



Agriculture Industry Snapshot for Planning Eastern Riverina Sub Region

August 2020

The value of agricultural production in the Eastern Riverina Sub Region was over \$965 million (ABS 2015/16). The value of agriculture averages over \$345 per ha, compared to \$245/ha for the rest of NSW. This is significant as it shows that the Eastern Riverina is important for the State's agricultural industry, being 7.6% of NSW's land area. However, key constraints for agricultural production include access to water (surface and ground), changing climate, and non agricultural land uses on rural zoned lands. Intensive agriculture and value-adding industries may have to deal with increased land use conflict and meeting planning requirements. Despite these challenges, the Eastern Riverina has potential to grow and support agriculture, important given the expected population growth and proximity to Sydney, Canberra and Melbourne.

Purpose

To develop effective land use planning policy for agricultural industries it is important to understand their location, the reasons why they exist in that location, the opportunities they take advantage of and the challenges they face.

This profile details the key agricultural industries in the Eastern Riverina and their interactions with suppliers, processing facilities and markets.

Identifying the significance of agriculture allows its recognition and management in land use planning by Councils. By providing the evidence base for strategic planning, agricultural land and local agriculturally-based economies can be protected and supported in planning instruments.

The Riverina Murray agricultural industries operate in an environment of increasingly global competition and opportunities, external challenges and changing land use. This profile will inform local council strategic planning for these key agricultural industries considering their linkages to infrastructure and secondary industries throughout Southern NSW.

Land use planning is guided by the Riverina Murray Regional Plan 2036 (2017). The Regional Plan has clear directions for the need to identify, protect and appropriately capitalise on the region's agricultural industries, infrastructure and rural land.

Agriculture in the Eastern Riverina Sub Region

Agriculture is a key industry for the Eastern Riverina both economically and for the scenic and environmental qualities of the rural lands where agriculture is undertaken. The Eastern Riverina is richly diverse in agricultural commodities and highly innovative in the processing and development of food and beverage products. The area is particularly important for broadacre crops, pigs, poultry, apples, blueberries and hay.

The Eastern Riverina is 28,096 km² in area and includes Coolamon, Cootamundra-Gundagai, Junee, Lockhart, Snowy Valleys, Temora, Wagga Wagga LGAs, and is home to approximately 108,080 people (ABS 2015/16).

The Eastern Riverina makes a significant contribution to agricultural production in NSW. The following table shows the Gross Value of Production (GVP) and percentage share of agricultural output for the region for each of the top industries. These industries alone account for 87% of all agriculture in the Eastern Riverina.

Industry	Gross Value of Production (\$)	% share of Eastern Riverina total	Number of businesses	% share of NSW
Broadacre cropping	\$489m	12	1,065	10
Beef	\$198m	5	771	8
Wool	\$94m	2	1,156	10
Sheep/lambs	\$74m	2		10
Hay	\$40 m	1	750	12
Fruit and nuts	\$38m	1	10	6
All other Agriculture	\$31m			
TOTAL	\$964m			7

Source: ABS 2015/16 (note: some businesses cover multiple industries).

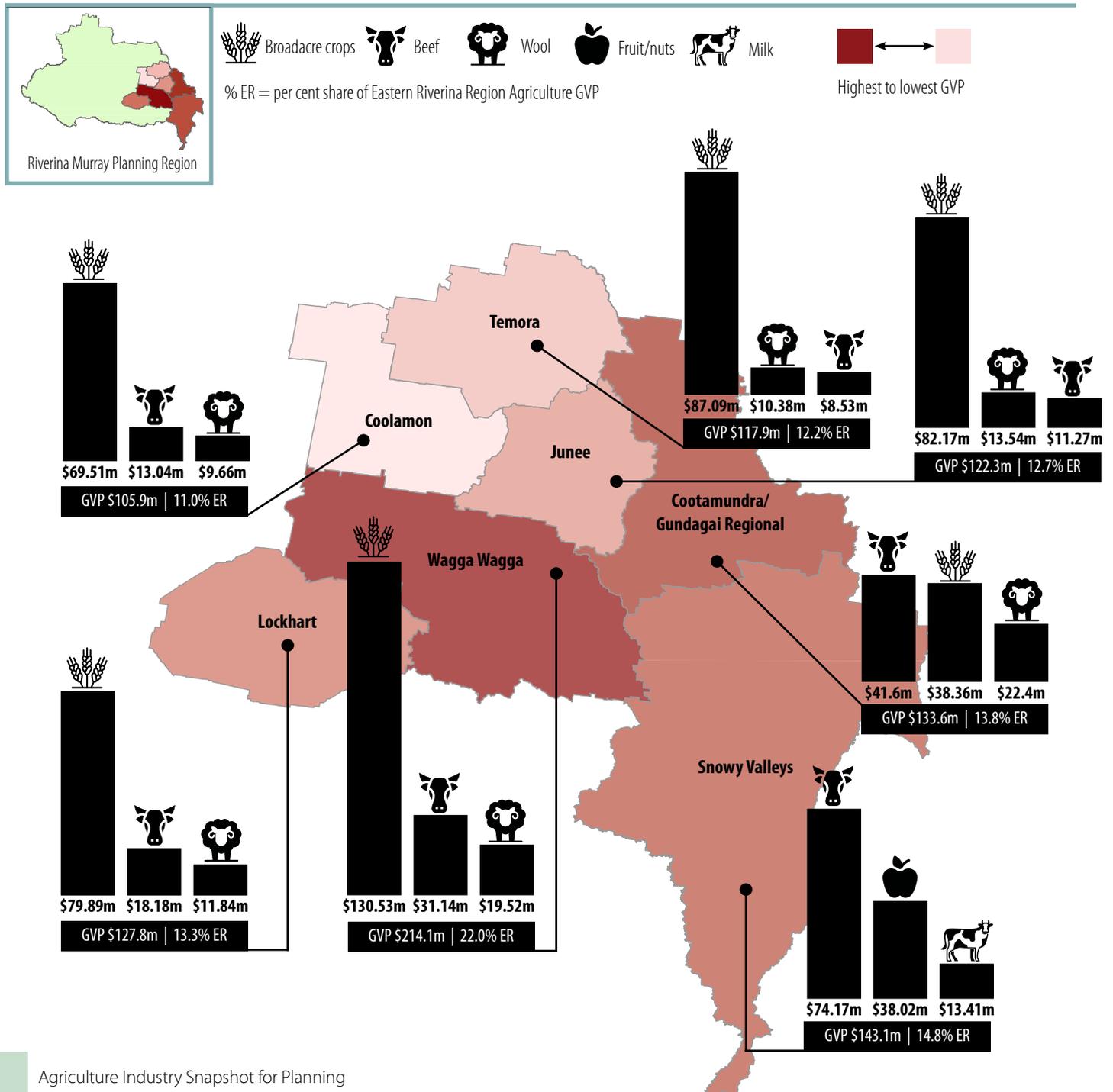
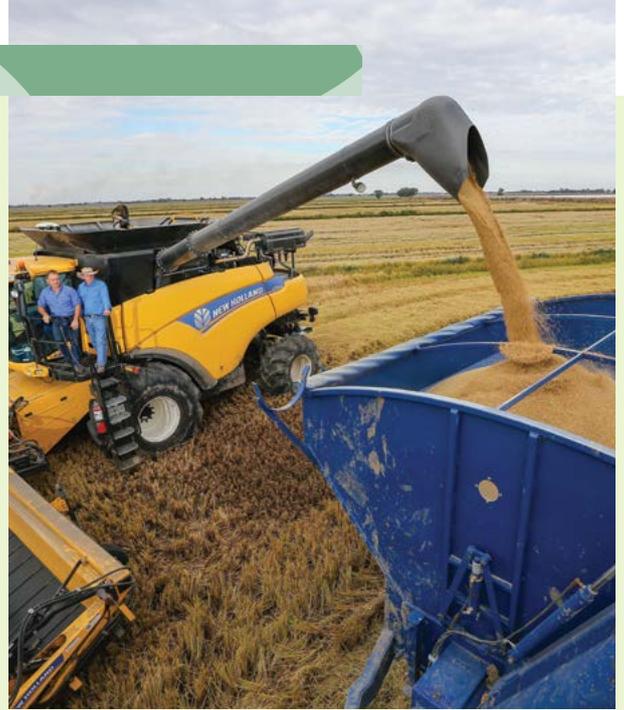
Broadacre cropping of cereals is the dominant industry in terms of GVP, contributing \$489 million (ABS 2015/16), being 51% of the regional GVP and 10% of NSW's broadacre GVP. The Eastern Riverina also produced 21% of the region's beef, 8% of NSW beef output; also 12% of NSW's hay and 10% of NSW's wool. Sheep and lamb production made up 10% of NSW output and fruit and nuts 6%.

