

The Producer

Who produces meat chickens?

During the past many families owned their own **flock** of hens to supply them with meat and eggs.

Today, in Australia, most chicken meat production is carried out as an **intensive livestock** enterprise by **commercial** producers. The Australian chicken meat and egg industries are separate industries that use different chicken breeds, housing and production systems. The two industries are owned and managed by separate groups of people.

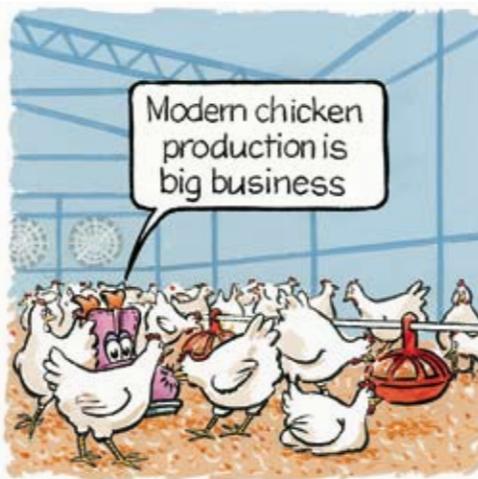
Chicken producers

There are currently more than 800 commercial meat chicken growers in Australia. Most grow chickens under contract to meat processing companies and are known as 'contract chicken growers'. These producers grow 80 per cent of Australia's meat chickens.

Growers usually own their farms and provide the management, shedding, equipment, labour, bedding and other supplies needed to produce meat chickens. Contract growers are paid a growing fee per bird by the chicken meat processing company they supply. The processing company provides and owns the chickens and supplies the feed, medication and technical advice to the contract growers.



Contract chicken growers produce most of Australia's meat chickens



A typical family-owned modern meat chicken farm requires an investment of \$4-5 million and produces more than one million meat chickens each year, in several batches.



Today most meat chicken production is intensive



Processors work closely with contract growers

Chicken meat processors

Australian chicken meat is supplied to **domestic consumers** by three large chicken processing companies, 10 medium-sized companies and a wide range of smaller processors.

Commonly recognised processor brands include: Inghams, Steggles, Baiada, Cordina, Red Lea, Golden Cockerel, Hazeldene's, La Ionica, Adelaide Poultry, Gourmet Poultry and Sunnybrand.

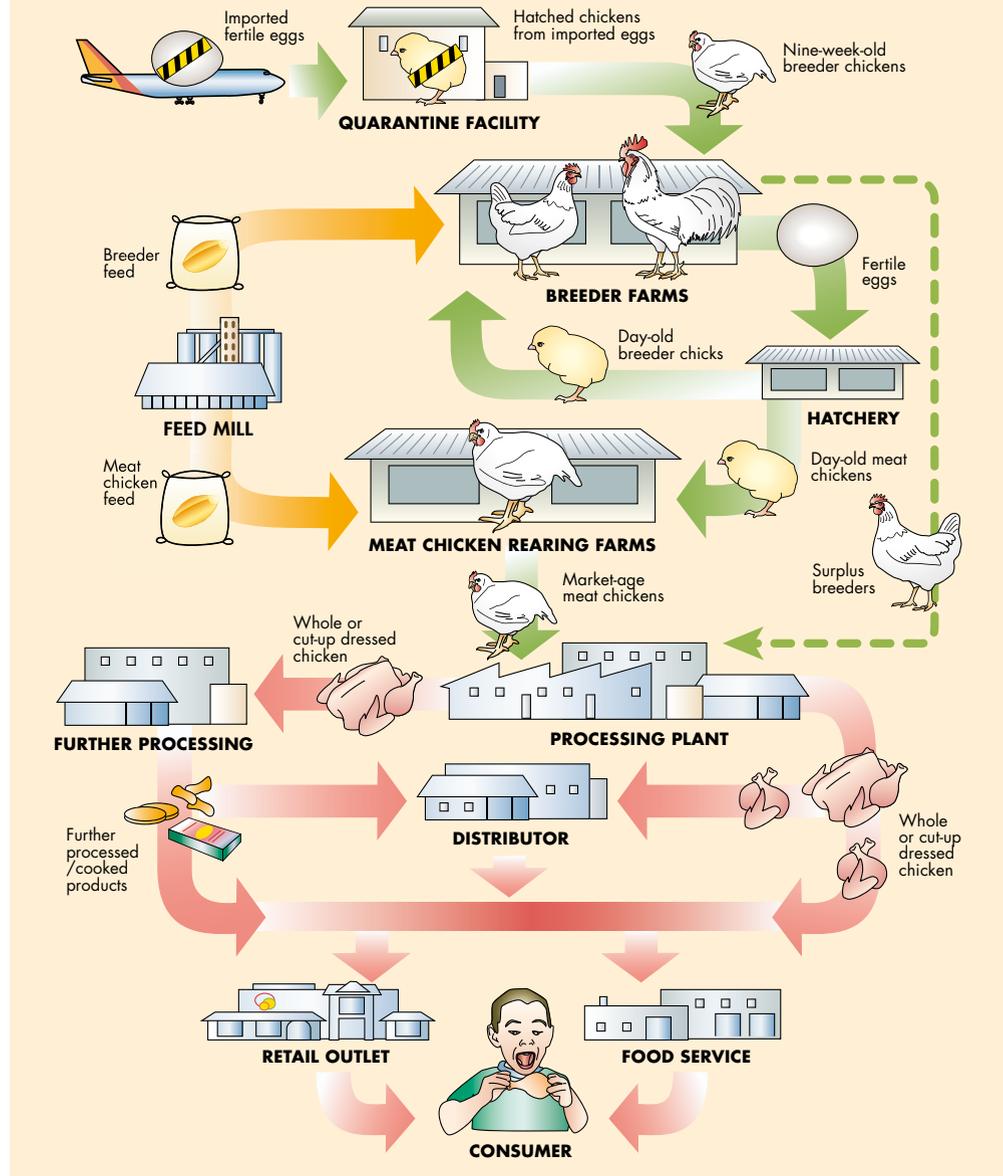
The three largest processing companies supply almost 80% of the chicken meat consumed in Australia.

