



# Agriculture Industry Snapshot for Planning Central Coast Region

August 2020

*The gross value of agricultural production in the Central Coast (CC) is over \$161 million (2015-16), employing 1,150 people across a variety of agricultural businesses from just 0.02% of NSW's farmland. The value of agriculture averages over \$951/ha, compared to \$245/ha for the rest of NSW. This shows how important the Central Coast is for the State's agriculture industry. However, expansion of residential and lifestyle development has incrementally pushed farming out of some areas and makes it difficult for remaining producers to operate. Despite these challenges, the region has potential to grow and support particularly intensive agriculture, important given expected population growth of the region and surrounding Greater Sydney and Hunter regions.*

## Purpose of this profile

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 Central Coast 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 will be protected and supported in planning instruments.

It is important for the Central Coast Region to retain agricultural production in a local setting. The benefits for both farmers and the urban population are evident through reduced food miles and provenance, and also amenity, research and tourism opportunities. The Central Coast Region is unique with proximity to Sydney and Newcastle providing a market with over five million people, but also bringing a range of development pressures.

In terms of rural land, planning is managed by the Central Coast Council, guided by the Central Coast Regional Plan (2016). The Regional Plan has clear messaging about the need to identify, protect and capitalise on the region's agricultural industries, infrastructure and rural land.

## Agriculture in the Central Coast Region

The Central Coast Council is 1,680km<sup>2</sup> in area, or 1.23% of NSW. It is home to approximately 357,000 people. The region's landscapes are predominantly coastal hinterland with approximately 80km of coastline.

Although one of the more populated NSW regions, the Central Coast makes a relatively significant contribution to agricultural production in NSW, containing 1% of all farm businesses in NSW.

Poultry meat production is the dominant industry in terms of Gross Value Production (GVP), being 63.3% of the Central Coast's total agricultural GVP and supplying 11.7% of NSW's production. The chicken meat industry is worth \$2.7 billion annually, being 44% of all meat consumed in Australia (Cosby and Howard, 2019). After poultry, nurseries are the most common type of enterprise, making up the largest number of businesses in the region. These industries operate in an environment of increasingly global competition and opportunities, external challenges and changing land use.

The following table shows the Gross Value of Production and percentage share of agricultural output for the Central Coast for each of the top five industries. These industries alone account for 99% of all agriculture in the Central Coast.

Industry	Gross Value of Production (\$)	% share of CC total	Number of businesses	% share of NSW
Poultry (meat)	\$102.1m	63.3%	40	11.7%
Nurseries, cut flowers, turf	\$36.1m	22.4%	53	12.0%
Vegetables	\$10.3m	6.4%	37	2.5%
Fruit and nuts	\$6.2m	3.8%	44	1.0%
Poultry (eggs)	\$5.6m	3.5%	8	2.2%
Other agriculture	\$1.0m	0.6%	-	0.01 %
<b>TOTAL</b>	<b>\$161.4</b>	<b>100%</b>	<b>197</b>	<b>0.74%</b>

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

In addition to the commodities listed in the table above, the Central Coast Region produces a significant share of NSW fruits and vegetables. The value of zucchini and button squash production in the region was \$3.8 million in 2015-16 (40% of NSW production), lemon production in 2015-16 was \$2.0 million (17% of NSW production), and all other citrus fruit production \$3.0 million (26% of NSW production) (NSW DPI).

## Employment

Agriculture employs over 1,150 people across the Central Coast Region (ABS, 2018-19). The biggest contributor is the nursery and flora production followed by poultry (both meat and eggs) and vegetable production. These are people directly linked to the primary production of agriculture and don't include the vast employment within the key secondary industries. The timing of the ABS census also misses peak seasonal production employment periods for some industries such as vegetables and fruit.

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 Central Coast Region at the time of the ABS census.

## Agricultural highlights of the Central Coast Region

Farming in a coastal conurbation such as the Central Coast Region provides benefits and opportunities for producers and urban residents. By sustaining agriculture close to cities (the peri-urban area) such as Sydney, Gosford and Newcastle, there are farming advantages ranging from market differentiation and alternative income streams, access to labour, resources and materials, and opportunities to grow high value crops which benefit from market proximity (reduced food miles and spoilage). With population growth of over 75,000 people expected by 2036 within commuting distance to Sydney and Newcastle, there is even more reason to support agriculture locally (Central Coast Regional Plan, 2017).

This section highlights the prominent industries for the Central Coast Region, with further detail provided in Appendix 1.



### Poultry

#### Meat

Demand for poultry meat continues to grow (DPI, 2019) and there is pressure on farms to increase supply. However, poultry farms in the Central Coast Region are under high pressure from urban encroachment, restricting expansion. These land use constraints combined with changes in the industry towards 'free range' production systems and RSPCA-approved farms which favour lower stocking rates, are making it even more difficult for existing farms to increase productivity and enhance competitiveness (DPI, 2019).

The poultry meat industry in the Central Coast is dependent on the critical mass of product passing through local processing plants. Supreme Poultry is a poultry processor with operations in North West Sydney and Mangrove Mountain in the Central Coast, providing chickens for domestic and export markets. Most meat poultry farms in the region will supply either Cordina farms (processor located in Sydney) or Baiada (processor located in Hunter Valley region).

The vertical integration of the industry will mean that should land use or market pressures continue to increase, then this industry is likely to require intervention and support to ensure its future position in the Central Coast Region or eventual transition away from the region.

#### Eggs

There has been growth in egg production state wide with rising consumption of eggs as an alternative source of protein. The share of industry production attributable to free-range and organically-produced eggs grew in line with changing consumer preferences. While cage eggs accounted for the largest portion of eggs produced by the industry in terms of volume, free-range eggs accounted for more than half of the industry's value.

#### Industry requirements

Poultry operations rely on a range of factors – proximity to processors, access to a suitable workforce and potential to grow the business by expanding the number of sheds and chickens produced (Cosby and Howard, 2019).

The key inputs for the poultry industry are:

- feed – mainly grain sourced externally and mixed onsite
- road access for feed and livestock transport
- reliable supply of suitable quality water
- access to labour
- reliable electricity for a range of critical requirements e.g. moderating shed temperatures

The key secondary industries for the poultry industry are:

- processing facilities
- means for disposal of dead birds, litter and manure
- transport and access to processing facilities and markets.



