

6 Food and Fibre

6.1 STRATEGIC CONTEXT

Plan Melbourne

Direction 4.5 of Plan Melbourne states that planning for Melbourne's peri-urban areas is required to:

- Support existing and potential agribusiness activities, forestry, food production and tourism.

Future growth in peri-urban areas will be managed to protect **productive land**, strategic economic resources, heritage and biodiversity assets, while accommodating additional housing and employment in established towns in the outer peri-urban areas that have the capacity for growth.

Consistent with Plan Melbourne and the Regional Growth Plans, planning for peri-urban areas should:

- Define and protect areas that are strategically important to the metropolitan area and the state, for the environment, biodiversity, landscape, open space, water, **agriculture**, energy, recreation, tourism, environment, cultural heritage, infrastructure, extractive and other natural resources.

Desired planning outcomes for peri-urban areas includes:

- Protect agricultural land from incompatible uses, maintain farm size, promote the continuation of farming and provide a secure long- term future for productive and sustainable agriculture.

In response to Action 17 of the **Plan Melbourne Implementation Actions: Plan Melbourne 2017-2050**, DELWP exhibited a discussion paper **Planning for Melbourne's Green Wedges and Agricultural Land**³². The paper outlined a number of options to improve protection of agricultural land in recognition of the importance of Melbourne's agricultural land, and in response to the following issues:

- Increasing land speculation and pressure to convert farmland to other uses.
- Increasing appetite for rural lifestyles and use of these areas for a range of urban activities.

- Incremental and irreversible loss of land that is agriculturally productive or has important non- urban uses.
- More land use conflict, particularly where urban areas adjoin rural areas.

A Government response to the consultation findings have yet to be released. However, the land use outcomes that were being sought through the various options are relevant to this study and included:

- Minimise further subdivision that would create more lots or smaller lots that currently provided for in the planning scheme in the FZ and RAZ.
- Minimise subdivision in the FZ and RAZ that results in creation of a lot for an existing dwelling that is smaller than the minimum lot size.
- Minimise new dwellings in the FZ.
- Delineate areas with potential for future growth in irrigated agriculture.
- Identify and protect areas with secure water resources for agricultural uses.
- Provide certainty that these areas will continue as key agricultural areas into the future.
- Protect areas of significant water infrastructure investment
- Limit non-farming and incompatible uses that would restrict ongoing productive use of land for agricultural purposes.
- Protect buffers of identified areas from encroaching sensitive uses such as dwellings to ensure agricultural activities continue without restrictions.

Central Highlands Regional Growth Plan¹⁶

The Regional Growth Plan recognises the importance of agriculture to the region and seeks to promote the industry's growth, adaptation and transition to maintain viability, protect productive agricultural change and encourage investment in agriculture by providing certainty regarding future land use within rural areas. Future directions for agriculture include:

- Recognise the Central Highland region's regionally significant rural and agricultural assets in land use planning, including the areas of highly productive and versatile soils within Moorabool, Ballarat and Hepburn, the Bacchus Marsh Irrigation District and the Pyrenees wine region.

³² DELWP (2020) Planning for Melbourne's Green Wedges and Agricultural Land

- Provide greater certainty of land use in rural areas to encourage new investment in agricultural activities that enables growth of exports, increased productivity and strengthens farming communities.
- Manage versatile and productive agricultural areas for primary production by providing for a range of flexible rural uses, while protecting such areas from incompatible land uses.
- Support and protect opportunities for intensive agriculture in areas with excellent access to markets, and where potential amenity and water catchment impacts can be appropriately managed.

The Plan recommended the following land use policies, strategies and actions:

- Review planning schemes to recognise the need to support investment in agriculture by providing:
 - more clarity about the long-term designation of land for primary production
 - flexibility in terms of the types of rural activities that can occur on rural land to support its ongoing viability.
- Identify important agricultural areas and the need to protect them in planning schemes from unplanned loss due to permanent changes of land use.
- Provide policy support and direction in planning schemes on appropriate locations for intensive agricultural activities, including in the areas identified by this plan.
- Provide policy support in planning schemes for infrastructure projects that will benefit agriculture such as improved transport routes to markets and the supply of reticulated services such as water to intensive agriculture facilities to enable further growth.

Fertile Ground Hepburn Shire Economic Development Strategy 2016-2021

The Economic Development Strategy is now out of date and requires a refresh. The Strategy recognises the agricultural industry as the economic ‘backbone’ of the Shire and set out initiatives and projects focused on supporting the agricultural value chain and emerging agricultural sectors. Tourism is the Shire’s largest employer and initiatives and projects aim to improve visitor experiences and attractions. Business development initiatives aim to support the agriculture, tourism, retail and other sectors.

Hepburn Community Transition Plan³³

The Community Transition Plan sets out initiatives for the Shire to achieve zero emissions by 2029. Agriculture and land use change are identified as significant contributors

Hepburn Shire’s emissions and a number of programs have been identified to reduce emissions and sequester carbon. Some programs may have implications for rural land use e.g. Trentham Carbon Forestry Project³⁴ which seeks to boost carbon sequestration and biodiversity while maintaining a source of timber for fire and construction by selective harvesting within new local woodlots.

Hepburn Planning Scheme Review²

The review found that the Hepburn Community considers agricultural land a valuable resource that should be protected and that a more flexible approach to what constitutes agriculture should be considered with potential for innovation and different farming practices. A range of potential planning scheme actions were tested with the community. There was agreement that further work was needed in this area to support policy development with the most controversial area being whether minimum lot sizes should be increased or decreased.

6.2 POLICY CONTEXT

02.03-7 Economic development

Rural enterprises

Hepburn Shire is a significant agricultural region and part of Melbourne’s ‘food bowl’. The region’s contribution will become of even greater importance to the State in adapting to a changing climate. High quality agricultural land is used for horticulture, grazing and other rural industries. Other rural land is important for its contribution to the Shire’s landscape and environmental setting and important for tourism attraction. The fragmentation of agricultural land through unmanaged subdivision and housing in rural areas has the potential to undermine established rural uses and must be carefully planned to maintain the long-term productivity of rural land. Rural living development not associated with agricultural enterprises needs to be directed around established townships and settlements.

Council’s strategic directions for economic development are to:

- Maintain and protect agricultural land by avoiding fragmentation and commercial uses that may lead to loss of, or limitations for, production.
- Protect industry and business from encroachment of incompatible land use and development by applying the ‘agent of change’ principle.