Employment

Agriculture employs over 4,777 people across the Eastern Riverina (ABS 2015/16). The biggest employer is sheep, beef and grain farming (72.9%) followed by the fruit and tree nut industry (4.1%) and the dairy industry (3.2%). The LGAs with the highest agriculture employment are Cootamundra-Gundagai Regional (28.4%) and Wagga Wagga (22.0%) These are people employed in the primary production of agriculture and do not include the vast workforce within the key secondary industries. It does not include employees that are hired on a seasonal basis that were not working in the Eastern Riverina at the time of the ABS census.

Local government distribution

The following map shows the local government areas in the Eastern Riverina and agricultural GVP of the three leading industries for each. The biggest individual contribution is Wagga Wagga with \$214m followed by Snowy Valley which contributed \$143m and Cootamundra-Gundagai with \$134m.



Agricultural highlights of the Eastern Riverina Sub Region

The Eastern Riverina contains highly productive agricultural land of the Murrumbidgee and Tumut River valleys. The variety of landscapes supports a diverse range of agricultural industries that place a high value on the reliable water supplies. Dryland cropping, mixed farming and grazing systems support key agricultural enterprises such as broad-acre cropping (cereal, oilseed and pulses), beef and sheep grazing, intensive poultry and pigs, fruit and nuts, and irrigated hay and dairy pastures.

There are some pockets of non agricultural land uses impacting individual farming enterprises, eg rural residential proposals and renewable energy developments. However, there are limited land use pressures on the productivity of existing broadacre cropping and extensive grazing agricultural systems. Eastern Riverina local governments generally support the development of intensive farming systems provided normal planning procedures are followed and mitigation measures are developed and established.

This section highlights the prominent industries for the Eastern Riverina.



Broadacre crops

Dryland winter cropping and hay

Dryland winter cropping includes cereals (wheat, barley, oats, triticale), oilseed (canola) and pulses (chickpeas, faba beans, lupins, lentils). Wheat, barley and canola are the major crops by value. Crops are grown in varying rotations depending on site characteristics, seasonal variations, disease control, market demand and production preferences. Hay and cereal hay are usually grown in conjunction with the main broad-acre cropping areas. Lucerne hay production follows the Tumut and Murrumbidgee River where it is grown primarily on river flats with irrigation licences.

Industry requirements

Dryland cropping systems have developed based the physical environment of soil type, climate and reliable rainfall. Current technology and economies of scale require large scale operations to remain viable. A wide range of secondary industries are required to support the inputs and outputs of irrigated production. Irrigated hay production is based on access to reliable water supply through dedicated infrastructure as well as the physical environment of soil type, topography and climate. A wide range of secondary industries are required to support the inputs and outputs of irrigated production.



Livestock - meat and wool

Livestock production for red meat (cattle, sheep, lamb) and wool occurs over most of the Eastern Riverina. Although there are some large livestock operators, the majority of animals are produced on family farms. Livestock production is also part of more common mixed-farming enterprises throughout the 'wheat/sheep belt'. Here the cropping of cereal, pulses and oil-seed combined with the grazing of cattle and sheep (meat and wool) provide diversification and production flexibility. There are numerous wool brokers, feedlots and abattoirs in the Eastern Riverina.

Industry requirements

Livestock production requires unconstrained land with opportunity for producers to increase scale without risk of land use conflict. Pasture-based cattle and sheep production needs access to suitable land and water supply, and a range of infrastructure for livestock handling, husbandry, fodder production, storage and road access. Typically, livestock are managed in a system of rotational grazing, with paddocks recuperating after grazing. Some producers may operate more intensive lot feeding on farm, which will increase the amount of stock, feed and transport movements. Transporting stock and wool requires a reliable road system. The Wagga Wagga Livestock Marketing Centre is the third largest NSW saleyard complex. As with all farmers, producers manage plant and animal pests with a variety of methods.





Dairy

Some dairy farms remain operating near Wagga and Tumut, supplying the Riverina Fresh facility in Wagga Wagga. Traditionally these have been pasture-based systems that are now developing more controlled feeding arrangements.

Industry requirements

Traditionally dairy operations have been pasture based. However, under current conditions more controlled feeding arrangements are being developed which may require additional shedding and other infrastructure. For efficiency, larger tankers retrieving the milk for processors need quality roads and bridges.



Fruit and nuts

The main berry produced in the Eastern Riverina is the blueberry (5.7% of NSW GVP) grown in the cooler climate of the Highlands. This climate is also suited to pome fruit, particularly apples around Batlow, with over 60% of NSW GVP grown here.

There are also small areas of grape growing for wine production. Chestnuts, pistachios and almonds are also grown under the cool climate conditions.

Industry requirements

Fruit and nut orchards require a reliable water supply for irrigation and good quality well-drained soils. Some fruits such as pome and stone fruits have thresholds for frost days, moisture and cool temperatures, and hence have specialised locational requirements such as around Batlow.

Modern large-scale developments require seasonal workers for picking and, often, on farm processing. Quality, well maintained roads are required to transport the produce and labour. Legitimate horticultural activities are likely to cause noise, odours, dust, spray emissions, smoke, vibration and should be protected by right to farm policies.



Livestock - intensive / housed

Most pigs and poultry are produced under intensive indoor production systems, housed in large sheds. The Eastern Riverina provides a combination of ready access to grain supplies, level land at a reasonable price, secure water supply, separation distances from potential conflict interfaces, and good transport networks. Pork production systems fall into three main categories: conventional intensively housed, outdoor-bred and free-range. Access to processing facilities for pigs is a state-wide issue. The closest abattoir is in Cowra to the north. These are multi-species domestic-licensed abattoirs. A large proportion of the pigs are transported south into Victoria for processing, particularly for export market.