## Nurseries/cut flowers/turf

Central Coast industries supply 12% of NSW's production of nurseries, cut flowers and turf. In general, this sector has been stable in the number of businesses and the area of land used for production. Increases in GVP has been experienced over the past five years. The strong growth of greenfield urban development in the Central Coast, Hunter and Sydney regions will ensure a ready market for turf and nursery products and this is unlikely to change significantly as land use planning policies for 'greener' urban areas mature.

### Industry requirements

The nursery industry relies on many of the similar secondary industries as the other agricultural industries in the region being machinery and irrigation equipment suppliers, mechanics, freight and logistics industries, competent trades and rural supply stores. The industry does require specialist potting mix suppliers such as those at Cooranbong, and suppliers of pots and associated equipment, which are readily transportable and available.



## Vegetables

Vegetable production is growing in the Central Coast Region, dominated by tomatoes and other vegetables such as Asian greens. Intensive horticultural practices, high-tech greenhouses and increased export of produce to the growing overseas markets are likely to be the focus of vegetable production in the Central Coast Region. The specific industry analysis in Appendix 1 details the breakdown of these individual industries including the number of businesses.

### Industry requirements

The vegetable industry, both the protected cropping and inground variants, are reliant on several ancillary industries that are also used by other agricultural enterprises. These industries include machinery and irrigation equipment suppliers, mechanics, freight and logistics, trades, and rural supply stores.



## Fruit - orchards

Urban encroachment on rural lands has reduced the amount of land available for fruit production, with the impacts greatest in the citrus industry in coastal areas where climatic conditions are most favourable. Stone fruit production has increased in the region as new varieties have been developed which no longer require periods of winter chill for setting fruit. Positive trends have arisen from the introduction of new crops to the region. These new crops include avocados and green tea and are taking advantage of the coastal climate and the proximity to transport and metropolitan markets to achieve a higher rate of return.

### Industry requirements

The orchard industry is highly specialised, with crops often necessitating protective infrastructure such as netting to control pests and adverse weather conditions. The industry is reliant on several ancillary industries that are also used by other agricultural enterprises. These industries include machinery and irrigation equipment suppliers, mechanics, freight and logistics, trades, and rural supply stores.

## Central Coast regional assets for agriculture



### Supporting industries and infrastructure

Before agricultural produce makes it to market, there are inputs such as fertiliser, fuel, technical support services such as agronomists and mechanics, processing facilities such as abattoirs, packing plants, cleaning facilities, transport access and infrastructure, etc. The unfettered access to infrastructure and supporting industries is critical to the ongoing production of food and fibre from agriculture.

The Central Coast Region's agricultural industries possess a comprehensive and diverse supply of support services and infrastructure in close proximity. The interactions of these agricultural industries with their secondary industries is a critical consideration in planning for agricultural land uses.



### Climate

The Bureau of Meteorology characterises the Central Coast climate zone as warm temperate with warm summers and cool winters. Climate is relatively uniform, with average summer temperatures around 20-22°C throughout the region. In winter, average temperatures range from 12-14°C along the coast and slightly cooler inland. Maximum temperatures during summer range from 24-26°C along the coast and 26-28°C inland. In winter, average minimum temperatures range from 8-10° around the coastal lakes to 4-6°C away from the coast. The region hosts many micro climates due to the topography of the hinterland which allows industries like avocados to grow successfully on the shoulder of the normal season for many other growing areas.



### Water

Rainfall is uniform and typically reliable over the region, with more rain during summer and autumn, closer to the coast. Annual rainfall ranges from 1,200-1,600mm near the coast to between 800-1,200mm further inland. The temperate climate, reliable high-quality water supplies, moderate slopes and well-drained soils provide important agricultural lands within the region suitable for cropping, vegetable production, protected cropping (hydroponic and greenhouse vegetables, flowers and nurseries) and grazing.



### Soils

The Central Coast region lies on Hawkesbury sandstone, with the Hornsby plateau the dominant geological feature. The Central Coast Plateau land, which accounts for over 10,000 ha of productive agricultural land. The soils on the plateau are generally sandy well-drained soils and there is available good quality ground water which is conducive to growing a range of crops and flower species. Turf is generally cultivated along the alluvial flats in the north of the region where the productive soils and large areas of flat land are conducive to growth and harvesting.



### Locational advantage

The proximity of the region to Sydney, Gosford and Newcastle markets and processing centres provided by the M1 Pacific Motorway allows for specialisation in food manufacturing and production of highly perishable fresh products such as flowers, turf and live chickens. Commuting infrastructure provides access to a skilled workforce and freight.

Interest in urban agriculture has been rising in Australia, 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 and other benefits for urbanising communities that warrant its support and preservation through planning instruments, despite inherent difficulties of the coexistence with urban sprawl (Brinkley, 2012). The Central Coast Region has reciprocal advantages for producers including markets, export potential, access to supply chain and value adding.



### Infrastructure

The M1 Pacific Motorway provides access to Sydney, Gosford, Newcastle and Brisbane. The Main Northern rail line between Sydney and Newcastle is an important freight link. The Port of Newcastle is currently used for agricultural exports, with potential to expand. Freight infrastructure includes warehousing and logistics in the Central Coast region, servicing ports and air services in Newcastle and Sydney (Mascot and Western Sydney). This infrastructure and connections give the region a significant competitive advantage.



## Challenges for agriculture in the Central Coast Region and planning solutions

Agricultural land is a finite resource, particularly in the Central Coast Region where decades of fragmentation has adversely affected agriculture. This section highlights some of the challenges faced and planning solutions.



### Historic land use planning

Historical planning policy has not strategically valued and protected rural land in peri-urban 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 located 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.

This trend if it continues can mean that:

- over time less land will be available for agricultural production within close proximity to Sydney, Gosford and Newcastle
- the external impacts on the remaining agricultural activities will need more specialised management at the urban fringe
- some agricultural activity may be displaced and may leave the region altogether, as evidenced by the poultry industry moving from the Greater Sydney region to other regions.