Larger chicken meat processors own their own **breeder farms**, **hatcheries** and feed mills and some have their own laboratories to test for common poultry diseases and **pathogens**.

These companies also carry out research into developing new chicken meat products for consumers.

Some processing companies have their own **rearing farms** on which they grow some or all of the meat chickens they process. But most processors employ contract chicken growers who have their own rearing farms. A single processing company will get their meat chickens from a number of different contract growers.

The flow of chicken from the producer to the consumer



DID YOU KNOW?

All processing companies in Australia that supply chicken meat to Australian consumers are Australian-owned.

Where are meat chickens grown?

Most commercial chicken meat production is carried out close to cities or large towns, where large numbers of consumers live. This reduces the cost of transporting chickens to meat processing plants and chicken meat from processing plants to consumers.

History of commercial production

Australia's commercial chicken meat industry was first developed on the outskirts of Sydney, New South Wales. Other areas of production soon followed around other major population areas.

During the 1950s, the size of the industry increased almost seven-fold.

The industry expanded further during the 1960s as businesses that owned breeding and hatching operations, feed mills and chicken processing plants developed. These businesses contracted out the growing of meat chickens to specialist chicken growers.



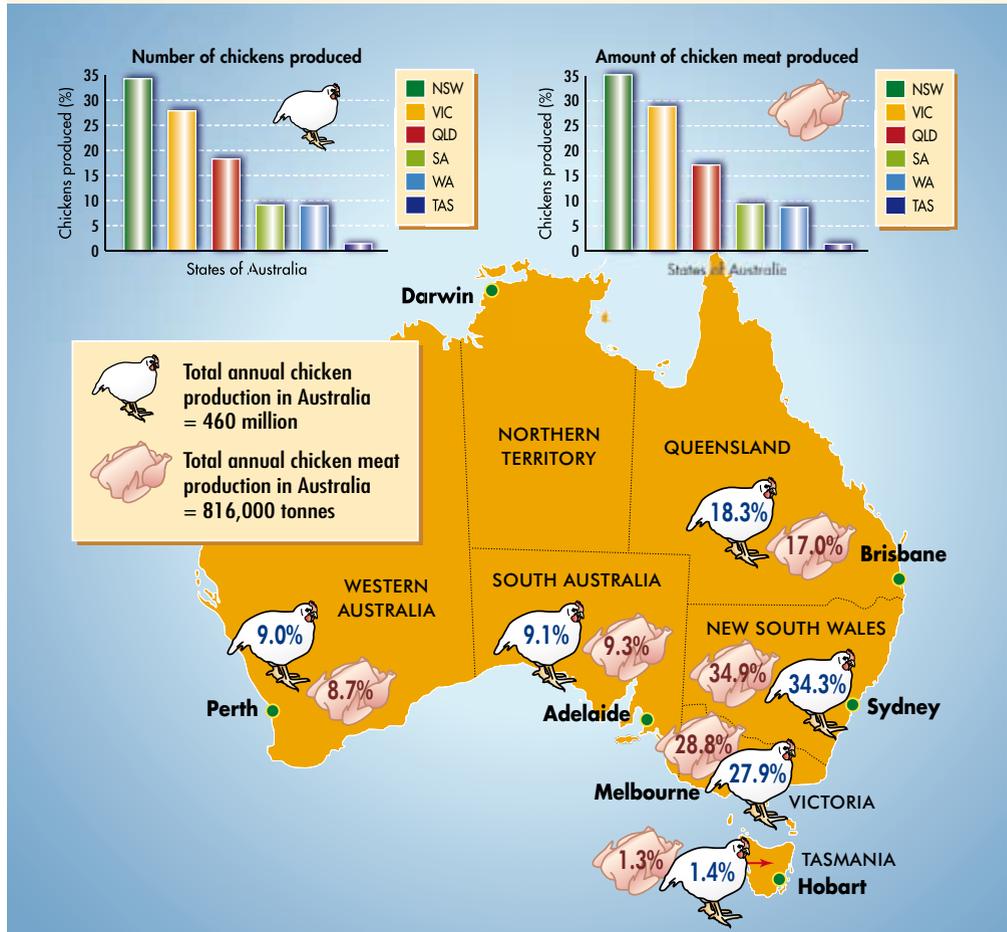
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Chicken production has increased since the 1950s

Chicken meat production by state in Australia

	NSW	VIC	QLD	SA	WA	TAS
Number of chickens produced* = 460 million						
Percentage per state** (%)	34.3	27.9	18.3	9.1	9.0	1.4
Chicken meat produced* = 816,000 tonnes						
Percentage per state** (%)	34.9	28.8	17.0	9.3	8.7	1.3

Source: * Australian Bureau of Statistics 2007
** Australian Chicken Meat Federation estimates of 2007 production.



Chicken meat production

Producing chicken meat involves a wide range of activities. These activities start at the breeder farms where parent hens are mated with cockerels to produce fertile eggs, and finish at the processing plants where chicken meat is processed, packaged and distributed to the market.