Poultry (meat/broiler) and egg production facilities are found across the Eastern Riverina. Meat production is split into three phases/systems: breeding farms (producing fertile eggs), hatcheries (egg incubation, chick vaccination and grading) and production farms (growing out chicks to harvest). A poultry quarantine facility is planned near Wagga Wagga. NSW poultry farms must comply with a range of regulations that are designed to protect the animals, the environment, and the local amenity.

Industry requirements

Intensive beef, pig and poultry operations require large separation distances from sensitive receptors, reliable feed and water supplies, adequate drainage and manure disposal systems, and quality road access. Usually large areas of unfragmented rural zoned land are required for intensive operations to incorporate buffers to manage biosecurity, amenity, odour and noise. Legitimate agricultural activities may cause external emissions such as noise, dust and lightspill anytime over 24 hours including early mornings and late evenings, depending on the enterprise and should be protected by right to farm policies.



Eastern Riverina Sub Regional assets for Agriculture

The Eastern Riverina is an acknowledged premium agricultural area, leading the way in agricultural innovation and value-adding, using advanced technologies to maximise diversification. The Eastern Riverina covers land from the western side of the Australian Alps to the South West Slopes, with a variety of local climates and biophysical characteristics. Agriculture is conducted on a wide range of soil types and under different rainfall regimes, in some cases supplemented by irrigation from surface and ground water sources.



Supporting industries and infrastructure

Agricultural industries in the Eastern Riverina have a comprehensive and diverse supply of support services and infrastructure, including food processing and manufacturing, transport and logistics, professional services and farm supplies.

Although concentrated in larger centres such as Wagga, Cootamundra and Temora, there are locally significant processing and supply systems in most other towns.

There is a variety of value-adding translating into a considerable marketing advantage for products trading on the 'clean and green' environment. These include grain milling; oil seed processing, animal and fibre processing, animal feed manufacturing, packing of raw fruits, nuts, vegetables and meats, and processing food such as dairy, wine and cider, and feed supplements.

Before agricultural produce makes it to market, there are inputs such as fertiliser, fuel, technical support services such as agronomists, vets and mechanics, irrigation water delivery, transport and infrastructure, grain milling, oil seed processing, animal and fibre processing, animal feed manufacturing, packing of raw fruits, nuts, vegetables and meats, and processing food such as dairy, wine and cider, and feed supplements.

The interactions of these agricultural industries with their secondary industries is a critical consideration in planning for agricultural land uses. The interactions between agricultural industries and their secondary industries should be strategically considered at all levels of land use planning.



Climate

The Alps occurs on the high-altitude mountains, ranges and valleys along the eastern edge of region. The altitude is generally above 1,000m with a temperate climate and a mild summer. Rainfall tends to be in the 606 to 2,344mm range. The mean temperatures can fall below -7.0°C in winter and just under 30°C in summer. Snow can occur throughout the Alps and persist above 1,400m for months. Frosts may occur throughout the year.

The Highlands occur between the Alps and the South Western Slopes. The altitude is between 400 and 1,000m. The Highlands have a temperate, warm climate. Rainfall tends to be in the 460 to 1,880mm range. Temperatures fall below -3.0°C in winter but rarely reach over 30°C in summer.

In the east, the Slopes are characterised by steep hills and valleys. The altitude is between 300 and 600m. The east Slopes have primarily a temperate climate. Rainfall tends to be in the 600 to 800mm range. Temperatures fall to around 0.0°C in winter but rarely over 32°C in summer. In the west, the Slopes are characterised by rolling hills and plains. The altitude is between 150 to 330m. The west Slopes have primarily a temperate, (hot summer) climate. Rainfall tends to be in the 500 to 700mm range. Temperatures fall to around 2.00C in winter and are regularly over 31°C in summer (OEH 2016; BoM 2001, 2018).

The biophysical characteristics of the Eastern Riverina are suited to renewable energy production by solar panel arrays and wind turbines. These facilities have the potential to provide opportunities for low cost energy directly to primary producers and food processors. It is important that renewable energy generation facilities are located away from highly productive agricultural land.



Biophysical characteristics

The topography of the Eastern Riverina is part of the Eastern Uplands Division of the Kosciuszkan Uplands Province, consisting of ridges, hills and tablelands with milder temperatures and higher rainfall. This division is covered by three Interim Biogeographic Regionalisation for Australia (IBRA) regions: Australian Alps, South Eastern Highlands and NSW South West Slopes (OEH 2016).

A large proportion of Alps is used for conservation (western side of the Kosciuszko National Park) and forestry. The main agricultural industry is grazing beef cattle on less rugged terrain and lower slopes. A large proportion of the Highlands is also used for conservation, and forestry is a primary land use. The main agricultural industry is pome fruit orchards (around Batlow), the grazing of beef cattle on the less rugged terrain and lower slopes, with some valley cropping mainly for stock feed.

The Slopes incorporate a variety of terrains, including undulating rolling hills, slopes and plains, and scattered ranges. The landscape of the South West Slopes is extensively cleared and developed for farming. It includes the main southern dryland cropping zone where cereals (wheat, barley, oats and triticale) canola and pulses (lupins, faba beans, chickpeas) are extensively grown. Grazing is often part of a mixed-farm enterprise. Floodplain and irrigation farming of turf, lucerne hay and dairy occurs along the Murrumbidgee and Tumut rivers.



Water access and irrigation

The Highlands and South West Slopes have relatively high rainfall and have been extensively cleared and developed for dryland cropping and grazing. Along the Murrumbidgee and Tumut river valleys, horticulture, hay and cereal crops are grown with where there is licenced access to water entitlements from the regulated river and groundwater systems, and rainfall runoff dams.



Locational advantage

Rising interest in Australian agriculture is linked to awareness of food production systems, reducing 'food miles' and buying locally, as well as demand for fresh (seasonality) and high nutritional quality of food consumed ('clean and green'). It is also recognised that agricultural land provides ecosystem services, food security and other benefits for urbanising communities that warrant its support and preservation through planning instruments, despite inherent difficulties with coexistence with urban sprawl (Brinkley 2012). The Eastern Riverina has reciprocal advantages for producers providing these services with markets, export potential, access to supply chain and value adding.

The largest exports by commodity flows are wheat and other grains, wool, meat products and food. There is also substantial movement of produce supplying grain to intensive animal producers and moving livestock to processing plants. Perishable (refrigerated) produce as well as long haulage of bulk and containerised commodities are transported to other regions in NSW and Victoria, and to export sea ports in Melbourne, Sydney, Wollongong and Canberra Airport.

The Eastern Riverina will further benefit from the Wagga Special Activation Precinct (SAP), Riverina Intermodal Freight and Logistics Hub, and the Inland Rail all contributing to freight options for exports destined to either Port Botany or Melbourne Port.

The proximity to Melbourne and regional cities of Albury and Wagga Wagga also enables accessibility to extensive restaurant, café and other markets as well as interstate visitors for existing and future agri-tourism and value add enterprises.