³³ Hepburn Shire (2019) Community Transition Plan: A 10-year Masterplan for the Hepburn Shire to reach 100% renewable electricity supply, zero-net energy and zero-net emissions 2019 - 2029

³⁴ <https://hepburnznet.org.au>

11.03-3S Peri-urban areas

- Manage growth in peri-urban areas to protect and enhance their identified valued attributes by:
 - Identify and protect areas that are strategically important for the environment, biodiversity, landscape, open space, water, agriculture, energy, recreation, tourism, environment, cultural heritage, infrastructure, extractive and other natural resources.
 - Establish growth boundaries for peri-urban towns to avoid urban sprawl and protect agricultural land and environmental assets.

14.01-2S Encourage sustainable agricultural land use by:

- Ensure agricultural and productive rural land use activities are managed to maintain the long-term sustainable use and management of existing natural resources.
- Support the development of innovative and sustainable approaches to agricultural and associated rural land use practices.
- Support adaptation of the agricultural sector to respond to the potential risks arising from climate change.
- Encourage diversification and value-adding of agriculture through effective agricultural production and processing, rural industry and farm-related retailing.
- Assist genuine farming enterprises to embrace opportunities and adjust flexibly to market changes.
- Support agricultural investment through the protection and enhancement of appropriate infrastructure.
- Facilitate ongoing productivity and investment in high value agriculture.
- Facilitate the establishment and expansion of cattle feedlots, pig farms, poultry farms and other intensive animal industries in a manner consistent with orderly and proper planning and protection of the environment.
- Ensure that the use and development of land for animal keeping or training is appropriately located and does not detrimentally impact the environment, the operation of surrounding land uses and the amenity of the surrounding area.

14.01-2L Sustainable agricultural enterprises (applies to land in the Farming Zone, Rural Conservation Zone and Rural Living Zone)

- Ensure that areas of high to very high agricultural land are utilised or remain available for agricultural production.
- Support agricultural enterprises through local value-adding and processing opportunities, investment, innovation, diversification and employment that have a limited impact on the natural landscape and its amenity.

- Protect clusters of agricultural activity and other rural related enterprises which support primary and secondary processing.
- Ensure that rural land use, development and amenity are not adversely affected by land uses and developments that are more appropriately located within townships.
- Encourage intensive agriculture uses and rural related activities with access to major transport routes.
- Protect resource, natural heritage, significant historic landscapes and environmental values that support agricultural enterprises.
- Discourage the use and development of rural land for accommodation, food and drink premises, place of assembly or shop, except for a dwelling in the Rural Living Zone.
- Support small agricultural enterprises in the Rural Living Zone.

6.3 OVERVIEW OF AGRICULTURE

Data from the Australian Bureau of Statistics agricultural census was sourced for an analysis of agriculture in Hepburn Shire. All businesses undertaking agricultural activity recorded on the Australian Bureau of Statistics' Business Register (ABSBR) above a minimum threshold of \$40,000 in Estimated Value of Agricultural Operations (EVAO) were in scope for the 2020-21 Agricultural Census.

Frequently used terms used in the analysis include:

Gross value of agricultural production also referred to as the Value of Agricultural Commodities Produced is the value placed on recorded production of agricultural commodities at the wholesale prices realised in the market place.

Estimated value of agricultural operations - is an ABS construct used to estimate the size of agricultural activity undertaken by a business. It is not an indicator of receipts of individual farms (turnover), but rather an indicator of the size or extent of agricultural activity.

In 2020/21 agricultural enterprises in Hepburn Shire produced commodities with a total gross value of \$107million, up from \$68million in 2015/16 and representing around 14% of the gross value of agricultural commodities produced in the Central Highlands region in 2020/21 (Figure 38).

The main commodity groups by gross value of production (GVAP) in 2020/21 were meat, fruit and vegetables and grains (Figure 39). While the top commodities by GVAP were potatoes, lamb, beef and ornamental horticulture (nurseries) (Figure 40).

Most agricultural land is used for livestock grazing, grain and hay production with a gross value of agricultural production/ha (average over last three years) of between \$910 and \$1,650. A smaller area is used for horticultural production, primarily potatoes, which had an average gross value of production/ha of \$22,800 (Table 21). Ornamental horticulture which includes nurseries and cut flowers is undertaken on the smallest area but has the highest GVAP/ha.

Total GVAP has steadily increased over the last 25 years, and meat and fruit and vegetables have been the main commodity groups over that period. In the last five years, grains and ornamental horticulture have shown positive growth (Figure 41).

Figure 38: Gross value of agricultural production 2020/21, Central Highland region local government areas³⁵

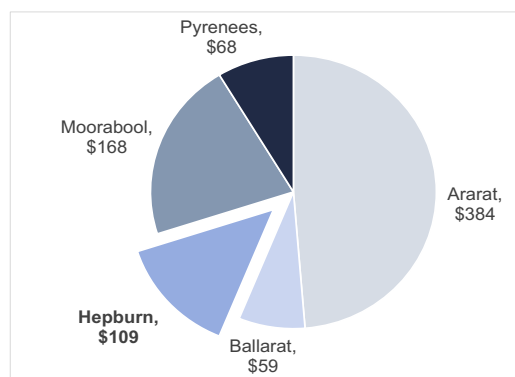
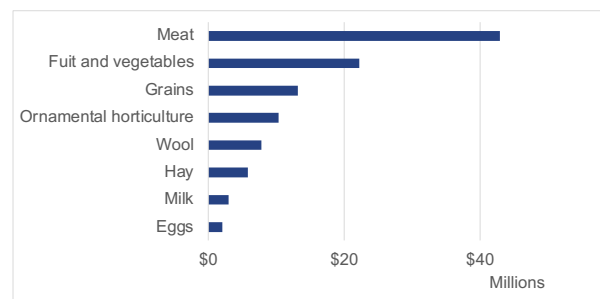


Figure 39: Main commodity groups by GVAP, Hepburn 2020/21³⁵



³⁵ Australian Bureau of Statistics Agricultural Census Survey. Data provided by Kynetec