From the breeder farms on which they are laid, fertile eggs are transported to a hatchery, where they are **incubated** until the chicks hatch.

From the hatchery, day-old chicks are carefully transported to meat chicken rearing farms (often called grow-out farms). Here, chicken producers keep the chickens in purpose-built rearing sheds with a continuous supply of fresh water and food.

Chicken growers maintain the temperature and air quality of rearing sheds to ensure the chickens are comfortable. Growers manage their farms carefully to ensure the growing chickens remain strong and gain weight quickly.

When the meat chickens reach a size that is suitable for processing, they are transported from the rearing farms to the processing plant. After processing, chicken meat is prepared for sale for consumers.



In Australia, more than 1.4 million meat chickens are hatched every day.

The stages involved in chicken meat production

1 Breeder farm

- Parent hens are mated with cockerels to produce fertilised eggs
- Fertile eggs are sent to a hatchery.



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2 Hatchery

- Fertile eggs are incubated under carefully controlled conditions to maintain a constant temperature and humidity.



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3 Hatchery

- After the chicks hatch, they are counted, packed and transported by road or air to rearing farms.



ACMF Inc.

4 Rearing farm

- Day-old chicks are housed in large well-ventilated sheds. The chicks run on the floor which is covered with a comfortable bedding material.



Realphotos.com

5 Rearing farm

- Growing chickens remain in the rearing sheds until they reach market weight and are then harvested.



ACMF Inc.

6 Processor

- When target sizes and weights are reached, the meat chickens are transported to a processing plant.



ACMF Inc.



Meat chicken farms

In Australia, meat chickens are grown out on rearing farms in large poultry barns that are usually called sheds.

Shed sizes vary, but a typical new shed could be 150 metres long and 15m wide. A new rearing farm might have eight sheds each holding about 40,000 chickens — with the whole farm housing about 320,000 chickens per batch. Each farm will produce between five and six batches of meat chickens each year.



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Meat chickens are raised in large sheds

What is it like inside a shed?