Challenges for agriculture in the Eastern Riverina Sub Region and planning solutions

Agricultural land is a finite resource, even in the Eastern Riverina where land fragmentation has adversely affected intensive industries such as dairies, piggeries and orchards, as well as broadacre cropping and livestock grazing.

This section highlights some of the challenges faced and planning solutions.



Historic land use planning

Historic planning policy has not strategically valued and protected rural land in many areas, instead regarding it as 'urban land in waiting' (Houston 1993). The absence of dedicated planning policy for agriculture has resulted in Local Environmental Plans (LEPs) that do not support agriculture in practice. Agriculture has spatial, biophysical and production criteria that can be similar to industrial development, especially intensive industries. However, in LEPs industrial zones are in dedicated areas with development controls managing incompatible development. In contrast, rural planning provisions often allow incompatible development and subdivision that affect farm amalgamations, expansion or intensification plans and ultimately restrict a farmer's ability to make a living.

Planning solution

Future land use planning must recognise the importance of agriculture to society and the economy and that the land and resources on which agriculture depend need to be protected and managed to enable continued use of the land for agriculture. The above challenges can lead to the following adverse impacts for agriculture if they continue to occur:

- **Inflated land prices** prevent farm expansion as residential land values are in a different market to agricultural land values.
- **Differing expectations:** Complaints are made to authorities from neighbouring residents about legal farming activities such as traffic movements, dust, noise, odour etc., resulting in adjustments being required to operations.
- **Loss of critical mass:** Urban encroachment gradually results in the loss of farmland and supporting services (a critical mass required for commercial viability), requiring farmers to source further afield.
- **Uncertainty:** land use conflict and the variable impacts on farming makes it difficult to plan for future investment in the industry. Pressures of encroaching development often result in farmers either selling land for non-rural uses or continuing to farm with the issue of land use conflict.



Statutory land use decision making

The time and cost involved in the development approval process can constrain the capacity of agriculture industries to quickly respond to market forces. Intensive agriculture land uses often require extensive site and impact assessments from specialist consultants and state agencies, while perceived environmental impacts on neighbouring properties can raise concerns in a community about the potential impact of intensive agricultural land use.

Planning solution

Clear development controls which specify requirements for intensive agricultural development, and non-agricultural developments near existing agricultural land uses, are integral to minimising community concerns and avoiding unnecessary cost and delays. Consistent requirements for information to support development applications can also streamline the application process for proponents and assist consent authorities to manage community expectations. It is important for both the agricultural industry and the community that the development approval process results in well managed agricultural land uses in the right location to enable the continued use of the land for agricultural production for the benefit of the wider community.



Land use conflict

Expansion of urban land uses and rural residential housing in rural areas creates potential for land use to conflict with agricultural land uses. This in turn places pressure on producers to adjust their normal farming practices to minimise impacts which can increase costs and threaten viability.

Planning solution

Planning policy and controls which prevent land uses in rural areas that are incompatible with agriculture can minimize the potential for land use conflict. Planning controls which require adequate buffer distances between land uses can mitigate potential impacts from agricultural land uses. With land use conflict being largely driven by the divergence in knowledge, expectations and activities of rural neighbours, particularly between new residents and traditional rural landholders, collaboration and networking becomes critically important to addressing changing social landscapes (UoN 2019).



Land fragmentation

Rural zoned land for agriculture (Primary Production -RU1, Rural landscape - RU2 and Rural Small Holdings -RU4 zones) make up approximately 76% of the Eastern Riverina.

Analysis of the rural zoned land in the Region found that:

- 20% is comprised of lots between 1 and 5 hectares in size
- 26% is between 5 and 20 hectares
- 15% is between 20 and 40 hectares
- 21% is between 40 and 100 hectares
- 19% is greater than 100 hectares in size.

Agricultural land in the Eastern Riverina is based on minimum lot sizes of 40ha to 250ha. Adverse impacts on agriculture can occur where there is a high degree of land fragmentation from undersized rural lot sizes. Small rural lot sizes limit the ability of most agricultural enterprises to achieve required buffer distances or expand their operations.

Expansion of agricultural operations in a fragmented rural landscape often means significant investment to purchase additional land. When additional land is not available for expansion producers usually exit the area or increase productivity via intensification of operations, a process which can increase the potential impacts on nearby non-agricultural land uses or require significant investment to mitigate potential impacts.

Planning solution

Planning policy which sets an appropriate minimum lot size for a dwelling house and prevents the further subdivision of rural land, except where there is a demonstrated agricultural need, can prevent the adverse impacts of land fragmentation.



Competing land uses

The land use zones that apply to the land on which agriculture occurs permit a wide range of other land uses. This competition for rural land on which agriculture can occur can lead to increased land prices and uncertainty for agricultural industries and investors. Increased non agricultural development on rural zoned land results in competition for the land leading to community disharmony and in some cases reduced productivity and or transfer of agriculture to other areas. For example, non agricultural land uses, such as renewable energy generation by solar panel arrays, wind turbines and waste plants, are putting pressure on the farming uses and character of rural land.

Planning solution

Planning controls which limit the range of non-agricultural land uses that are permissible in zones applied to agricultural land can prevent the encroachment of non agricultural land uses on agriculture. Clear and robust strategic planning policy and land use strategies are important to guide future non-agricultural developments to locations where it will not have adverse impacts on agriculture.

Critical mass

All agricultural industries have a critical level of production which ensures the economic viability of the enterprise. Where secondary industries rely on a minimum volume of agricultural product to remain viable it is imperative for the industry to maintain that critical mass for the benefit of all agricultural industries. This is important for the agricultural industries as well as the related supply chain, including ancillary services, infrastructure, markets, processing facilities and related industries.

Planning solution

When land use planning decisions have the potential to affect one aspect of the agricultural supply chain it has the potential to threaten the entire industry. Land use planning needs to recognise that it is not only agricultural land with important biophysical characteristics that needs to be retained for agricultural purposes, but also those key secondary supporting industries which may be located on lower quality agricultural land which are still potentially impacted by encroaching non-agricultural land uses.



Other challenges

Climate change

Future climate in the Eastern Riverina is predicted to be:

- Warmer with an increased frequency of very hot days, longer duration hot periods and reduced frequency of frosts.
- Drier, with reduced rainfall, particularly spring rainfall, increased frequency of heavy rainfall events and or severe bushfire weather, and time spent in drought.

The Eastern Riverina is expected to experience an increase in all temperature variables (average, maximum and minimum) by 2030. Summer temperatures are projected to increase by 0.7°C in 2030 and 2°C by 2070. Minimum temperatures are projected to increase by 0.6°C by 2030 and 1.9°C by 2070. Changes in cold nights are important in the maintenance of natural ecosystems and agricultural/horticultural industries.

Minimum temperatures are projected to increase with prolonged periods of hot days increase the incidence of illness and death of livestock and adversely affect some agricultural systems.

A critical concern to agriculture is securing water for production in terms of quality, quantity and delivery. The demand for water supply continues to intensify with projected increases in the population, the associated higher water demand from expanding urban industrial developments such as the Tumut paper mill, and meeting environmental water requirements.