### Planning Solution

Future land use planning must recognise the importance of agriculture to society and the economy and also 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 increase land values beyond its agricultural land value.
- **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 farming.
- **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 services 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 land uses or continuing to farm with the issue of land use conflict.



## Urban encroachment and competing land uses

The land use zones that apply to the land on which agriculture occurs permit a wide range of other land uses. As population growth requires increased residential development there will be pressure to use rural land on the periphery of urban areas to accommodate residential development and other urban land uses. This competition for rural land on which agriculture can occur can lead to increased land prices beyond the economic agricultural value and creates uncertainty for agricultural industries and investors. This competition for land often results in dislocation and transfer of agriculture to other areas, sometimes at great personal cost to producers and their industry and a greater loss to the region.

### 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 urban land uses on agriculture. Clear and robust strategic planning policy and land use strategies are important to guide future urban growth to locations where it will not have adverse impacts on agriculture.



## Land fragmentation

In the former Wyong Shire LGA, 71% of rural land is potentially used for rural residential purposes. Also, where rural land is highly fragmented, over 97% of all holdings are less than 42ha in area. The Kulnura plateau and Yarramalong Valleys have the lowest amount of fragmentation. These areas also contain the majority of the key agricultural land in the region (Edge Planning, 2017). The collective impact of these pressures on agricultural industries is possibly indicated by the 45% decrease in poultry production in the former Wyong LGA from 2001. This represents a loss of \$10.5m to the local economy (Brunton and Docking, 2014).

As noted, adverse impacts on agriculture can occur where there is a high degree of land fragmentation. Undersized rural lot sizes result in increased land prices as competition from non-agricultural land uses arise. Small rural lot sizes limit the ability of new 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 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 to prevent the further subdivision of rural land, except where there is a demonstrated agricultural need, can prevent the adverse impacts of land fragmentation.



## 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 minimizing 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 conflict with agricultural land uses. This in turn places pressure on producers to adjust their normal farming practices to minimize 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.



## Other challenges

### Climate change

Across the region, rainfall is projected to increase in autumn by 2030. The projected increase is greatest inland in the near future, but more uniform by 2070. Summer rainfall is projected to increase and spring and winter rainfall is expected to decrease by 2030 in all parts of the region. Seasonal shifts in rainfall can impact agricultural productivity as well as natural ecosystems.

The number of cold nights is projected to decrease with climate change. However, dry winter and spring seasons will result in more cold nights across the region.

The Central Coast 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 1.9°C by 2070. Minimum temperatures are projected to increase by 0.7°C by 2030 and 2.1°C by 2070. Changes in cold nights are important in the maintenance of natural ecosystems and agricultural/horticultural industries.

Severe fire weather is projected to increase in the region by 2030 mainly in summer and spring (NSW Office of Environment and Heritage, 2014). These changes will have implications for animal and plant agricultural systems, particularly temperature increases.

### Biosecurity

Rural land in the Central Coast is exposed to pests and diseases that could threaten agriculture, the environment and community safety. Biosecurity hazards are managed by the NSW Government through Greater Sydney Local Land Services. The combination of urban areas, greenfield sites and intensive agriculture results in a higher risk for biosecurity issues. Numerous plant species are already in the landscape and have a large impact on remnant vegetation and rural land (Greater Sydney LLS).

The existing level of land fragmentation and resulting small lot sizes in the Central Coast means it is more difficult for an agricultural producer to control the activities occurring within the necessary biosecurity buffer. Biosecurity resilience will depend on operational factors and this can result in increased costs (Agrology, 2018).

### 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 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. Connecting with local markets and demonstrating low food miles and the importance of local food security can assist in maintaining a social licence for agriculture in a region. 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 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.





## Opportunities for agriculture in the Central Coast Region and planning levers

The agricultural supply chain in the region generates substantial productivity and employment across local, regional and national scales. The region has the potential to support more growth from industries displaced from metropolitan areas as well as provide food security for a growing population. Proximity to the Sydney and Hunter regions and connections via the M1 Pacific Motorway, the Pacific Highway and the Main Northern rail line place the region in a competitive advantage.

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



### Intensification

Productivity growth is central to the performance and international competitiveness of Australia's agricultural sector. Where the ability to expand operations onto additional land is not available, intensification of agricultural operations is essential to increasing productivity.

Most commercially viable agricultural operations in the region are intensive operations, such as poultry and horticulture. Improvements in technology and reductions in capital costs mean that intensification is viable. 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.

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

Poultry meat is the highest value agricultural product in the region with potential to increase, along with ancillary industries such as mushroom farming. Controlled-climate glasshouse vegetable production is also feasible, with favourable yields allowing more resilience to climatic fluctuations. The highly intensive nature of these operations generates high revenue per given production area making them a viable option for limited (high value) land. If integration with onsite energy generation and a circular economy can be achieved they will become increasingly efficient and economically viable, and have the potential for significant production increases (Agrology, 2018).

Land west of the M1 Pacific Motorway is identified as appropriate for intensive agricultural development, with Councils required to prepare strategic plans to protect intensive agricultural clusters from residential and rural residential development (Central Coast Regional Plan, 2017).

### Planning levers to support intensification

- a. 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.
- b. Rural land use strategy development is key to understanding the needs of various agricultural industries and investigating opportunities and mechanisms to support intensive agricultural industries through LEP controls.
- c. 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 etc
- d. 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

The recognition of the need for fresh food to be available locally for the health of the community is a key opportunity in the region. The ability to produce fresh food locally reduces food 'miles', and reduces the cost of the food, making it more available for more people and avoids the development of food 'deserts' (Dukes, 2019). There is a marketing opportunity for food producers to leverage the benefits of local food production to differentiate their product in the market. The population of Sydney is expected to grow by a further 60% by 2050, and the projected population increase for the Central Coast Region will increase demand for food and fibre. In combination these factors will lead to a higher value of agricultural production in peri-urban areas.

### 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 urban farms for intensive 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

Proximity to metropolitan areas of Newcastle, Gosford and Sydney and biophysical assets of coastlines, hinterland and productive farming development means that the Central Coast Region is well positioned to capitalise on growing community interest in food provenance and agri-tourism.