Older-style meat chicken sheds are naturally ventilated with the sides open to fresh air. The amount of air passing through the shed is changed by raising or lowering curtains or shutters on the side openings. Stirring fans are fitted inside the sheds to encourage air flow. Water misting systems are fitted to cool birds by **evaporative cooling** in hot conditions.

Most modern meat chicken sheds in Australia have tunnel **ventilation**. Air is drawn at high speed through cooling pads in the walls of one end of the shed,



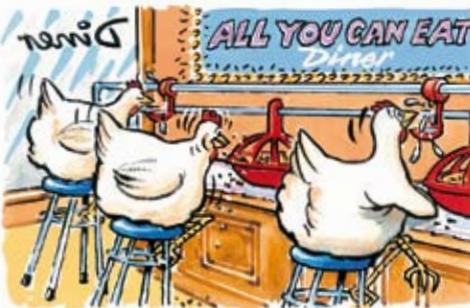
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Large fans draw fresh air through the shed



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Silos store and supply food to the sheds



over the chickens and out through large extraction fans at the other end of the shed.

Temperature sensors in the sheds monitor conditions and report to the shed computer controller, which automatically adjusts the fans as often as every three minutes to provide the best shed temperature and air quality.



Photos: Australian Chicken Meat Federation Inc.

Food is supplied through feed lines and pans



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Chickens press their beaks to drinkers for water

Feed lines and feed pans run the length of the shed. Automatic machines called **augers** transfer feed from storage **silos** outside the sheds into the feed lines and pans.

Water lines also run the length of the shed, and drinkers are provided at regular intervals. Drinkers can have either nipples that release water when the chickens press them with their beaks or cups that fill when the chickens peck at the bottom of the cup.

Feed and water lines are placed throughout the shed so chickens always have easy access to food and water.

Preparing the shed

Before the day-old chickens arrive at the rearing farms, growers prepare the sheds by spreading a thick layer of bedding material such as sawdust, wood shavings or rice hulls, across the shed floor. The shed is pre-heated and the feed and water systems are checked.

On arrival, the chicks are placed onto the floor of the shed. To start with they are kept in an area of between one third to a half of the total shed area. This is called the brooding area.

The chicks are kept warm with heating from gas heaters. This is called brooding and the heaters are referred to as brooders.

Extra feed pans and drinkers are provided in the brooding area and the bedding is partly covered with paper on which extra feed is placed. This ensures the chicks find feed quickly while they are learning to eat from the feeders.

For the first two days of the flock's life, the shed temperature is kept at about 33°C, which is the best temperature for baby chick comfort and health. As the chickens grow they need less heat to keep them warm, so the temperature of the shed is gradually lowered.

DID YOU KNOW?

Meat chickens are never kept in cages but instead run freely on the floor of the shed which is covered with a comfortable bedding material called litter.



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Fresh, clean bedding is spread on the shed floor



Leanne Scriver, furephotos.com

Chicks are released into a newly prepared shed



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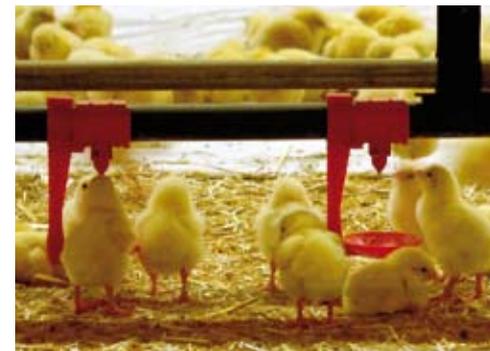
Chicks quickly learn to eat from the feed pans

Are male or female chickens raised as meat chickens?

Both male and female chicks are reared as meat chickens. Often the flocks are of mixed sex. Producers tell the sex of chicks from their wing feathers (see below). Some producers rear male and female chickens separately, either in separate sections of the same shed or in separate sheds or farms. Male chicks grow slightly faster than female chicks and segregating them can help manage the feeding and harvesting programmes.



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Drinkers provide plenty of water for the chicks



Leanne Scarlett, Ruralphotos.com

Growers check birds regularly to ensure they are healthy and behaving, eating and drinking normally

Animal welfare

Animal welfare means different things to different people, but is mainly concerned with the treatment of animals to ensure their health and wellbeing.

Consumers of animal products such as meat, milk and eggs demand that animals are kept healthy and cared for properly.

Bird welfare is an essential part of the daily activities of all meat chicken growers. Using the best animal welfare practices ensures growers meet their responsibilities to the birds in their care.