The impacts of climate change highlight the need to protect land for its future productive capacity, such as higher rainfall and cool temperate climates, and/or where there is a combination of biophysical assets such as water, topography and soils. The Eastern Riverina supports high value agriculture now and will be increasingly important to sustain production of more specialised agricultural and horticultural enterprises.

Biosecurity

Rural land in the Eastern Riverina is exposed to pests and diseases that could threaten agriculture, the environment and community safety. Biosecurity hazards are managed by the NSW Government through the Riverina Local Land Services and local government. The distribution, abundance and management of insects, pathogens and weeds is also being affected by climate change. Pig farming is particularly vulnerable if/when African Swine Fever enters Australia. Stressed plant systems (crops) may become more vulnerable to insect and disease outbreaks as the efficacy of current control measures are altered.

The combination of urban areas, open farmland, forested areas and water sources results in serious pests such as foxes, wild dogs, deer, pigs, cats, rabbits and goats. Numerous plant species are already in the landscape and have a large impact on remnant vegetation and rural land operations.

Social licence

A social licence to operate refers to the perceptions of local stakeholders that an industry that operates in a given area or region is socially acceptable or legitimate.

It is important for agricultural industries to maintain a 'social licence' for their operations. The agriculture industry's right to farm agricultural land and retain access to water needs to be balanced with responsible and ethical land and livestock management and adherence to best practice operations to minimise the potential for adverse environmental impacts. Producers can help to protect their social licence by open communication and education and positive contributions to their communities. For example, Eastern Riverina intensive livestock industries (poultry and pork) continue to deal with gaining community acceptance for their operations. Further detail can be found in the [NSW Government Right to Farm Policy](#).

Changing markets and economic conditions

Agriculture is vulnerable to changes in markets and economic conditions. Long lead times for crop production and the need for extensive capital and infrastructure investment to change commodity or farming systems means some agricultural land uses are not capable of quickly adapting to changing markets and economic conditions. Due to the global market for agricultural produce, farmers in Australia are often price takers which can have significant adverse impacts on smaller operations.

In the Eastern Riverina agricultural and water reforms have led to removal of compulsory marketing arrangements, regulations and price supports. Farmers are now operating in a more competitive environment for growing and selling their produce. Some farm businesses are undertaking their own marketing through contract selling to processors or major retailers, while others are focused on niche markets for premium produce. Vertical integration of agricultural enterprises across the supply chain is achieving efficiency gains and price competitiveness. Land is required therefore not only for primary production but also for these secondary activities. These national trends, reduction in the number of farms, increasing farm size and output concentration, are clearly evident in the Eastern Riverina agricultural industries such as dairy, grains and oil seeds.



Opportunities for agriculture in the Eastern Riverina Sub Region and planning levers

Agriculture not only provides food and fibre, it is beneficial to the broader population on many levels: providing ecosystem services, scenic values, open 'green space', value-adding including renewables and a range of benefits through reduced food miles, education, research and food provenance. It supports a supply chain that generates substantial productivity and employment across local, regional and national scales.

This section identifies practical land use planning approaches and opportunities for agriculture in the Eastern Riverina and some planning considerations to help implement them.



Sustainable farming requirements

Planning for sustainable agriculture requires measures that allow existing and future agricultural industries to operate, adapt, improve and/or expand their current operations and business. Maintaining agriculture requires land use planning that ensures:

- Farms are of a sufficient scale to:
 - support efficient sustainable and profitable operations
 - provide for essential on-farm infrastructure
 - manage environmental impacts (this may include effluent and run-off management, set-backs for streams, native vegetation and existing houses)
- The risks of land use conflicts are managed by avoiding non agricultural development in the vicinity of:
 - established intensive agricultural industries, and any future expansion
 - key infrastructure for agricultural industries such as saleyards, abattoirs, feed mills and major transport routes to markets
 - important natural resources used by a range of industries.
- Land use conflicts are also minimised by developing relevant planning controls and guidelines for primary production areas that recognise good industry practice and educate the community (on rural living and agricultural).

- The agricultural base requires associated transport services and hubs, modern telecommunications and access to skilled workforces, to take the best advantage of markets and consumers.

Planning levers

Land use planning can support sustainable agricultural development and promote improved resource management, through planning controls, in the following ways:

- a. identify lands that are highly suitable for agricultural industries
- b. encourage and support appropriate zoning for agricultural land and appropriate zoning within these areas
- c. encourage compatible development in important agricultural land areas
- d. apply controls that separate incompatible land uses to minimise land use conflict
- e. adopt relevant minimum lot sizes to minimise fragmentation of resource land
- f. strategically plan for urban, residential, rural lifestyle, mining and other incompatible developments in locations away from highly productive important agricultural land
- g. implement right to farm policies for legitimate agricultural uses of land.



Intensification

Productivity growth is central to the performance and international competitiveness of Australia's agricultural sector. Producers can increase scale through expanding operations onto additional land and intensification of agricultural operations.

Commercially viable agricultural operations include intensive operations such as horticulture, viticulture, and lot feeding. Improvements in technology and reductions in capital costs mean that intensification is feasible. Some intensive agricultural operations can more closely resemble manufacturing processes as they occur in expansive sheds where climatic conditions are controlled and impacts from noise and odour mitigated.

Some intensive agricultural operations need to establish infrastructure such as sheds, greenhouses, irrigation systems and water storage, netting or vehicle access which requires significant capital investment. To secure this capital and see a return on the investment, businesses need certainty that production will be unencumbered by land use planning changes for approximately 25 years.

Intensive livestock production in the Eastern Riverina includes poultry farms, piggeries, and cattle feedlots. Recent improvements in the design, management and operation of intensive agricultural enterprises has resulted in productivity improvements and achievement of food safety, animal health, animal welfare and environmental sustainability standards. The Eastern Riverina has appropriate areas for siting these enterprises while minimising environmental performance and amenity issues such as odour, dust, noise, stormwater management, visual prominence and the protection of surface water and ground water. Further expansion of intensive animal and plant production is feasible in the Eastern Riverina due to the availability of suitable land, local feedstocks and reliable water supplies.

Planning levers

- Certainty in strategic planning policy and land use planning controls for intensive agricultural operations and neighbouring land can provide the appropriate investment environment for industry expansion.
- Preparation of a rural land use strategy develops an understanding of the needs of various agricultural industries and investigates opportunities and mechanisms to support intensive agricultural industries through LEP controls.
- LEP zones and provisions should be applied over intensive agricultural precincts; with land use tables structured to permit intensive agriculture and related industries while prohibiting incompatible land uses such as residential accommodation, tourist and visitor accommodation, commercial, heavy industrial and recreational activities.
- Minimum lot sizes should be large enough to limit fragmentation of agricultural land, incorporate industry requirements, enable expansion of existing agricultural industries and provide for adequate buffers to incompatible land uses.



Food security

Maintaining food security in the face of local and global upheavals relies on the ability to produce fresh and processed foods in Australia. This is also key for the health of the community and the environment by reducing food miles, reducing the cost of the food and making it more available for more people. Riverina Murray irrigators consider that food produced in their region should be marketed to differentiate their product in the market. With continued population growth, there will be increased and sustained demand for food and fibre.