Value-adding agricultural produce and farm gate sales provide the opportunity to increase or augment the income generated from agricultural production. The simplest example of this diversification approaches is a roadside stall to sell excess produce direct to the community. More elaborate processing facilities, such as cheese manufacturing will require significant capital investment and the development of new skills that has the potential to significantly improve the economic viability of agricultural operations.

Agri-tourism in the form of low-key farm stays and bed and breakfast establishments can provide an alternative income stream for agricultural producers while also educating the community about the activities that occur on farm. These ancillary land uses should not compromise the agricultural production being undertaken on the land and agricultural production should be the primary land use. The region provides an opportunity to promote NSW's 'clean and green' production to the world through the high levels of regional tourism.

### Planning levers for diversification and value adding

- Farmers markets ('markets' as defined by the Standard Instrument LEP) should be permissible and encouraged by councils in appropriate urban and open space zones.
- Agri-tourism (farm stays, bed and breakfast accommodation) should be associated with and complement the continued agricultural production on the land.
- Agri-tourism should be directed away from intensive agricultural operations or precincts.

### Non-planning levers for diversification and value adding

- Intensive agricultural production precincts and businesses may be used for education of the community and tourists around how food supply chains work.
- 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.
- Farmers markets could prioritise locally grown or made produce to support local growers.



## Peri-urban farming, amenity, promotion and education

The region is uniquely positioned to provide promotion and education opportunities for the broader agricultural industry. On a local scale, agriculture in the region will provide further opportunities for education of communities on how their food is produced and the challenges facing farmers. This education is important for consumers who might not otherwise understand how their food is produced and the intricacies of the food production chain.

Urban farming is important in promoting the contribution of agriculture to the supply of fresh food, reducing food miles, providing an alternative supply of food and greening an area. Informal production systems such as community gardens, market gardens, orchards, bee keeping, edible streetscapes and verge gardens can be important contributors to food security and amenity and an important means of educating the community.

### Planning levers for peri-urban farming

- a. Urban land capable of small-scale agricultural production should be identified and facilitated through the planning framework. Suitable locations might include flood prone areas and open space networks.
- b. Information and education facilities should be a permissible land use on agricultural land to enable producers to educate the community on how the food supply chains work.

### Non-planning levers for peri-urban farming

- c. Consider encouraging food bearing vegetation in landscape plans and open space networks.



## 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 to facilitate circular economies

- 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. In the region an example might be the reuse of poultry litter as an input to mushroom substrate, with the mushroom compost ultimately being reused to grow grain crops to feed poultry. In this case either the poultry or mushroom farm may diversify to grow a grain crop with increased land area requirements.

## Planning toolkit

Best practice land use planning for agriculture includes recognition of the industry as a significant contributor economically, environmentally and culturally, and recognises and manages 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 statement (LSPS) identifies the vision and trends for agriculture in the 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 rural land use strategy

The Central Coast Regional Plan sets out the framework and expectations for the preparation of local land use strategies in the Central Coast. The agricultural component of a land use strategy should identify the agriculture industries in the LGA and the land on which they are located. This is also an effective tool in communicating to the community the scale and importance of agricultural in the LGA. It assists in identifying areas of agricultural land which 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 ensure a holistic picture of the agriculture-related industry. The strategy will 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 residential development.

#### Local environmental plan (LEP)

The LEP allows Councils to tailor planning controls to address the issues facing agricultural industries in their LGAs. An LEP is informed by the rural land use strategy. The following mechanisms 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:** The use of specific zones for agricultural land allows the zone objectives to be specific to agricultural land uses and enables permissible land uses to be limited to those that are 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 RU1 Primary Production, RU2 Rural Landscape and RU4 Primary Production Small Lots 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.

**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 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 (DCP)

A development control plan 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 [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 the agricultural industries in their LGAs. For example, 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.

- Consider special planning controls for specific agricultural precincts which restricts land fragmentation and prohibits 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.

## References

- ABARES, 2014, Trends in Australian Vegetable Growing Industry: 2005-06 to 2012-13.
- Agrology 2018, Production Possibilities – Western Sydney Airport Agribusiness Precinct, October 2018 <https://www.wcaa.sydney/agribusiness>
- Agrology 2019, Cost of Production analysis – Hightech Glasshouse Production in Australia December 2019 <https://www.wcaa.sydney/agribusiness>
- Australian Mushrooms 2020, <https://australianmushrooms.com.au/australias-mushroom-history/>
- Brinkley, C, 2012, Evaluating the Benefits of Peri-Urban Agriculture, *Journal of Planning Literature*, 2012 Aug; 27(3): 259–269.
- Bureau of Meteorology, 2020, Climate of the Central Coast, [www.bom.gov.au](http://www.bom.gov.au)
- Clark, M. 2017, Values of the Metropolitan Rural Area of the Greater Sydney Region, AgEconPlus Consulting.
- Department of Agriculture, Water and Environment, <https://www.agriculture.gov.au/abares/research-topics/aboutmyregion/nsw-sydney#regional-overview>.
- Dukes, S. 2019. Dinner Plans. A review of the role of city planning in maintaining food security. Unpublished thesis. Department of Primary Industries, Local Strategic Planning Statements, [https://www.dpi.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0005/849857/dpi-ag-advice-to-assist-councils-to-prepare-local-strategic-planning-statements.pdf](https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/849857/dpi-ag-advice-to-assist-councils-to-prepare-local-strategic-planning-statements.pdf)
- Edge Land Planning, 2017, Rural Land Use Background Paper (Stage 1 – Northern Areas). Prepared for Central Coast Council
- Future Directions, Localising food production: Urban Agriculture in Australia, 2015, <http://www.futuredirections.org.au/publication/localising-food-production-urban-agriculture-in-australia/>
- Godwin 2019, Australian mushroom growers: the crop that's taking off, [http://www.nswfarmers.org.au/NSWFA/Posts/The\\_Farmer/Innovation/Australian\\_mushroom\\_growers\\_the\\_crop\\_taking\\_off.aspx](http://www.nswfarmers.org.au/NSWFA/Posts/The_Farmer/Innovation/Australian_mushroom_growers_the_crop_taking_off.aspx)
- Goodall, A. (2018), Right to Farm- Agricultural Land Use Survey: Final Report, Institute for Public Policy and Governance, University of Technology Sydney, Sydney; prepared for the NSW Department of Primary Industries.
- Horticulture Australia Limited, 2013. Australian Vegetable Export Opportunities
- Houston, P, 1993, The importance of agriculture in planning for the metropolitan rural-urban fringe: interim views from a research program, University of Melbourne School of Environmental Planning
- NSW Health 2013, NSW Healthy Eating and Active Living Strategy: Preventing overweight and obesity in New South Wales 2013-2018 <https://www.health.nsw.gov.au/health/Publications/nsw-healthy-eating-strategy.pdf>
- McRobert, K, Fox, T, Heath R and Admassu, S, 2020, 'Managing farm-related land use conflicts in NSW', Research Report, Australian Farm Institute
- Productivity Commission 2005, Trends in Australian Agriculture, Research Paper, Canberra. <https://www.pc.gov.au/research/completed/agriculture/agriculture.pdf>
- Western City and Aerotropolis Authority 2020, Agribusiness Precinct <https://www.wcaa.sydney/agribusiness>