Figure 40: Main commodities by GVAP, Hepburn 2020/21³⁵

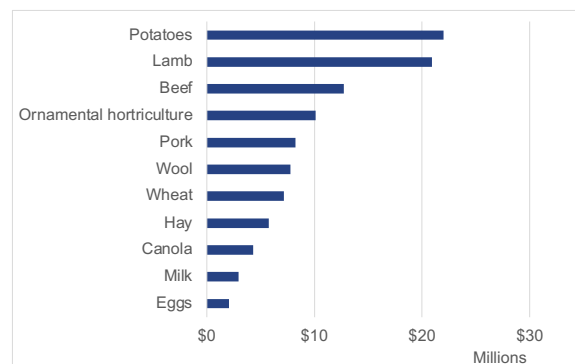


Figure 41: Trend in gross value of production, Hepburn³⁵

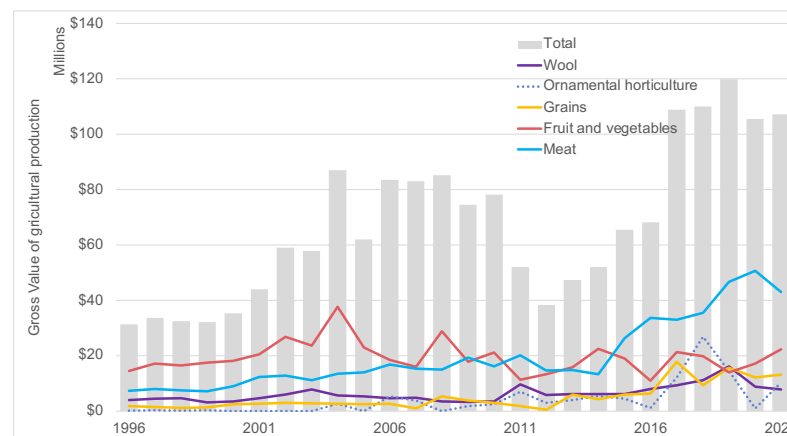


Table 21: Gross value of agricultural production/ha (three year average 2019 – 2021), Hepburn³⁵

	Total GVAP	Total area of production (ha)	GVAP/ha
Livestock products	\$62.1m	38,000	\$1,650
Potatoes	\$17.7m	753	\$23,500
Broadacre crops	\$13.6m	10,500	\$1,300
Ornamental horticulture	\$8.5m	42	\$204,464
Hay	\$7.7	8,500	\$910

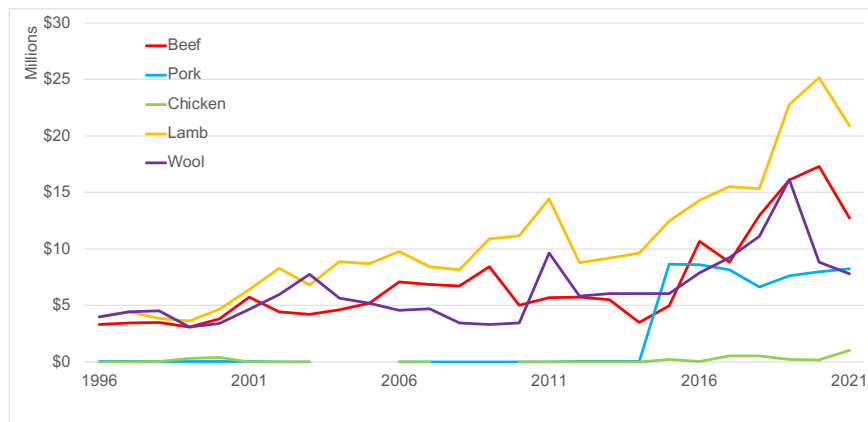
6.4 INDUSTRY ANALYSIS

LIVESTOCK

Meat and wool are the main livestock commodities produced in Hepburn, with a GVAP in 2020/21 of around \$43million and \$8million respectively. The main meat products are lamb and beef, while pork is an emerging meat industry (Figure 42). All industries have shown steady growth in GVAP. This can be attributed mainly to continued increase in beef, lamb and wool prices, as cattle and sheep populations have remained relatively steady or declined (Figure 43). The growth in the GVAP of pork can be attributed to a growth in pork production.

Livestock are processed outside the Shire at nearby facilities in Ararat and Kyneton or at facilities in outer-Melbourne. Most wool will be exported and processed overseas.

Figure 42: Trend in livestock GVAP, Hepburn³⁵



Lamb and wool

In 2020/21, Hepburn produced 8% of the region's wool and 9% of the region's lamb. While the gross value of both wool and lamb have fluctuated over the last 25 years, there is an overall increasing trend, while at the same time, the sheep population and sheep producers has decreased. This further emphasises the point that growth in GVAP has been driven by buoyant meat and wool prices over the last decade.

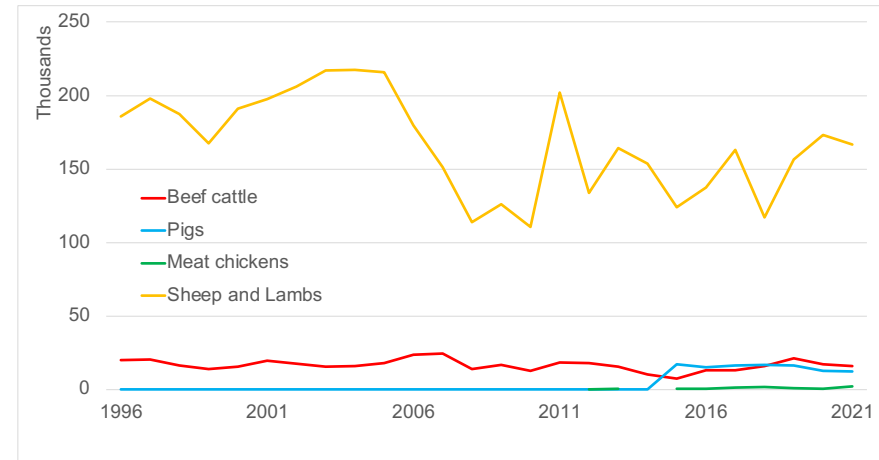
This trend is consistent with national lamb and wool market which is experiencing a period of growth³⁶ after significant adjustment in the national sheep industry in the 1990s and 2000s. During the latter period the national flock size fell by a third and sheep farm numbers halved from the mid-1980's. Over the same period there was a gradual shift from wool to sheep meat production, particularly prime lambs³⁷.

Most sheep enterprises are between 100ha and 500 ha in size (Figure 45). Farm numbers under 100ha, have remained steady since 2001, while the number of farms between 100ha and 1000 ha has reduced, and the number of farms over 1,000ha has increased.

Most sheep enterprises have an estimated value of agricultural operations \$100k and \$500 (Figure 46) while most the most value is generated by sheep businesses in the \$500k to \$2million enterprise scale (Figure 47).

These trends are consistent with the national trends towards increased concentration of output, where a small number of larger enterprises produce the majority of the output, while small scale or niche farms, which make up a large majority of farms account for a small proportion of output³⁸. This trend is driven by industry rationalisation in response to declining terms of trade and economies of increasing scale.