Planning levers to increase food security

- Strategic planning for rural land must ensure productive land is identified and protective mechanisms provided through the planning framework to enable provision for expansion of agricultural production, food security and education purposes.
- Councils should zone agricultural land for primary production and only permit agriculture and a narrow range of supporting land uses in that zone.
- Some forms of horticulture may be a suitable permissible use in a range of zones, with opportunities for associated agri-tourism and roadside stalls.
- Minimum lot sizes should be large enough to limit fragmentation of agricultural land, incorporate industry requirements, enable expansion of existing agricultural industries and provide for adequate buffers to incompatible land uses.

Non-Planning levers to increase food security

- An education program will assist councils in delivery of planning mechanisms to protect agriculture.





Diversification and value-adding

Access to Sydney, Canberra and Melbourne and biophysical assets of farm lands, rainfall, irrigation, productive soils and farming infrastructure means that the Eastern Riverina is well positioned to capitalise on growing community interest in food provenance and agri-tourism.

The Riverina Murray Regional Plan and various Regional Economic Development Strategies all identify the need for diversification of agricultural commodities to include agri-tourism, boutique and artisan produce, and value adding.

Value-adding agricultural produce and farm gate sales provide the opportunity to increase or augment the income generated from agricultural production. Value-added manufacturing and food processing already include grain milling, oil seed processing, animal produce and fibre processing, animal feed manufacturing, packing of raw fruits, nuts, vegetables and meats, and processing of wine, cider and food products.

Primary production in the Eastern Riverina supports a significant value chain including food processing and manufacturing, transport and logistics, professional services and farm supplies. Value-added manufacturing facilities require significant investment. The co-location of related industries will maximise efficiency and infrastructure use, decrease supply chain costs, increase economies of scale and attract further investment.

Diversification approaches can range from selling direct to the community to specialised processing facilities, that require significant capital investment and the development of new skills but have the potential to significantly improve the economic viability of agricultural operations.

Currently in the Eastern Riverina, leasing of farm land to other farmers and to developers for renewable energy projects is considered a means of farm income diversification.

Tourism ventures that are underpinned by an agricultural activity can provide opportunities for income diversification and value adding. This has been very successful in high amenity locations such as the wineries around Tumbarumba and Wagga, where wine production is combined with other visitor experiences.

Research has found rural landscape features associated with some agricultural activities (such as pastures, vines and grazing cattle) positively influence the demand for rural tourism. However, agri-tourism developments should be restricted to properties undertaking primary production and should be sited with sufficient separation distances to minimise land use conflict with neighbouring agricultural enterprises. Appropriate road access and biosecurity controls should be put in place to protect agricultural enterprises.

Planning levers for diversification and value adding

- a. Certainty in strategic planning policy and land use planning controls for value adding operations and neighbouring land provides the appropriate investment environment for industry expansion.
- b. Preparation of a rural land use strategy develops an understanding of the needs of various value adding industries and investigates opportunities and mechanisms through LEP controls.
- c. LEP zones and provisions should be applied over value adding facilities; with land use tables structured to permit industries related to the primary production while prohibiting incompatible land uses.
- d. Agri-tourism (farm stays, bed and breakfast accommodation) should be associated with and complement the continued agricultural production on the land.
- e. Agri-tourism should be directed away from intensive agricultural operations or precincts.

Non-planning levers for diversification and value adding

- f. Intensive agricultural production precincts and businesses may be used for education of the community and tourists around how food supply chains work.
- g. Roadside stalls, artisan food and drink industries and cellar door premises all offer opportunities to promote NSW's clean green image to the international tourism market.
- h. Farmers markets could prioritise locally grown or made produce to support local growers.





Farming research promotion and education

The Eastern Riverina is uniquely positioned to provide promotion and education opportunities for the broader agricultural industry. Agricultural research by CSU, WWAI, FarmLink and NSW DPI provide further opportunities for education of farmers, local governments and communities on sustainable production, innovative farming systems, climate change and the challenges facing agriculture and producers. This education is important for consumers who might not otherwise understand how their food is produced and the intricacies of the food production chain.

Planning levers

- a. Provide agricultural education to local governments and consultants to ensure planning decisions are based on understanding up to date farming practices.
- b. Information and education facilities should be a permissible land use on agricultural land to enable producers to educate the community on how food supply chains work.



Circular economies

A circular economy is one that exchanges the typical cycle of 'make, use, dispose' in favour of maximising re-use and recycling. The longer materials and resources are in use, the more value is extracted from them. The circular economy concept is best, and most often, applied in relation to resource consumption and regeneration.

For the agricultural industry a circular economy presents possibilities for significant efficiencies and input cost reductions through energy generation and smart grid distribution; innovative off-grid energy solutions; recycled water use; and opportunities for renewables and waste solutions.

Planning levers

- a. Primary production zones should permit resource recovery facilities as a means of reusing waste products while also restricting incompatible uses to prevent rural land use conflict.
- b. Minimum lot sizes should account for a potential increase in the need for land area requirements as farming trends towards circular economies. Reuse of effluent and other products on farm to vertically integrate farm inputs and outputs may result in additional and diversified production areas on farm.

Planning toolkit

Best practice land use planning for agriculture includes recognition of the industry as a significant contributor economically, environmentally and culturally, providing recognition and management through all levels of the planning framework. Dedicated land use zones, provisions and minimum lot sizes are available to Councils and can effectively support primary production even in contested areas. This section highlights the parts of the planning system to facilitate this.



Strategic planning

Local strategic planning statement

A local strategic planning (LSPS) statement identifies the vision and trends for agriculture in an LGA and sets out the direction for agricultural land uses for the next 20 years. It is important that agriculture, the land it depends upon and the infrastructure and other secondary industries which interact with agricultural land uses are considered at this initial strategic planning stage. The LSPS should explain the economic contribution that agriculture makes to the local economy and reflect the community's expectations for the provision of food and fibre locally. Further information can be found in the following DPI guideline [Local Strategic Planning Statements – Agricultural Planning Advice for Councils](#).

Local land use strategy

The Riverina Murray Regional Plan 2036 and LSPSs set out the framework and expectations for preparation of local land use strategies. The agricultural component of a land use strategy should identify the agricultural industries in the LGA, land on which they are located and the essential infrastructure and secondary industries. A land use strategy is also an effective tool in communicating to the community the scale and importance of agriculture in the LGA economically, physically and socially. It is an important step in identifying where agricultural land should be protected from incompatible land uses.

A rural land use strategy will identify the linkages primary industries have with secondary industries, infrastructure and other components of the production chain to establish a holistic picture of relationships and dependencies. The strategy will also clarify the relationship of rural land with residential development and specify the circumstances in which additional fragmentation and residential development may or may not be appropriate. The strategy will also assess the policy framework including existing LEP provisions and make recommendations to retire and/or remove redundant provisions concerning rural subdivision and non-strategic residential development.

Agriculturally productive lands contribute to a strong foundation for the agricultural economy and underpins investment for growth. Pre-conditions for increased agricultural production exist on these lands it is important that the land is separated from urban areas and has sufficient space to evolve and expand.

Local environmental plan (LEP)

An LEP allows councils to tailor planning controls to address the issues facing agricultural industries in their LGAs. The LEP is informed by the rural land use strategy. The following are mechanisms that can result in positive outcomes for agriculture:

Land use zones: the RU1 Primary Production or RU4 Primary Production Small Lots zones are the most appropriate zones to apply to land which is currently used for agriculture and/or is suited to future agricultural land uses.

