.

A short history lessons: An overview of NZ dairy farming

- Over the last 100 years, farms have grown massively in size (for economies of scale) – both animal and crop farms.
- 1980s – sheep farming was subsidised so sheep farmers were earning a good income while dairy farmers weren't.
- Then the EU introduced milk quotas to stabilise prices (and avoid short-term supply fluctuations).
- NZ was in a rare position to produce as much dairy as wanted and export it to the EU. Large-scale production benefits from economies of scale made NZ dairy competitive.
- The NZ government helped convert farms to dairying e.g. interest-free loans to convert buildings.

- Like most crops, oats also need to be rotated with other crops to replenish the soil so oat growers can't grow oats continuously on the same land year after year.
- Less-volatile/ risky investments (e.g. housing) are more likely to get funding from banks, which is a threat to oat farmers.
- The biggest challenge to get into oat farming is the significant investment required for equipment changes (e.g. combine harvesters). Each oat farm needs its own equipment – equipment can't really be shared as all farms require the equipment at the same time (on days where the weather is suitable for harvesting).

Oat potential

- Over the last 10 years, NZ farmers have trialled different varieties of oats.
- Keith Armstrong helped develop the bigger oat varieties in NZ, which have 2 big stems per head (as opposed to 3 smaller ones, which is common in other parts of the world). Bigger oats have a better starch to husk ratio.
- Farmers tend to use straw shorteners to keep oats stronger and wind-resistant.
- Oat husks have limited use e.g. fertiliser or as a supplement to lower blood sugar levels. They are light in weight but take up a lot of space so they are difficult to transport/process, however, there is a lot of potential here to find more uses for the oat husk.

4.

WHAT ORGANISATIONS & COMPANIES CAN HELP FARMERS SHIFT?

Organisations

1. Farmers for Stock-Free Farming, a Scottish-based initiative helping farmers start diversifying enterprises, restoring native trees/ecosystems, and growing crops for human consumption. On their website, they already list “100 ways to farm stock-free”: growing crops, repurposing buildings, alternative land use, renewable energy, tourism, and hospitality; the list contains resources and examples for any kind of farmer. Even though they are based in Scotland, their suggestions are applicable globally.
2. Vegan Organic Network - many very informative articles and documents (mainly about growing)
3. Transfarmation by Mercy for Animals
4. The Open Sanctuary Project has great resources to turn animal farms into sanctuaries.
5. The Vegan Society (UK) - They don't work directly with farmers but as part of their Grow Green campaign, they have put together reports outlining what options farmers could have to transition and also what alternatives farmers have to commercial grazing.
6. 50 by 40 - They don't work directly with farmers but put together a report outlining how just farm transitions could happen globally.
7. Leftfield Innovation - they provide services such as advice on crop selection, on-farm information systems, supply agreements and supply chain management, food science, and consumer insights.

Veganic agriculture, permaculture, regenerative agriculture:

1. Great resources about regenerative farming put together by [Quorum Sense](#) - some regenerative practices mentioned on the website still include animals, so take a look at those that are without animals.

2. [Foundation for Arable Research](#) (FAR) - They have helped many animal farmers diversify into crop farming in combination with animal farming. Though they haven't helped a farm transition completely away from animal farming, they can help farmers take the first steps to start shifting.

3. [Tolhurst Organic](#) - veganic organic agriculture, a shop and consultancy. They teach workshops and actively help farmers adopt more sustainable agricultural practices.

4. [Processors and Growers Research Organisation](#) (PGRO) - applied research and talks and courses for farmers interested in growing pulse crops and vegetables.

1. [Symbiosis](#) - tips and tricks for regenerative agriculture

2. [Linburn Station](#) - more tips and tricks for regenerative agriculture

3. [Shangri-La](#) - vegan educational centre

4. [Gentle World](#) - vegan non-profit

5. [Biocyclic Vegan Agriculture](#)

Hemp:

1. Hemp New Zealand - from seed to shelf: This company provides services all the way from soil testing and seed supply to harvest, transport and processing.
2. New Zealand Hemp Industry Associates (NZHIA) - their website has a great guide for growing, harvesting and processing hemp.

Mushrooms:

The following companies can teach farmers how to become mushroom producers or offer education resources and grow kits:

1. NZ cultures - can teach farmers how to become mushroom growers
2. Mushroom Gourmet - grow kits, educational materials and small business courses
3. GroCycle - free downloadable e-book, online course and videos on growing mushrooms the “low-tech” way

5.