# Poultry



## Poultry meat

Producers supply to processors in Mangrove Mountain, Sydney and the Hunter Valley, who service both domestic and export markets. The facility at Beresfield (Hunter Valley) provides an important service to chicken producers in the region, where chickens and most inputs are supplied, and husbandry and facilities are provided by the grower. Most growers are dependent on the processor remaining in the region to remain viable, with limited competition available for processing capacity. The poultry meat industry is the largest financial contributor to the gross value of agricultural products produced in the Central Coast Region contributing approximately \$103m or 64% of the regional GVP and 12% of the state GVP.

Most of the poultry farms in the Central Coast Region are located in the suburbs of Mangrove Mountain, Kulnura and Peats Ridge. Most farms started on properties as a secondary source of income but as the value of production increased and the necessity to expand occurred, it became the main source of income. The industry provides many employment opportunities; studies have shown a 1:7 multiplier effect in monetary values.

## Trends

In the period 2010 to 2018 the GVP and production of poultry meat in the GSR increased by 6% (\$11m). This was however a slower increase than that of NSW as a whole which increased by 14% (\$97m). There has been a reduction in the number of poultry meat businesses in the Greater Sydney Region which reflects the movement of poultry meat businesses to other areas of NSW such as the Riverina Region which experienced significant growth in the industry with an increase of \$204m (by 534%) to \$242m and five new businesses.

The industry is undergoing on farm changes due to animal welfare and consumer tastes. Producers are now reducing bird densities to achieve certification under RSPCA guidelines and respond to market pressures. There are increasing numbers of farms undertaking free range and cage free production systems. These changes in production systems are leading to producers needing to increase the area of land used for poultry to increase production and maintain profitability.

## Eggs

Egg production in the Central Coast Region is valued at approximately \$5.6m which amounts to approximately 2% of the state total GVP for egg production.

Producers need to be licenced with the NSW Food Authority and then can sell directly to supermarkets, retail outlets, food service companies, restaurants, consumers or to processors who use the eggs to make other retail food products. Most eggs are sold domestically but some are exported as shell eggs or egg products.

## Trends

Eggs are produced and retailed as cage, barn or free-range which refers to the production system in which the hens are housed. There are both advantages and disadvantages to each of these styles of housing and the decrease in cage housing, and increase in barn and free-range, is driven by consumer demand.





## Poultry meat and eggs locational requirements

### Processing facilities and markets

The poultry meat industry has developed in the Central Coast Region due to its close proximity to the processing plants and major markets located in Sydney and Newcastle. Farms need to be within 100-150km from processing plants to ensure that birds are not transported long distances. The original processing plants were located in Sydney, which made the Central Coast area suitable for the industry to develop.

Most egg farms will grade and pack their own eggs, however, some farmers will sell to an independent grading floor (usually a larger scale egg producer who will grade, pack and distribute the eggs).

### Feed source

Feed costs account for 60-70% of ongoing production costs for the egg industry. The poultry industry in general is dependent on a source of feed and adequate access for transport in of the feed.

### Utilities and infrastructure

There are a number of infrastructure requirements that are essential to large scale (>50,000 birds) commercial chicken production and these services/resources must be secured for successful commercial production:

- three-phase power
- a suitable land site with adequate land for buffers (separation distances between sheds and any neighbours). The site terrain should allow for vehicle access (including semis and B-doubles), loading pads and shed sites. Very flat sites need to be well drained.
- good road access; all roads also need to be able to handle b-double weights
- reliable water supply of adequate quantity and quality.

Small scale farms will require buffer zones, good road access and reliable water but can generally operate with a standard power supply.

### Land and climate attributes

The industry is made up of predominantly shed raised birds. The production of poultry, particularly that which occurs in sheds, does not require land with high biophysical attributes. The poultry meat farms are generally vertically integrated with birds being raised by a farmer, who has a contract with one of the processing companies. The poultry industry is not reliant on land with favourable biophysical characteristics, however climatic conditions are important. Adult laying hens perform best at a temperature range of 21-28°C with a relative humidity of 60-80%. To maintain these conditions, the birds are generally kept in housing (or with access to housing) where the sheds can be cooled when necessary. (Agrifutures Australia 2017). Housing needs to be situated where there is good ventilation, especially during the evening as hens can overheat when they sleep. Sites must have good airflow and preferably cooler evening temperatures, for example, the base of a valley would probably not have the airflow required (Agrifutures Australia 2017).

### Biosecurity

Biosecurity issues can arise if there is a concentration of producers adjacent to each other. Industry recommends that poultry farms are located at least one kilometre from each other to ensure that diseases do not spread rapidly. The area was severely impacted by an outbreak of Newcastle Disease in the late 1990s where up to two million birds had to be destroyed. Additionally, open sources of water that attract wild birds should be avoided as wild birds can introduce disease into a commercial flock, increasing biosecurity issues.

### Secondary industries

The industry requires some specialised ancillary industries such as clean out contractors, wash out contractors, haulage firms. Otherwise many of the ancillary industries required by other industries are also required such as tradespeople, rural suppliers etc.