Land use zone objectives and tables: The use of specific zones for agricultural land allows the zone objectives to be specific for agricultural land uses and require other permissible land uses to be compatible with agriculture.

Limiting permissible land uses: LEPs can reduce the potential for land use conflict by restricting the range of permissible land uses where incompatible with agriculture. This is executed by careful construction of land use tables for the rural zones. Councils should review the permissible land uses in rural zones applied to agricultural land or where agricultural industries are located to prevent inappropriate land uses and limit potential for land use conflict. Land use tables for rural zones should be 'closed' to enable more control over the range of specific land uses.

Minimum lot sizes: The minimum lot size specified in an LEP for rural land needs to be of a scale to prevent fragmentation into lots which cannot support the locally typical agricultural land uses. Generally larger minimum lot sizes facilitate the establishment of larger and more appropriate buffer distance between potentially conflicting land uses. Larger lot sizes also enable expansion or diversification of the agricultural activities without the need to purchase additional land which can be an economically prohibitive option for farm expansion. While it can often be difficult to execute, the breaking of the nexus between minimum lot size and dwellings is a way to prevent new settlement on rural land, and a positive advance in promoting agriculture and preventing future rural land use conflict.



Development control plans and other approaches

Development control plans

A development control plan (DCP) for rural zones should include practical guidance for agricultural land uses. A DCP can specify buffer distances to be applied to all land uses, both agricultural and non-agricultural, to ensure that new land uses do not increase the potential for land use conflict with existing neighbouring properties.

Guidance on appropriate buffer distances is provided in the Department's [Buffer Zones to Reduce Land Use Conflict with Agriculture - An Interim Guideline](#).

Novel approaches

In some cases Councils may need to apply both planning approaches and non-planning advocacy to achieve positive outcomes for agriculture. For example, under the current legislative framework, Councils can:

- Set up a rural industry liaison committee to establish links between council and farmers and provide a forum for discussion of the issues facing agriculture in the LGA.
- Propose a highly contested area as a special planning precinct with planning provisions to protect from incompatible land uses.

Industry can provide advocacy through active involvement in land use planning decision making and strategic planning to raise the profile of agriculture. The land use planning system is only one mechanism available to reduce the potential for land use conflict. Agricultural industries can decrease the potential for land use conflict by adopting industry best practice operations which at best eliminate or reduce the impact of their operations on neighbouring land owners.

Similarly, clear communication with neighbouring properties and an education program targeting sensitive neighbours can help increase understanding of the reasons for some agricultural practices and prevent nuisance complaints.



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Broadacre cropping



Broadacre cropping delivers the highest gross value to the Eastern Riverina of \$489m. Key annual crops include wheat, barley, and canola.

Dryland winter cropping includes cereals (wheat, barley, oats, triticale), oilseed (canola) and pulses (chickpeas, faba beans, lupins, lentils). Wheat, barley and canola are the major crops by value. Crops are grown in varying rotations depending on site characteristics, seasonal variations, disease control, market demand and production preferences.

Hay and cereal hay crops are often grown in conjunction with the main broad-acre cropping areas. Lucerne hay production follows the Murrumbidgee and Tumut Rivers where it is grown primarily on river flats.

Distribution of broadacre crop producers by local government area

LGA	Gross Value of Production (\$)	% share of ER broadacre crops	% share of NSW
Coolamon	\$69.5m	14.2%	1.4%
Gundagai	\$38.4m	7.8%	0.8%
Junee	\$82.2m	16.8%	1.6%
Lockhart	\$79.9m	16.3%	1.6%
Snowy Valleys	\$1.8m	0.4%	0.0%
Temora	\$87.1m	17.8%	1.7%
Wagga Wagga	\$130.5m	26.7%	2.6%
Total	\$489.4m	100%	9.7%

Trends

Long-term productivity growth in broadacre industries is said to be around 1% per year (Boult and Chancellor 2020). This is also an analysis supported by RMCG Agricultural Expansion Analysis which identifies a plateau in wheat yields. A simplistic comparison between ABS 2010/2011 and the 2015/2016 census data shows a decline in tonnes of many broadacre crops and an increase in pulse crop production.

Locational requirements

Broadacre cropping in the Eastern Riverina is based on the reliable winter rainfall allowing for a wide variety of crops to be grown. The large tracts of land available allow for continued investment in broadacre technology, equipment and plant breeding to ensure competitive and profitable enterprises. This area is usually free of land use conflicts and competing non agricultural land uses.

Secondary industries include freight services, grain processing, grain storage and handling, and grain trading and marketing, as well as seasonal labour. As well as exports, the cereal grain industry in Eastern Riverina supports feedlots, piggeries and poultry production across the broader Riverina Murray Region.



Challenges

Water availability

The Eastern Riverina has relatively high rainfall and have been extensively cleared and developed for dryland cropping and grazing using the seasonal rain events. Along the Murrumbidgee and Tumut river valleys, horticulture, hay and cereal crops are grown with where there is licenced access to water entitlements from the regulated river and groundwater systems, and rainfall runoff dams.

Commonwealth and State government water policy reforms has seen the introduction of water trading, the Murray Darling Basin Plan, NSW Water Sharing Plans, Australian Competition and Consumer Commission (ACCC) Water Charge & Trading Rules and ACCC Water Price Determinations. Water trading has driven water into higher value irrigated businesses and environmental water recovery has reduced water availability in all traditional irrigation areas throughout the Murray Darling Basin.

Biosecurity

Growers are facing challenges from increasing herbicide resistance and increasing soil-borne pathogens in their farming systems.

Production rates

Declining soil fertility is having an overall effect on production rates even with advances in plant breeding, machinery/ technology development, and improved agronomic practices. Agricultural land of the Eastern Riverina has the capacity to support a diverse range of crop types of high quality under best practice farming systems.

Opportunities

Export markets

To increase gross value of broad acre crops, opportunities lie in gaining capital investment, accessing global market and improving farm productivity. Farming practices therefore need to focus on opportunities to attract a high price premium from nutrient continent, GM free, organic, environmentally sustainable production, or other value added premium niche.

Planning considerations

LGA planning need to ensure large holding sizes are maintained, fragmentation and land use conflict is minimised and there is continued access to water resources.

Livestock



Livestock industries are major contributors to agricultural production by GVP in the Eastern Riverina including: beef \$198m, wool \$94m, and sheep/lambs \$74m.

Distribution of livestock producers by local government area

LGA	Gross Value of Production (\$)	% share of ER livestock	% share of NSW
Bland	\$7.1m	7.6%	0.3%
Carrathool	\$22.5m	24.1%	0.9%
Griffith	\$2.3m	2.4%	0.1%
Hay	\$9.9m	10.6%	0.4%
Leeton	\$22.5m	24.0%	0.9%
Murrumbidgee	\$20.4m	21.8%	0.8%
Narrandera	\$8.9m	9.5%	0.3%
Total	\$93.7m	100%	3.7%

Trends

The gross value of Australian cattle and calf production (including live cattle exports) in 2017/18 was \$11.4 billion (ABARES Agricultural Commodities June 2018). In 2017/18, 71% of Australia's beef and veal (1.1 million tonnes) was exported to over 78 countries (ABS DAWR) at a value of \$8 billion. In 2016/17, the Australian red meat and livestock industry directly employed just over 191,800 people (Ernst & Young 2018).