Figure 43: Trend in livestock numbers, Hepburn³⁵



³⁶ https://www.mla.com.au/globalassets/mla-corporate/prices--markets/documents/trends--analysis/sheep-projections/july-2022_mla-australian-sheep-industry-projections-update_130722.pdf

³⁷ Department of Economic Development, Jobs, Transport and Resources (2014) Sheep Industry Profile

³⁸ Productivity Commission (2005) Trends in Australian Agriculture

Figure 44: Sheep meat and wool trends, Hepburn³⁵



Figure 45: Trend in lamb/wool enterprise numbers by size range, Hepburn³⁵

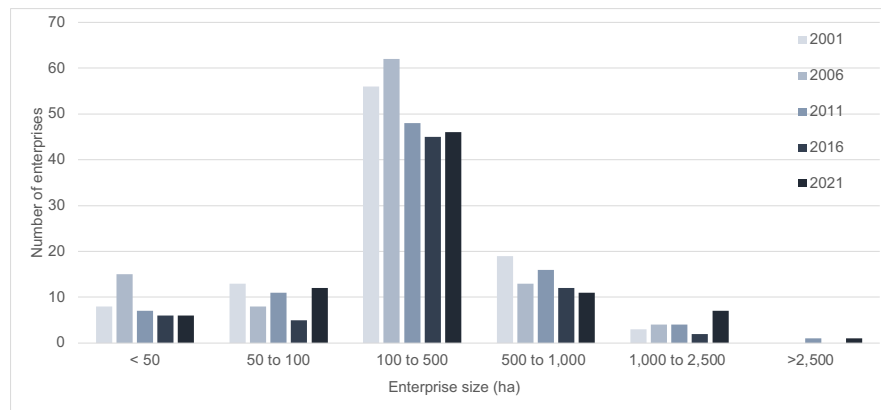


Figure 46: Trend in lamb/wool enterprise numbers by business size, Hepburn³⁵

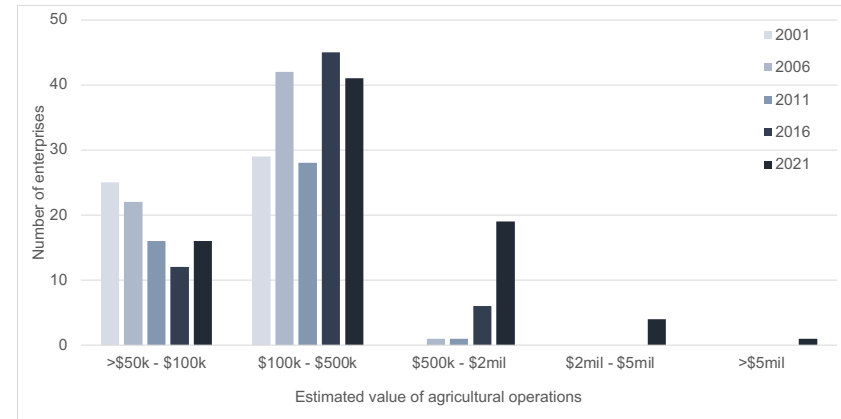
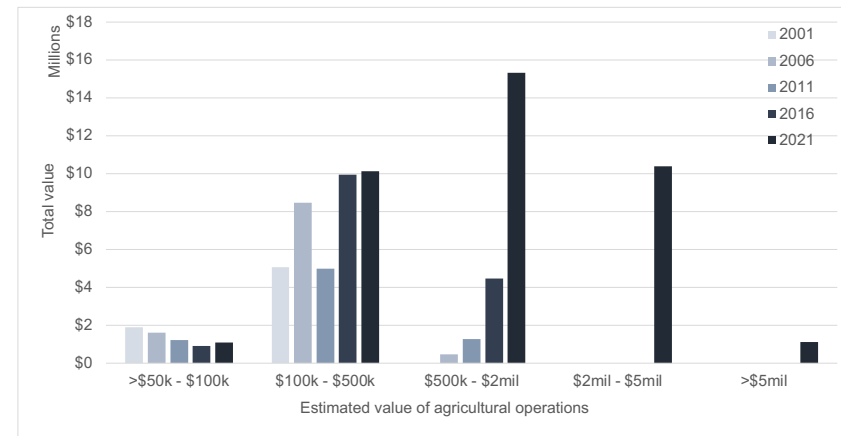


Figure 47: Trend in total value of lamb/wool agricultural operations by enterprise size range, Hepburn³⁵



Beef

In 2020/21, Hepburn produced beef cattle with a GVAP of around \$13million, which represents 25% of beef GVAP in Central Highlands region and 0.4% of state beef GVAP. GVAP from beef cattle has increased over time (Figure 48, while the population of beef cattle has decreased and the number of beef enterprises has remained steady. This indicates that the increase in GVAP can be mostly attributed to recent buoyant beef prices. As for the sheep industry, this trend is consistent with the national industry trends. Most beef enterprises in Hepburn are between 100 and 500ha in size and there has been a trend towards larger enterprise sizes. Most farm enterprises generate less than \$500k value (Figure 50) while enterprises between \$100k and 500k make the greatest contribution to total value.