ALTERNATIVE LAND USE AND LANDSCAPE CONSERVATION

The following are examples of some organisations that are supporting rewilding efforts:

1. Gentle World
2. Regen Network - farmers can get paid for ecological practices, such as cover cropping, crop rotation, and agroforestry, and individuals or businesses can buy carbon credits

6.

FUNDING AND GRANTS: WHAT FINANCIAL SUPPORT IS THERE FOR FARMERS TO SHIFT?

1. The Ministry for Primary Industry has many grants related to sustainable farming that could be applied to farm transition programmes.
2. Direct Grant - funding for tree planting
3. Terra Viva Agriculture Grants
4. Sustainable Food and Fibre Futures - funding for a variety of projects with sustainable benefits. Examples currently include alternative proteins, arable, and horticulture
5. Canterbury Biodiversity Funding - funding for the protection or restoration of indigenous plants or animals and their habitats
6. Jobs for Nature - funding for a variety of projects that bring people into nature-based employment

7. AGMARDT - funding for innovative projects in agriculture, horticulture, and forestry
8. Global Vegan Crowdfunder - crowdfunding for ethical and ecological change
9. Regional Environment and Natural Heritage Grant - funding for projects that focus on the protection, restoration, or enhancement of Auckland's environment or encourage the adoption of environmentally sustainable lifestyles

7.

WHAT FARMS AND FARMERS HAVE SUCCESSFULLY SHIFTED OR ARE IN THE PROCESS OF?

1. Jackie Norman - a former beef/dairy farmer who now advocates for farm shifts
2. Jessica Strathdee - a former dairy farmer who now advocates for farm shifts
3. James Wilson - a former sheep farmer who now advocates for farm shifts
4. Larrys Gold - a dairy farming family that is transitioning to growing hemp
5. Cannok Harvest - from dairy to hemp and pumpkin seed production
6. Lawrence Candy (UK) - from beef and dairy to veganic cereals
7. Ohau Gourmet Mushrooms - not a farm shift but an example of a mushroom farm taking off with the rise of veganism
8. NZ Functional Foods Ltd. - not a farm shift but an example of a plant-based milk factory in NZ due to the rise in consumption of plant-based foods and business opportunities coming with these changes in diets

8.

FURTHER READING

If you would like to read more about the current farming landscape and relevant studies related to agriculture, we suggest you take a look at some of the following studies:

1. [The Plant Based Data library has one section with great research and information on veganic and sustainable farming.](#)
2. [Opportunities in plant based foods – PROTEIN \(NZ\)](#)
3. [A few other suggested articles and videos by the Plant & Food Research](#)
4. [Plant-based diets could protect both health and climate in New Zealand](#)
5. [HUNGRY FOR Plant-Based: NEW ZEALAND Consumer Insights](#)
6. [Can New Zealand Transition to a plant-based future?](#)
7. [Not your typical sheep paddock: why sunflowers and lentils herald NZ's regenerative revolution](#)
8. [But what about boil up? How Māori are embracing veganism](#)
9. [Climate Change with Negative Emissions](#)
10. [Mushroom Market Size, Share, Growth - Industry Analysis 2026](#)
11. [Our Carbon Footprint](#) - the footprint of a veganic, regenerative farm in the UK
12. [Solutions For The Farm Of The Future Executive Summary](#)
13. [Why Hemp Is an Attractive Alternative Crop to OSR](#)
14. [The Promises and Pitfalls of Regenerative Agriculture](#)
15. [Greens want to clean up agriculture with \\$300m fund for farms - but there's a catch](#)
16. [Vertical Farming Forum](#) a forum for members to discuss vertical, indoor, and urban farming.
17. [The Green Protein Report](#)
18. [Avocado is the New Black: Opportunities for New Zealand Avocados](#)
19. [Global Hemp Markets](#)
20. [Innovation Scan of the Netherlands and New Zealand: Market for Sustainable Protein Still Growing](#)
21. [Oat Milk Company Plans Purpose-Built Factory to Meet Surging Demand](#)

In case you have any questions, require any further information, or would like to connect with any of the farmers who have already shifted, please send an email to tatir@surgeactivism.com.