## Challenges

### Increasing urbanisation and land use conflict

Land use conflicts with neighbours and lack of understanding of the industry is hindering poultry farm development. Farmers need to increase the number of sheds on farms to remain profitable, however, they are constrained from increasing areas of operation due to land use conflicts. The industry is very viable so long as land use conflicts are minimised through better planning and support through improved infrastructure.

The egg industry does not need to move birds to processing plants at night like the meat industry, and has a prevalence of smaller operations with direct connections with the local community. These factors mitigate many of the land use conflict issues, however, the egg industry is still an intensive animal agricultural industry and increased urbanisation and competing land uses in rural areas will increase the potential for land use conflict and put increasing pressure on land prices which will restrict expansion opportunities. Mitigating against land use conflict through effective land use planning and providing improved infrastructure are the primary tools to ensure the viability of the egg industry in the Central Coast Region.

### Expansion

The major threat to the continued operation of the poultry industry in the Central Coast Region is the inability to expand. Meat producers need to increase the scale of their operations to remain viable. In the past, a three shed operation was viable with a good rate of return for the producer. Nowadays the farm needs to have at least six to eight sheds to make it economically viable.

### Changes in production systems

There are essentially three types of production systems, cage systems, barn systems and free range. The development of poultry egg sheds is capital intensive. The development of standards and legal requirements for the different production systems, especially free-range, is an issue for the industry. This can cause confusion and uncertainty for prospective farmers in determining which production system to implement and be confident that it will meet any future legal requirements (Agrifutures Australia 2017).

## Opportunities

### Clustering and processing

The industry would benefit from the development of an industry cluster with a processing plant, distribution centre and feed processing plant in the area to reduce transportation costs, with careful consideration of biosecurity risks and management.

### By-product use

The industry provides an organic product which is in high demand for organic farming and soil ameliorant. The industry uses a by-product from the timber industry (sawdust) which is used in the sheds as a bedding material.

### Free-range

Some emerging trends in the industry to keep it viable in the region include free-range production. This is dependent on any future animal welfare requirements. The RSPCA may have impacts on this development, however, industry research shows that free-range chickens are less productive, and more prone to disease.



# Nurseries, cut flowers and cultivated turf



The Central Coast has long history of growing vegetables, cut flowers and production of nursery plants due to its mild climate and rich soils along the river and creek flats. The proximity to Sydney and Newcastle markets also makes the Central Coast Region a viable location for horticulture.

The industry has developed predominantly in the Mangrove Mountain, Kulnura, and Peats Ridge areas. There are several large nurseries in the Mount White area as well as Wyee. The nursery industry has developed in these areas due to the availability of water, cheap affordable land, and access to utilities such as electricity.

The glasshouse nursery industry is generally involved in the production of young plants which are supplied to outdoor nurseries for growing out to a stage where they can be sold to wholesalers and retail nurseries.

The nursery industry provides health benefits through green life in houses, buildings and communal areas. The industry provides training opportunities for new entrants.

Yarramalong and Jiliby Valleys support predominantly turf farming and protected cropping.

## Trends

### Protected cropping

Intensification of production through protected cropping is considered to be the future of vegetable production as it allows for greater control of growing conditions, minimises use of chemicals and allows for higher yields from a small area of land.

### Technology

As with most industries today, the nursery industry is adopting new technology to improve efficiency and quality of production. As the cost of this technology decreases and productivity improves, it is expected there will be an improvement in the economic viability of these nursery operations.

### Indoor nurseries

Outdoor production is being replaced by indoor production systems due to efficiencies in water use, quality control and better yields.

## Locational requirements

### Soils

Cut flower and other crop production is centred on the plateau around Central Mangrove, Mangrove Mountain, Kulnura and Peats Ridge with some pockets of alluvial soils also being used. The soils on the plateau are generally sandy well-drained soils which are conducive to growing a range of crops and flower species providing nutritional requirements are managed and there is a ready supply of water.

Turf is generally cultivated along the alluvial flats in the north of the region where the productive soils and large areas of flat land are conducive to growth and harvesting.

### Outdoor nurseries

The outdoor nurseries are generally growing out plants in pots so do not require high quality soils. The pots are located on benches to hold potted plants above the ground. The Central Coast is suited to the nursery industry due to its range of climates, with warm mild temperatures towards the coast and cooler temperatures which are favourable for cool climate plants on the plateau.

### Transport

The nursery industry requires good transport connections to get stock to market. The close proximity of the Sydney and Newcastle markets is a significant advantage for the Central Coast Region, as is the established road infrastructure of the Pacific Motorway.



## Water supply

The Central Coast Region generally had a reliable water supply as a result of regular rain events. Water accessibility for irrigation is one of the major limitations to future field grown crops as farmers are reliant on rainwater or groundwater for their irrigation supplies. The regulatory regime for water harvesting can result in some restrictions on production as there is not an active water market in the region.

## Climatic conditions

The varying climate of the Central Coast is a determining factor in where different nurseries establish. Nurseries that are propagating plants are generally located in warmer areas (generally close to the coast) whereas those producing cooler climate plants or growing out stock are generally located further inland.

## Site characteristics

Most nurseries have been established on properties with little to no slope where cut and fill can be minimised. The sites are generally contoured and drained to retain water and ensure runoff does not cause a nuisance to neighbouring properties.

## Secondary Industries

The nursery industry in the Central Coast Region relies on many of the similar secondary industries as the other agricultural industries in the region. The industry does however require specialist potting mix suppliers such as that at Cooranbong, and a supplier of pots and associated equipment (Garden City Plastics).

## Challenges

### Increased urbanisation

Increased urbanisation and rural residential developments have resulted in an increase in the price of rural land which is an impediment to new entrants to the nursery industry or the expansion of existing operations. Urban encroachment and use of rural land for rural residential purposes also generates increased potential for land use conflict between horticultural operations and sensitive land uses such as residential and tourism land uses. Nursery industry participants are of the opinion that nurseries are a viable operation in the Central Coast Region providing planning controls can prevent urban encroachment. Rural land is also vulnerable to competing land uses that are suitable in rural areas, for instance traditional areas of vegetable and flower production in the Somersby area were displaced by the use of land for sand mining as well as rural residential, urban, and industrial development.

### Land use conflict

One of the major threats to the continued operation of nursery enterprises in the Central Coast Region is land use conflict arising from increased urban encroachment.