Locational requirements

Critical mass is crucial for the ongoing viability of the industry across the region and within NSW given variations in seasonal conditions across the state. The Eastern Riverina provides a locational advantage given the availability of land, reliable water supply and integration of grazing, feedlotting and processing. Beef production in the Eastern Riverina is based on the reliable rainfall and/or irrigation allowing for a wide variety of pastures and hay to be grown. The large tracts of land available allow for continued investment in technology, equipment and breeding to ensure competitive and profitable enterprises. This area is usually free of land use conflicts and competing non agricultural land uses.

Feedlots and direct sales supply of animals to a range of processors in the Eastern Riverina:

- Gundagai Meat Processors operates near Gundagai in the Riverina, as a fee for service lamb processor. The plant claims to process 1 million lambs annually.
- Junee prime lamb is a lamb abattoir capable of processing 4,000 head per day and potentially more since a plant upgrade in 2019.
- Teys Australia and Cargill operate a joint venture beef abattoir near Wagga Wagga, employing 800 staff. The site focuses on grain fed and grass fed beef production.
- Teys Australia and Cargill operate a joint venture Jindalee feedlot near Temora, sourcing cattle from within a 500km radius of the site.

Secondary industries include freight services, grain and hay production, livestock handling and trading facilities, and seasonal labour. As well as exports, the beef industry in the Eastern Riverina supports local, state and national markets.



Challenges

Biosecurity

Noxious weeds are an ongoing challenge for rural landowners, particularly those in the beef industry as they are often the owners of large tracts of land that require ongoing management of weed species.

The costs of weed control including product purchase and time, can be substantial and can impact on profitability. This is also a major challenge for producers on smaller holdings located in high lifestyle areas where these neighbouring landowners may be unaware of their biosecurity responsibilities or are 'weekenders' and often absentees. Pest animals, for example feral dogs, can result in loss of calves and lambs.

Opportunities

Export markets

While the majority of Australian meat production is sold in domestic markets, export markets offer the greatest opportunity for diversification and offsetting risks. There is ongoing development of integrated supply chains through joint ventures to supply growing export markets and value-added meat exports based on distinguishing attributes such as grass-fed, organic and provenance attributes

Capital input

Feedlotting operations require significant capital expenditure and need assurances that production will be unencumbered by land use planning changes for approximately 25 years to justify the capital expenditure needed. Similarly the technology required for commercial sensing and objective measurement in processing to improve cost-competitiveness of supply chains need significant capital expenditure

Planning considerations

The encroachment of non-agricultural land uses and resulting increased land use conflict and higher land prices will restrict the opportunity for expansion of the feedlots and meat processors. New land use conflict is likely to result as production mechanisms transition from extensive farming to intensive production mechanisms based on significant infrastructure which may not satisfy the rural character expectations of the community. Legitimate livestock farming activities are likely to cause noise, odours, dust, spray emissions, smoke, vibration, etc. anytime during 24 hours including early mornings and late evenings and should be protected by right to farm policies

Fruit and nuts



The cool Highland climate is also suited to pome fruit, particularly apples around Batlow, with over 60% of NSW GVP grown here. There is also significant berry production with blueberries providing 5.7% of NSW GVP. There are also small areas of cherries, peaches, nectarines, truffles, nuts and grapes grown for wine production.

Distribution of fruit and nut producers by local government area

LGA	Gross Value of Production (\$)	% share of ER fruit and nuts	% share of NSW
Gundagai	\$0.1m	0.3%	0.0%
Junee	\$0.1m	0.4%	0.0%
Snowy Valleys	\$38.0m	99.3%	6.2%
Temora	\$0.0m	0.1%	0.0%
Total	\$38.3m	100%	6.2%

Trends

The blueberry industry has been expanding, with an average 15,000 tonnes of blueberries being produced per annum. The majority of blueberries are consumed domestically, with less than 5% exported to markets including Hong Kong, Singapore and Thailand. Around 300 growers produce blueberries on more than 2,500 ha in all states. The major production area is on the NSW north coast. NSW produced around 70–75% of the Australian crop in 2018. Other regions have increased plantings to take advantage of late and early season fruit, with the aim of having Australian blueberries available all year-round.

The performance of the apple, pear and stone fruit growing industry largely depends on external factors. Production depends on climate conditions, while exchange rate fluctuations, consumer health consciousness and the strength of downstream fruit processors influence demand. Industry production and revenue have been falling due to extreme weather events such as heatwaves, fire and hailstorms and now the decline in demand expected from the food-service sector and exports as a result of the virus. Growers rely significantly on international workers so travel and accommodation restrictions are expected to reduce the availability of workers and harvesting timeliness.

The Australian Grape Growing industry has been growing strongly with wine grapes making up an estimated 60.3% of industry revenue, so the industry is highly dependent on the downstream Wine Production industry.

Australia currently has more than 2,000 wine exporters sending tens of thousands of different wines to 119 destinations worldwide at a value of over \$3B. Volumes and values have not been as buoyant in recent years however exports have been strong to China, USA and Canada (to March 2020).

Locational requirements

The Eastern Riverina provides some good quality soils, a Mediterranean climate and access to irrigation water supplies, which are important for orchards. It also has good freight connections to Sydney, Canberra and Melbourne

The horticulture industries are reliant on a number of ancillary industries that are also utilised by other agricultural enterprises in the Eastern Riverina. These industries relate to machinery and irrigation equipment suppliers, mechanics, freight – logistics, competent trades, rural supply stores for crop husbandry inputs (fertiliser, pesticides, shade houses, hail netting), processing facilities for grading, packing, storage (including refrigeration) and seasonal labour requirements.

Challenges

Permanent horticultural industries have been moving from small scale production systems to larger broadacre systems or in some case, intensive protected cropping facilities.

Competition from foreign fruit imports, particularly tinned, juiced, processed and frozen fruit products, has increased.

Opportunities

Export markets

While the majority of Australian fresh fruit production is sold in domestic markets, export markets offer the greatest opportunity for diversification and offsetting risks.

Capital input

Permanent horticultural operations which need significant capital expenditure need assurances that production will be unencumbered by land use planning changes for approximately 25 years to justify the capital expenditure needed.

Planning considerations

The encroachment of non-agricultural land uses and resulting increased land use conflict and higher land prices will restrict the opportunity for expansion of the horticultural industries. New land use conflict is likely to result as production mechanisms transition from extensive in ground production to reliance on intensive production mechanisms necessitating the development of netting, greenhouses and other infrastructure which may not satisfy the rural character expectations of the community. Legitimate horticultural activities are likely to cause noise, odours, dust, spray emissions, smoke, vibration, etc. anytime during 24 hours including early mornings and late evenings and should be protected by right to farm policies.



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Department of
Primary Industries

For further information please contact us via email: landuse.ag@dpi.nsw.gov.au or visit our website: www.dpi.nsw.gov.au/agriculture/lup