Figure 48: Beef cattle trends, Hepburn³⁵

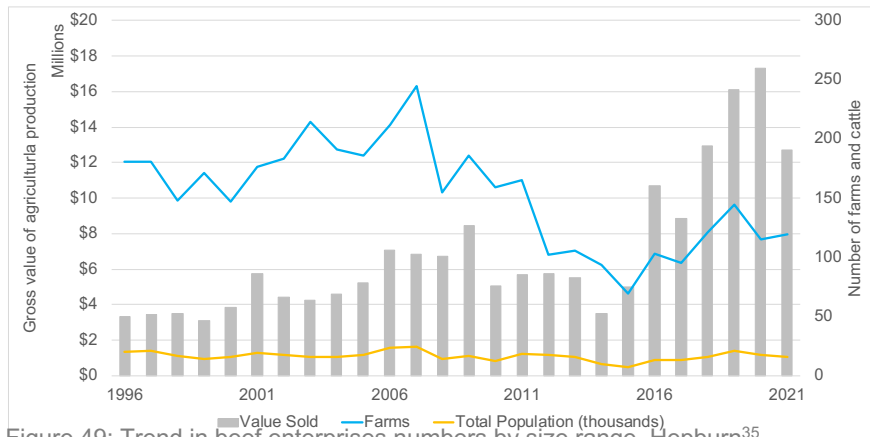


Figure 49: Trend in beef enterprises numbers by size range, Hepburn³⁵

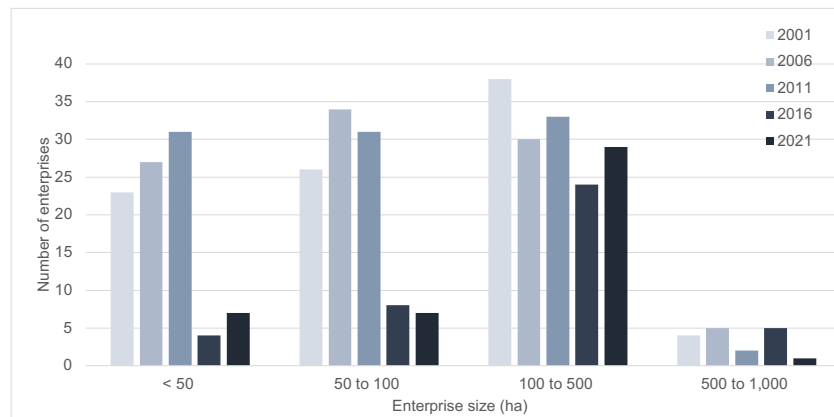


Figure 50: Trend in beef enterprise numbers by business size, Hepburn³⁵

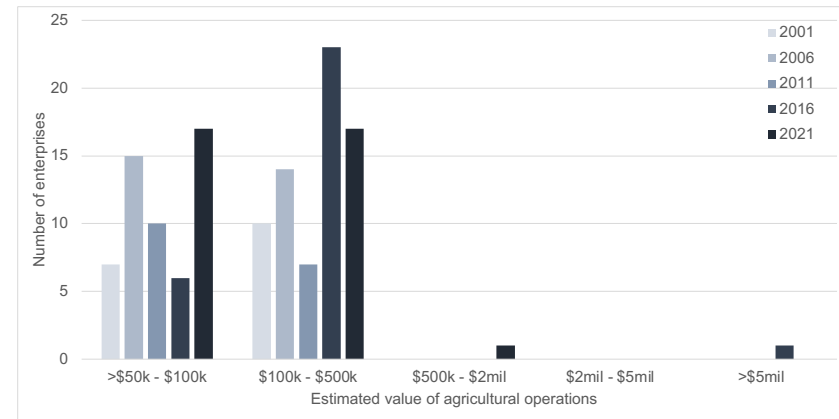
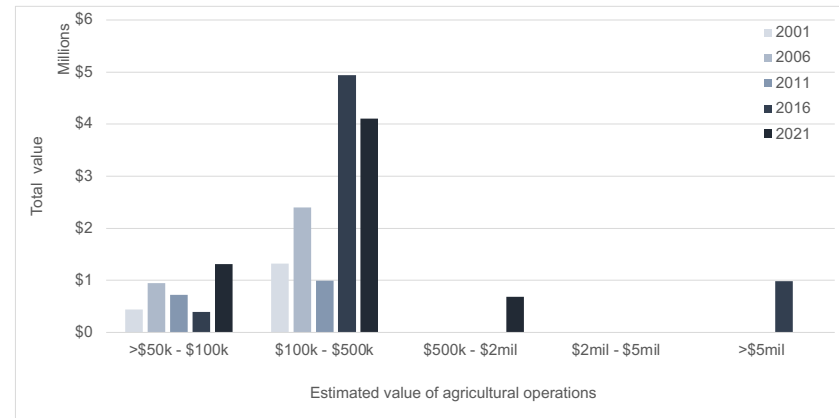


Figure 51: Trend in total value of beef agricultural operations by enterprise size range, Hepburn³⁵



Pork, Chicken Meat and Eggs

Pork and chicken meat production have shown positive growth since 2016, though both industries are very small with just a handful of farms and just 2,000 birds and 12,000 pigs were slaughtered in 2021. Around 36,000 egg laying chickens produced close to 800,000 eggs in 2020/21.

Potatoes

In 2020/21 Hepburn produced around \$22million in gross value of potatoes, representing 55% of regional potato production and 15% of state potato production. The Ballarat region produced 42% of the state's potatoes in 2020/21. The gross value of potato production has fluctuated over time. The GVAP and the area sown to potatoes was highest in 2004. Since then production and the total area sown has remained relatively steady at around 40,000 tonnes and 800 ha respectively. Potatoes in Hepburn are grown for both the fresh market and for processing (potato chips, French fries etc). Potatoes may be grown on consignment for major retailers and processors or sold via the wholesale market. Most farm businesses growing potatoes will also grow broadacre crops and/or graze livestock, as potato crops must be rotated to prevent build of soil-borne pathogens.

Most businesses growing potatoes are between 100 and 500ha in area (Figure 54) and an EVAO between \$500k and \$2million (Figure 55) and most value is generated by larger scale business (Figure 56).