A high standard of animal welfare is good for business, as only healthy, well-cared-for animals grow at their best.

The standards for treatment of animals during all stages of meat chicken production and processing are set down in codes and guidelines supported by the government and the meat chicken industry. These standards have been developed to safeguard the chickens' welfare.

When growing meat chickens it is important the birds receive fast and appropriate treatment to prevent diseases or treat them if this becomes necessary.

Why is animal welfare important to the meat chicken industry?

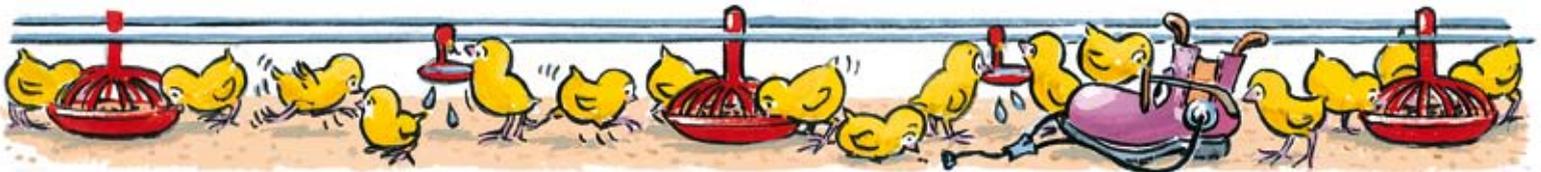
There are three main reasons why animal welfare is important to the meat chicken industry:

1. Out of respect for the animals themselves, so they do not suffer.
2. So the birds grow as well as possible and are not damaged in the process.
3. Because the industry recognises and respects community attitudes and expectations with regard to the humane treatment of livestock farmed specifically for their consumption.

It also is important chickens do not suffer any unnecessary pain, distress, fear or physical injury. Sick or injured birds that cannot be treated need to be **culled** in a **humane** manner so they do not suffer.

How are chickens killed?

Meat chickens are raised for human consumption and have to be killed (slaughtered) so the meat can be harvested. This is done in a humane manner. All chickens are stunned before they are killed. This means they are made unconscious and unable to feel pain.



Free range and organic production

A relatively small, but important, proportion of meat chickens in Australia is grown using alternative production systems, such as **free range** and **organic**, to meet consumer demands for chicken meat products in these ranges.

In Australia, the market for free range chicken meat represents about 3% of all chicken meat produced. The market for organic meat is thought to be about 0.5%.

What are free range chickens?

Free range meat chickens are produced using similar management, housing and feeding practices as those used for conventional meat chickens.

The main differences between the systems are that free range chickens have access to an outside run for part of the day, have lower numbers of chickens per shed and some health issues are managed differently. For example, routine vaccination is not permitted unless required by law or where it is not possible to control diseases with other management practices such as biosecurity.



No hormones or steroids are used in any chicken meat production systems in Australia regardless of whether the label on the end product says so.



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Free range chickens are allowed access to an outside run for part of the day

Chicken meat marketed as free range cannot come from chickens that have been treated with antibiotics. Antibiotics can be used under veterinary direction to treat sick birds but, after treatment, the meat from these birds cannot be labelled as free range.

One of the main certifiers of free range chicken meat in Australia is Free Range Egg and Poultry Australia Ltd (FREPA).



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Free range chicken



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Organic chicken

What are organic chickens?

In addition to the requirements for free range meat chickens, certified organic meat chickens must receive feed that has mostly come from ingredients that have been certified organic (for example, crops grown without the use of artificial herbicides or pesticides).

Some additional requirements have to be met with regards to the use of chemicals on farm and in processing. There also are requirements about the age of the chickens at harvest.

Chicken meat that has been certified as organic will have a certification logo on the packaging from an organisation approved by the Australian Quarantine Inspection Service (AQIS).