### Skilled labour force

Participants of the nursery industry consider the sector to be an attractive industry due to the conditions, pay and ease of access, however they have also identified the lack of skilled and willing labour is a challenge to the nursery industry.

## Water availability

Water availability is critical to the nursery industry. As climate change impacts rainfall patterns increased dry periods will place pressure on operations. The ability for operators to maximise water rights may affect the viability of some nursery operations. These impacts may be somewhat offset by the trend towards protected cropping and indoor nurseries where management of water supply is easier.

## Opportunities

### Proximity to Sydney and Newcastle markets

The industry is perfectly located between Sydney and Newcastle with good transport links to be able to transport products to markets quickly. There have been opportunities to develop niche industries in the area to take advantage of these links as well as the development of a Harvest Trail to encourage city residents to visit a farm and purchase fresh produce from the farm.

Edge Land Planning (2017) identified the potential for the nursery industry to expand by building on existing operations due to their proximity to the Sydney area. Rural areas of the Central Coast Region have the potential to provide land for the relocation of nurseries and new larger establishments to provide product for the retail market in Sydney.

### Protected cropping

There is potential to improve production using protected cropping methods. Investment into protected cropping infrastructure enables more efficient water use, better management of pests and diseases and the advantage of being able to grow products out of season.

The primary area for protected cropping in the Central Coast Region is on the plateau where previous outdoor cropping enterprises have converted to protected cropping. Other areas with a reliable water supply and good electricity and gas supplies are suitable for protected cropping enterprises as they are not dependent on soil fertility. Sites which are relatively flat and cleared are preferred for glasshouse construction to avoid the need for expensive clearing and landform modification.

### Improved technologies

The move to more intensive indoor production will be supported by the adoption of technology to improve efficiency and quality of production. As the cost of this technology decreases and productivity improves it is expected there will be an improvement in the economic viability of these nursery operations.

### Associated industries

There are a number of emerging industries such as specialist plant breeding enterprises which specialise in propagation, that could improve efficiency and may increase the value of the nursery industry in the region. There are also agri-tourism opportunities to develop food trails.

## Planning considerations

Aside from urbanisation, land use conflict and competing land uses, the trend towards indoor nurseries and netting of plants will increase the potential land use conflicts with other rural land uses. Planning controls that enable on farm structures to facilitate more effective production are critical to maintain the viability and existence of agricultural land uses in the region.

# Vegetables



The vegetable industry is dispersed along the ridges across the Central Coast Region with several main concentrations around Mangrove Mountain, Central Mangrove, Kulnura, and Peats Ridge. The industry developed in these areas, as there is suitable soils, reliable access to water through rainfall and groundwater, and good access to markets via road or rail. The Central Coast's climate is suitable for the growth of a range of crops and the soils are conducive to improvement with some inputs.

The industry provides significant employment opportunities in the region through on farm activities and ancillary industries. The age of active participants in the vegetable industry is rising with very few new farmers joining the industry due to the difficulties in establishing a new farm and the uncertainty associated with climate change and land use conflicts.

The Central Coast Region is known for the quality of the produce and growers receive a premium price for their products.

## Trends

The trend towards protected cropping in order to mitigate impacts of climate change and increase production efficiency and viability is a significant trend in the vegetable industry.

## Locational requirements

### Certainty

The large amount of investment in infrastructure needed for protected cropping operations means that participants in this industry need certainty that their investments, will be able to be recouped in the future. It is estimated that generally, a 25 year period of production is required to justify the capital expenditure. This certainty needs to be reflected in land use planning policy to ensure that changes to land zones and planning controls do not allow encroachment of incompatible land uses which may indirectly impact on production output.

### Protected cropping

The protected cropping sector of the vegetable industry requires relatively inexpensive land as the development of on farm structures is capital intensive. The industry requires good accessibility to water and employment. An important criterion is minimal land use conflicts with surrounding neighbours.

### Proximity to markets and population centres

Close proximity to population centres is important for vegetable growers in order to minimise the cost of transporting produce to markets and minimise the transport time for vulnerable produce. Population centres are also critical for providing labour or harvesting.

## Secondary industries

The vegetable industry, both the protected cropping and inground variants, are reliant on a number of ancillary industries that are also utilised by other agricultural enterprises. These industries are generally located within the villages of Peats Ridge, Mangrove Mountain, Central Mangrove, Somersby and Kulnura. The industries relate to machinery and irrigation equipment suppliers, mechanics, freight – logistics, competent trades, and rural supply stores.

## Challenges

### Urbanisation

The industry is facing increasing pressures of urbanisation and rural residential developments.

### Land prices

Increasing land prices in rural areas arising from competition from rural residential development and other permissible land uses has restricted the ability of existing farms to purchase new land to expand operations or new farmers to enter the industry.

### Water security

One of the primary limiting factors to expansion of the vegetable industry in the Central Coast Region is access to water rights and the purchasing of water licences, on the open water market, as these are now separate to land title.

### Communication infrastructure

The lack of good communication services (landlines, mobile and good quality internet) is a major impediment to business as the peripheral components of agricultural production, ordering, transport and sales are increasingly moving to on-line platforms.

## Labour

The vegetable industry finds it difficult to attract sufficient labour to assist with the harvest of produce. Strict visa requirements for itinerant workers have had an impact on the availability of a willing workforce. The lack of regular public transport in the region limits the ability for potential employees to get to the businesses to work. A supply of affordable housing in the region would make it easier for employees to live in the area where industries are located.

## Protected cropping

A significant limiting factors to the future development of the protected cropping industry is the planning policies that relate to the structures. The protected cropping industry requirements are not fully understood by planning authorities, and an education program to explain their requirements to these regulatory bodies would be beneficial.

## Protected cropping – land use conflict

The industry like others in the region is under threat from land use conflicts with new owners of adjacent rural land (the conflict usually revolves around noise, odour and spraying).

## Opportunities

### Agri-tourism

There a number of opportunities for niche enterprises such as organic farming, agri-tourism, farmers' markets, or farm trails. The Central Coast Region benefits from close proximity to Sydney and Newcastle where residents from these areas can visit for the rural atmosphere. Agri-tourism on the Central Coast could benefit from more promotion of the area as a location to visit for its agricultural products. There is also opportunity for the development of niche industries and a provenance scheme to promote the Central Coast as the location of speciality produce.