Figure 52: Potato production trends, Hepburn³⁵

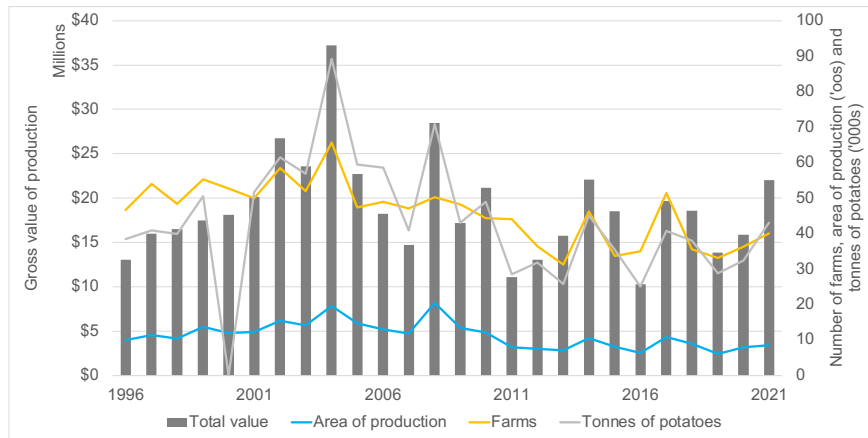


Figure 53: GVAP potatoes by main potato producing LGAs, Victoria 2020/21³⁵

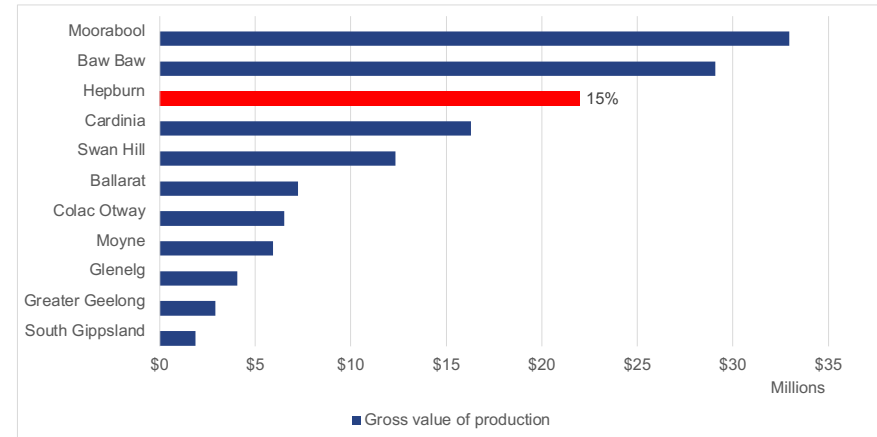


Figure 54: Trend in potato enterprises numbers by size range, Hepburn³⁵

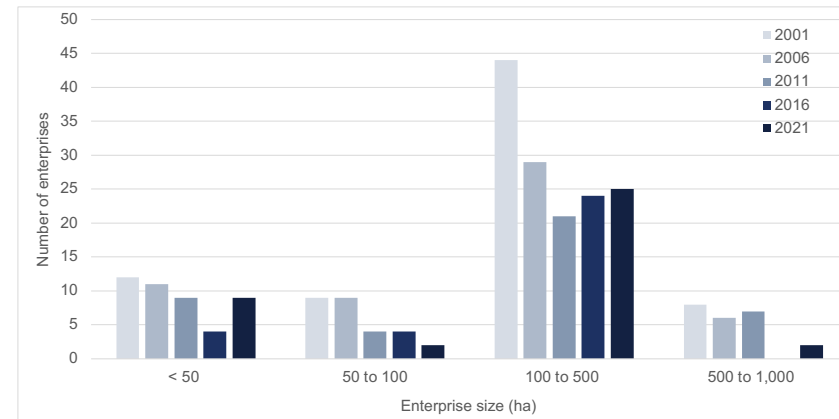


Figure 55: Trend in potato enterprise numbers by business size, Hepburn³⁵

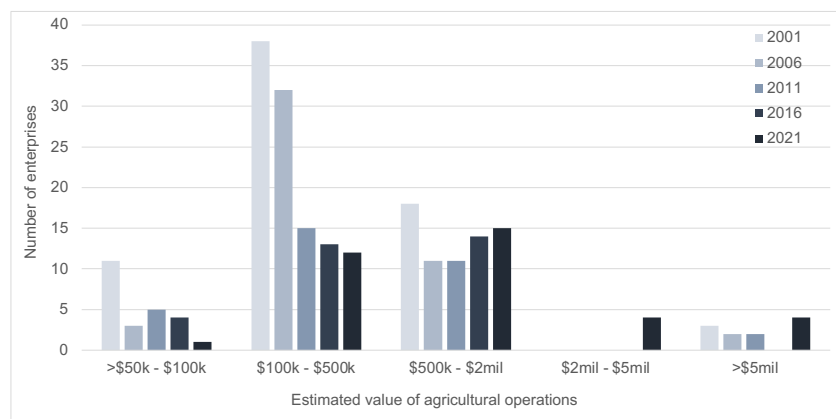
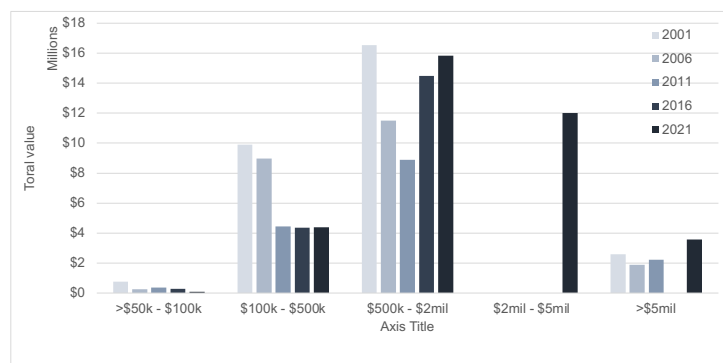


Figure 56: Trend in total value of beef agricultural operations by enterprise size range, Hepburn³⁵



One of the largest potato processing facilities in Australia, McCain Foods Australia, is located in Ballarat and Hepburn potato growers supply potatoes on consignment for a range of value-added products. The majority of processing potatoes are procured by the major processors sourced on an annual contract basis, subject to yearly price negotiations. Processors prefer to negotiate with a small number of producers that produce large quantities of potatoes that meet their specific requirements.

³⁹ <https://www.vicforests.com.au/operations/timber-harvesting-safety>

Irrigation is critical to the profitable production of horticulture enterprises, as high yields are required to cover the high costs of production and the high price of land. As potato crops are grown as part of rotation with grain or pasture crops, irrigation systems need to be moved from paddock to paddock, both within and between years. Aerial application of fertilizer, and chemicals for disease and weed control, are commonly used in potato production as access by wheeled traffic is limited by wet soils during the growing season and the risk of damaging the soils and the crop.

The use of controlled traffic farming (crops are grown between permanent wheel tracks using specially designed equipment and GPS systems to map and align the permanent wheel tracks) is increasingly common in horticulture. Long row lengths with fewer turns improves the efficiency of this type of system.

Forestry

Timber harvesting was once an important local industry. Timber harvesting on public land in the Shire has now ceased³⁹ and there is minimal timber harvesting on private land in the State⁴⁰.

6.5 ARTISAN AGRICULTURE

There is a vibrant group of agricultural businesses in Hepburn Shire, that while part of the agricultural industry, due to the scale of operation or the type of enterprise, may not be included in the ABS Agricultural Census. For example, artisan agricultural enterprises may include:

- Enterprises that sell smaller volumes of niche commodities or specialised value added products to local retailers and restaurants or through farmers markets and online sales.
- Enterprises with a gross value of operations less than \$40,000/annum that are not included in the agricultural census.

Artisan agriculture businesses are often closely connected to the Shire's tourism industry and are recognised in destination branding and marketing. Tourism experiences include farm management or cooking classes, accommodation or events such as food and wine festivals and farmers markets.

A survey of growers for the Artisan Agriculture Project noted the following:

- Most businesses are not generating a liveable wage and rely to varying degrees on off farm income; with around 42% of growers source less than 20% of income off farm and around 25% source more than 80% of income off farm.