Processing

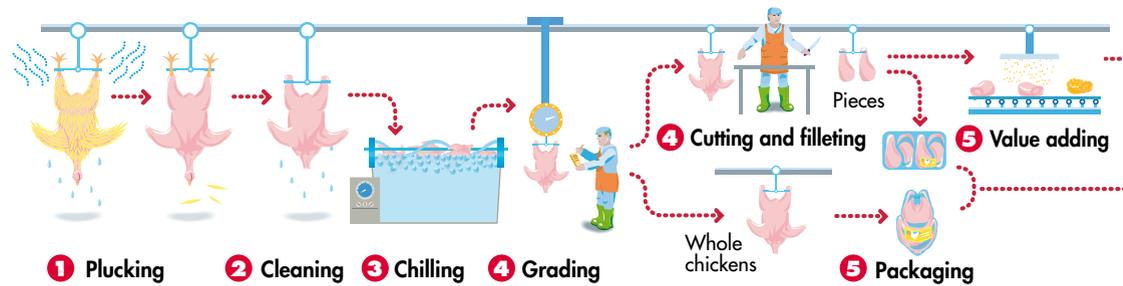
Meat chickens are killed using the most advanced technology and humane techniques available.

The chicken carcasses are processed to transform them into meat products. These products are delivered to wholesalers, **retailers** and food service outlets.

Of the live chicken, about 70% by weight can be converted to chicken meat products for people to eat.

What is processing?

Processing involves converting the live animal into edible meat products and a range of **byproducts**.



2 Cleaning

The plucked carcasses are thoroughly cleaned after automatic equipment has removed the feet, heads, digestive tract and other internal organs.



Stirk Food Systems, The Netherlands

3 Chilling

The cleaned carcasses are chilled rapidly in either iced water containing chlorine (to kill germs) or in chilled air in a room called an air chiller.



PHOTOS: Stirk Food Systems, The Netherlands

1 Plucking

After the chickens have been killed the chicken carcasses are defeathered. They are first passed through hot water to loosen the feathers. Automatic equipment then plucks the feathers from the chickens.



Stirk Food Systems, The Netherlands

During plucking all feathers are removed

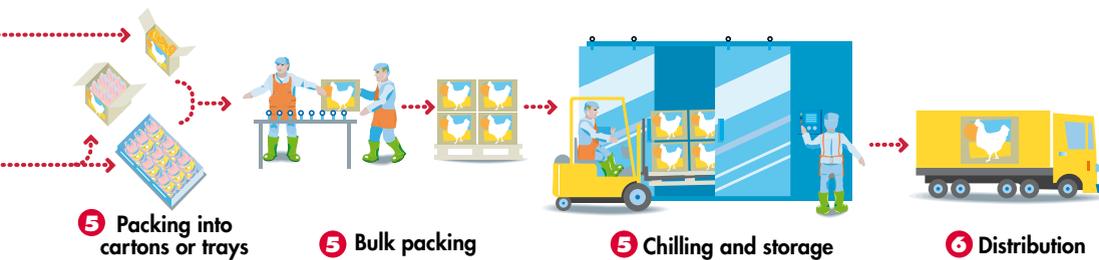


Lineo Food Systems

Birds are cleaned thoroughly before chilling



Cleaned carcasses are rapidly chilled



The largest processing plant in Australia processes about 700,000 meat chickens per week and employs 720 people.

4 Grading, cutting and filleting

The chicken carcasses are graded for size and inspected for quality. Some are removed for packaging as whole chickens. The remaining carcasses are further processed. Some are cut into pieces such as legs, wings and thighs. Some carcasses can be filleted, which involves removing meat such as breast and thigh fillets from the bone.



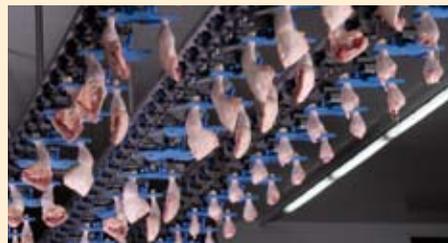
Carcasses are processed inside the plant room

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Carcasses can be packaged as whole chickens

Australian Chicken Meat Federation Inc.



Other carcasses are cut into legs, wings and thighs

Sork Food Systems, The Netherlands



Breast meat can be removed as fillets

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5 Packaging and value adding

Whole chickens are usually vacuum packed while chicken pieces and fillets are packaged onto plastic wrapped supermarket trays or as bulk lots into tubs or plastic-lined cartons or boxes. The trays and cartons of chicken meat products are then weighed, labelled and their bar codes scanned. The bar codes enable the products to be traced back to the processing plant and date of processing.

Some chicken meat may be sent in bulk to further processing plants where they are made into a range of value-added products such as chicken nuggets.



Chicken is packaged in cartons and labelled

Australian Chicken Meat Federation Inc.



Some chicken is further processed

Sork Food Systems, The Netherlands

6 Distribution

Packaged chicken meat is loaded into refrigerated trucks for distribution to supermarkets and food outlets.