### Proximity to markets

The location of the vegetable industry in the Central Coast Region gives it an advantage in getting fresh, high quality produce to the markets in Sydney and Newcastle without the risk of damage from long transport times.

### Food security

The vegetable industry is well placed to contribute to the food security of the Central Coast and the wider area.

### Niche markets

There are opportunities for the development of niche crops to serve alternative industries such as the beauty industry by providing extraction of essential oils from lavender and other herbs and the production of plants for medicinal purposes.

### Key to rural character of the area

The vegetable growing industry and farms with mixed enterprises enhance the rural character of the region, which is valued by the community and is under threat from expanding extractive industry and urban development.

### Growing urban populations

The vegetable industry on the Central Coast is well positioned to take advantage of the continued growth in population of Sydney and Newcastle. The region is an important source of food and flowers for these growing areas.

## Planning considerations

The encroachment of urban land uses and resulting increased land use conflict and higher land prices will restrict the opportunity for expansion of the vegetable growing industry. 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 greenhouses and other infrastructure. These features often do not satisfy the rural character expectations of the community.

Planning policy which provides certainty for land owners to invest in agricultural capital works is essential to ensure the future of the industry. Planning policy needs to ensure that changes to land zones and planning controls do not allow encroachment of incompatible land uses. This may indirectly impact on production output of industries which have invested to intensify production to remain viable.

Consideration should be given to permitting intensive horticultural operations in the RU4 Primary Production Small Lots zone. The intent of the RU4 zone is for primary production and should not be used for rural residential purposes.

## Industry future focus

Intensive horticultural practices, high-tech greenhouses and increased export of produce to burgeoning overseas markets are likely to focus the future direction of vegetable production in the Central Coast Region.



# Fruit - orchards



The orchard industry developed in the Central Coast region due to a favourable climate, good soils and rail and river infrastructure to transport the fruit to markets. The Central Coast Region saw citrus fruit grown near the coast due to its mild climate while stone fruit were grown on the plateau where period of winter chilling were important for fruit set.

Currently the industry contributes to harvest trails (agri-tourism), and provides various levels of employment to local people and contributes to the rural landscape of the Central Coast.

There are several lemon and orange orchards on the plateau at Mangrove Mountain and Kulnura. Some of these orchards supply the fresh juice factory in the area. Stone fruit production has diminished in the area as new varieties have been developed which no longer require chilling for setting fruit so can be grown elsewhere.

## Trends

Encroachment on rural lands by rural residential and urban land uses has resulted in a reduction of the amount of fruit produced. The impact has been greatest in the citrus industry as urban growth has been strongest along the coast where climatic conditions are most favourable.

Stone fruit production has diminished in the region as new varieties have been developed which no longer require periods of winter chill for setting fruit.

Positive trends have arisen from the introduction of new crops to the region. These new crops include avocados and green tea and are taking advantage of the climate, closeness to transport and niche markets to achieve a higher rate of return.

Avocado production is increasingly producing a high-quality product out of season with the other regular production areas in the country. This means that the producers are able to take advantage of short supplies and achieve higher prices.

Green tea is another new crop having some success. Several plantations are in trial phases and initial results show that the tea is of an exceedingly high quality and it is available for the export market at peak time.

## Locational requirements

Climatic conditions which favour the particular crop being produced are critical for production. Orchardists also require access to a reliable water supply.

The primary requirement is access to a supply of reliable labour to undertake harvest. Many orchardists rely on itinerant workers or backpackers for this support.

## Secondary industries

The industry is reliant on a number of ancillary industries that are also utilised by other agricultural enterprises. These industries are generally located within the villages of Peats Ridge, Mangrove Mountain, Central Mangrove, Somersby and Kulnura. The industries relate to machinery and irrigation equipment suppliers, mechanics, and rural supply stores.

## Challenges

### Competing land uses

The industry is competing against alternative land uses such as equestrian centres and rural lifestyle developments for land to maintain areas under production or develop new areas. The ability to develop rural land for these other land uses and the proximity of the land to growing urban centres has resulting in an increase in the cost of land further limiting the ability to expand operations or begin a new venture.

### Labour

The orchard industry finds it difficult to attract sufficient labour to assist with the harvest of produce. Strict visa requirements for itinerant workers have had an impact on the availability of a willing workforce. The lack of regular public transport in the region limits the ability for potential employees to get to the businesses to work.

## Water security

Water security and reliability is a challenge for the orchard industry. Increased uncertainty around licensing and competition for water from other industries such as the water bottling industry makes establishment of a new orchard an uncertain prospect.

## Communication infrastructure

The lack of good communication services (landlines, mobile and good quality internet) is a major impediment to business as the peripheral components of agricultural production, ordering, transport and sales are increasingly moving to on-line platforms.

## Opportunities

### Out of season and niche production

The opportunity for orchards in the Central Coast Region exists for the diversification into different crops to meet out of season demand or take advantage of niche markets such as avocados and green tea. Diversification has the potential to provide a future for orchards in the Central Coast Region.

These alternatives also have the potential to contribute to agritourism through harvest trails and farmers markets.

### Planning considerations

The encroachment of urban land uses and resulting increased land use conflict and higher land prices will restrict the opportunity for expansion of the orchard industry. New land use conflict is likely to result as production mechanisms transition to providing greater use of infrastructure to protect crops, such as hail netting which, may not meet the rural character expectations of the community.



© State of New South Wales published by NSW Department of Primary Industries [2020]. The information contained in this publication is based on knowledge and understanding at the time of writing ([August 2020]). However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of NSW Department of Primary Industries or the user's independent adviser.

#### Acknowledgments:

Information for this profile was sourced from publicly available statistical and spatial data. This is supported by industry intelligence from NSW DPI staff and industry reports. Compiled by the NSW DPI Agricultural Landuse Planning Team. Special acknowledgement to Elton Consulting for editing and Epiphany-PR for graphic design. The Snapshot will be reviewed once updated ABS data on an LGA level is publicly available.



Department of  
Primary Industries

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