⁴⁰ Victoria Auditor General (2013) Managing Victoria's Native Forest Timber Resources

- less than 20% have an annual turnover greater than \$300,000. Most produce is sold via local retailer, farmers markets, online, direct to restaurants and at the farm gate.
- Constraints to growth in decreasing order of constraint included:
 - Increased costs and planning restrictions.
 - Limited access to finance and government grants.
 - Scale inappropriate food regulatory requirements.
 - Competing land use desires and needs of neighbours.
 - Difficulty accessing food processing services e.g. commercial kitchen, boning room, dairies and abattoirs.

Discussions with various producers in the Artisan Agriculture network also highlighted:

- Artisan enterprises are operating on relatively small areas (<5ha) in the FZ as well as the RLZ. A planning permit is required for agriculture in the RLZ.
- Diversification of products and market channels is important to manage risks and business resilience.
- Leasing land is a common point of entry for new farmers and also for expansion of a farm enterprise.

6.6 AGRICULTURAL INFRASTRUCTURE

VALUE CHAIN

In addition to McCain Foods, other food processors in the region include Istra Smallgoods in Musk, who produce a range of pork-based smallgoods supplying retail outlets across Victoria, Unigrain in Smeaton manufactures oat cereal, pulse based and animal nutrition products. There are also engineering, freight and logistics, farm input suppliers and services that specialise in agricultural business such as agronomists, veterinarians, bankers, accountants and insurance brokers, electricians, plumbers and irrigation specialists that are part of the regional agricultural value chain. These industries generate economic output as well as employment opportunities in Hepburn and the wider region.

6.7 ISSUES AND OPPORTUNITIES

LAND USE CONFLICT

Management of agricultural businesses takes various forms in Hepburn Shire including traditional farming approaches, as well as regenerative farming, artisanal agriculture organic and biodynamic farming. These approaches are applied in both commercial and sub-commercial situations and on large and small farms. Farm management practices

are generally not a consideration of planning policy. However, an underlying principle of planning is avoiding land use conflict, including land use conflict between agricultural enterprises. Land use conflict between agricultural enterprises may include:

- Contamination of organic crops, produce or pastures via spray drift or livestock trespass from neighbouring conventional agricultural enterprises or urban and rural residential gardens. Contamination may result in loss of organic certification can take many years and considerable cost to achieve and retain.
- Drift of sprays onto other susceptible crops e.g. herbicides used in broadacre cropping may kill or severely damage nearby horticultural crops.
- Genetic livestock from trespassing livestock.

While preventing off site impacts such as spray drift, excessive noise and odour are all required under various legislative instruments and local laws, the very nature of agriculture means that inadvertent off site impacts may occur. It is important therefore that individual farms, as well as agricultural precincts, have sufficient buffer to minimise the risk of agricultural practices impacting neighbours.

More familiar are land use conflict between agriculture and residential uses such as:

- Agricultural operations impacting amenity of neighbours (air quality, noise, visual amenity).
- Harassment of livestock from straying domestic animals.
- Trespass.
- Spread of pest plants and animals from gardens or poorly managed rural lifestyle properties.

Land use conflict has immediate economic and social impacts on individuals including loss of production, stress and anxiety. Longer term, land use conflict can have wider impacts such as alienation of productive agricultural land and fracture within a community.

Council officer reported that there are a number of agricultural businesses operating in the RLZ. Operating an agricultural enterprise in the RLZ requires a planning permit. It is possible that these enterprises may have commenced as domestic activities providing the household with produce, and over time grown to become agricultural businesses. There is potential for these businesses to impact neighbours or for neighbours to be impacted by agricultural operations and introduce land use conflict.

Hepburn Shire is a diverse community with wide ranging views and expectations on use of rural land and how it should be managed. Planning has an important role to play in ensuring that sensitive uses do not encroach agricultural businesses such that they are not able to conduct 'normal' acceptable agricultural practices.

FARM SCALE

A key challenge for Council officers is assessing applications for new farm dwellings given the diversity of business types and farm scales in Hepburn Shire. Council officers must assess planning permits for new dwellings on farms below the minimum lot size able which a planning permit is not required. In Hepburn Shire the minimum lot size threshold is 40ha or 20ha. However, minimum lot size is not an indicator of farm scale.

Some farms are able to generate significant gross value from a relatively small area with the converse also true. Just because an agricultural business is small-scale (measured by turnover or area) does not mean that it is not subject to the same forces and requirements faced by the larger scale agricultural businesses including:

- declining terms of trade (i.e. prices received for commodities reduces over time while costs of production rise).
- regulatory and quality assurance requirements.
- ongoing knowledge and skill development (technical and business).
- business and climate risks.
- satisfying changing consumer preferences and expectations.

Examples of the variation between commodity groups and farm scale are discussed here. Currently, farm business analysis identifies \$500,000 gross sales per annum as the *minimum* annual turnover for a business to provide an environment conducive to growth (i.e. provide disposable income and funds to re-invest in the business. On average most primary producers will have a profit margin of approximately 10% of gross sales (equating to \$50,000 profit per annum). Some producers who have more efficient management practices may be able to increase this to 20%.

Estimates of the minimum area required to generate \$500,000 gross sales can be estimated for a range of enterprises based on average income per hectare (Table 22). Note that most farms require additional land to provide for a diversity and rotation of crops and out paddocks for dry dairy stock for example.

This indicates that high value horticultural crops can generate sufficient income from a relatively small area to support a family and provide for business growth. By comparison, livestock grazing and broadacre cropping will require considerably more land to achieve the same outcome.

This would suggest that a 'viable' farm could be conducted on a lot less than 20ha if it was a horticultural enterprise. However, this would also be contingent on high quality soils and access to a water supply for irrigation.

Table 22: Enterprise scale comparison*

Enterprise	Average income/ha*	Minimum area (ha) to generate \$500k
Lettuce	\$68,000	7
Zucchini	\$28,000	18
Apples	\$41,000	12
Stone fruit	\$50,000	10
Dairy	\$7,000	71
Livestock grazing	\$800	630
Broadacre cropping	\$900	560

*Note: These statistics represent a snapshot in time and are average figures only. There will be individual cases where income per hectare differs from these figures and where a viable farm generates more or less than \$500,000 gross sales. Note also that income/ha is dependent on a range of factors, which may vary significantly between any season and any farm. It does not necessarily equate to profit. This has been collected from a range of industry sources including ABARES, ABS, Dairy Monitor, Livestock Monitor, NSW DPI, AUSVEG, RMCG pers comms)

AGRICULTURAL TRENDS

Declining terms of trade and economies of scale are key drivers of agricultural trends. Declining terms of trade requires businesses to continually seek productivity improvements to maintain viability. Some farms may increasingly rely on off farm income to offset reducing levels of farm income and the time dedicated to the agricultural business, including labour, marketing, administration, training etc. competes with off-farm employment.

Businesses that rely predominantly on the agricultural enterprise for income will seek productivity improvements by increasing farm scale and/or increasing farm output and/or increasing production efficiency in order to capture economies of scale available to larger farm business. Farm scale can be increased by buying or leasing more land. Farm output can be increased by increasing production of commodities through new or improved genetics, increasing inputs (fertiliser, water, pest control etc.), new technology, intensification of production.

The response by the agricultural industry to these trends leads to structural adjustment resulting in:

- Fewer farms.
- Increase in average farm size.
- Increase average farm business size.
- While there are still many small farms, most production is concentrated on large farms.

These trends were evident in the analysis of Hepburn Shire’s agricultural industry. Other trends include a shift to intensive farming and greater integration of production along the agri-food chain. Some farm businesses conduct their own freight and logistics operations, on-farm processing and packaging, marketing and export.

These trends are consistent with the findings of the Planning for Melbourne’s green wedges and peri urban region Consultation Paper⁴⁴ and land use trends in the peri region including:

- Fewer and larger farms.
- Increased concentration of farm output.
- More intensive farming techniques.
- Closer integration of agri-food chain.
- Competing land uses.
- High levels of land use conflict.
- Increased land speculation.
- High land prices.
- Limits to farm expansion.

These trends should be considered in the formulation of planning policy and ensuring there is support for agricultural businesses to respond to declining terms of trade, reap the benefits of economies of scale, to continue to innovate and adopt new technology. Planning policy can do this by clearly identifying where agriculture will be the predominant land use and ensuring decision making maintains and supports this position including:

- Avoiding fragmentation and ensuring there is a supply of suitable, vacant land.
- Avoiding development and uses that encourage land banking or inflation of land values above its agricultural value and discourage investment in agricultural enterprises.
- Facilitating investment in adoption of new technology and farm processing and value adding.

AGRICULTURAL VALUE ADDING AND TOURISM

Agricultural tourism and value adding to agricultural produce is already established in Hepburn Shire and includes selling primary produce or processed products through roadside sale and cellar doors, pick your own and online direct sales. Accommodation or dining in conjunction with and agricultural business such as farm stays and farm to table dining are also opportunities to value add to primary production.

The Hepburn Planning Scheme Review² noted however, that the tourism offer in the municipality is inextricably linked to the landscape, heritage, environment and rural

produce. Ensuring that this link between each is well understood and that it is important to ensure these aspects are protected, i.e. tourism development should not occur at the expense of the very values that are the foundation of the tourism industry. The Review goes on to state that ensuring retail activities associated with agriculture are located within townships is essential to ensuring that retail areas in towns remain viable and that there are opportunities to capture tourist dollars. Further guidance is required on the types of tourism activities that should be provided in the FZ and those that are more to appropriate settlements.

Value adding and direct sales are a means to increase farm productivity, enable producers to retain control of the marketing, sale and presentation of their products and producers are often able to attract premium prices. Developing and operating an agricultural value add and tourism enterprise requires additional skills and facilities to those required for primary production. Things to consider include providing adequate public facilities, maintaining a safe and accessible environment, out of hours operations (evenings, weekends, public holidays and school holidays) and regulatory requirements.

6.8 KEY FINDINGS

There is strong strategic and policy support for food and fibre industries and protection of agricultural land and the ongoing operation of agricultural enterprises. Strategies for support and protection of agriculture include:

- Minimise further subdivision that would create more lots or smaller lots that currently provided for in the planning scheme in the FZ.
- Minimise subdivision in the FZ that results in creation of a lot for an existing dwelling that is smaller than the minimum lot size.
- Minimise new dwellings in the FZ.
- Delineate areas with potential for future growth in irrigated agriculture.
- Identify and protect areas with secure water resources for agricultural uses.
- Provide certainty that these areas will continue as key agricultural areas into the future.
- Limit non-farming and incompatible uses that would restrict ongoing productive use of land for agricultural purposes.
- Protect buffers of identified areas from encroaching sensitive uses such as dwellings to ensure agricultural activities continue without restrictions.

Agriculture in Hepburn makes a significant contribution to the local, regional economy and state and experienced strong growth between 2016 and 2021, driven by buoyant livestock prices. By value of production, the top commodities in 2021 were potatoes, lamb

and beef. In the last five years, production of grains and ornamental horticulture have shown positive growth.

There is a diversity of farm enterprises in Hepburn with respect to the management practices and the scale of production. Management practices include traditional production methods as well as farming operated using regenerative, organic or biodynamic principles. Artisan agriculture, which includes small farm businesses that sell primary produce and secondary products through local networks, direct to customers and online has a strong presence in Hepburn and is important attraction for visitors to the shire.

Agricultural tourism and value adding to agricultural produce is well established in Hepburn particularly for smaller scale farm enterprises. Agricultural tourism such as farm stays value adding such as direct sales of fresh and processed foods, enables producers to increase farm productivity and attract premium farm prices.

Most broadacre livestock and potato enterprises and between 100ha and 500ha in size, noting that potato production is generally grown in rotation with other enterprises such as livestock grazing or grain production. There are clear trends in increasing scale, both in terms of property size and business size across agricultural industries and concentration of farm output with most value of production generated by large scale enterprises.

Hepburn's potato industry is part of a regional industry producing potatoes for the fresh and processing markets, including McCain Foods in Ballarat, one of the largest potato processing businesses in Australia. In 2020/21 Hepburn produced around \$22million in gross value of potatoes, representing 55% of regional potato production and 15% of state potato production. The Ballarat region produced 42% of the state's potatoes in 2020/21. The rich volcanic soils and reliable groundwater supply found in Hepburn enable the production of potatoes.

Issues

- Increasing diversity of farm operations and farm scales.
- Adoption of new technology for efficiency or productivity gains e.g. aerial spray, controlled traffic.
- Potential for land use conflict between farm enterprises and between farm enterprises and non-agricultural land uses.
- Proliferation of non-agricultural development.

Opportunities

- High quality agricultural soils with access to irrigation water.
- Value adding to primary produce and linking to the tourism industry.
- On-farm tourism experiences.

Potential strategy response

- Tailor policy to reflect the trends and diversity of farm scales, agricultural operations and land capability.
- Policy guidance on the types of value adding and tourism uses appropriate for the FZ.
- Consider the analysis of agricultural industries in identification of farmland of strategic significance.
- Review RLZ areas where agriculture is a widespread activity and assess need for further policy guidance or alternative zoning.