Ord River District Co-operative Limited
ABN: 17 167 701 286
Kununurra WA 6743
672 Weaber Plains Road
PO Box 2120

Ph: (08) 9168 2255 Fax: (08) 9168 2226

ORD RIVER IRRIGATION AREA (ORIA)
FARMING FACTS

WATER

- The agricultural potential of the Ord region was first recognised by explorer Alexander Forrest in 1879
- Tropical agriculture was first attempted on the Ord River by the pioneering Durack family between 1941 and 1946, yet didn't take off until the irrigation scheme was established
- Kununurra Diversion Dam built in 1962, with Lake Argyle created in 1972. These two bodies of water provide the foundation for agriculture in the Ord River Irrigation Area.

Lake Argyle

Water volume	10,763 GL
Surface area	703 km2
Max. length	67 kilometres
Max. width	10 kilometres
Catchment area	46,100 km2

- Lake Argyle is the main water source which provides environmental flow, hydroelectric power production and irrigation water
- Lake Argyle has a storage capacity of 10,763 gigalitres – there are 1 billion litres in 1 gigalitre
- At maximum flood level, Lake Argyle would hold 35,000 gigalitres and cover a surface area of 2,072 square kilometres
- Second largest man-made lake in Australia after Lake Pedder Tasmania

Lake Kununurra

Max. length	55 km
Max. width	0.4 km
Water volume	90 GL

Ord River District Co-operative Limited
ABN: 17 167 701 286
Kununurra WA 6743
672 Weaber Plains Road
PO Box 2120

Ph: (08) 9168 2255 Fax: (08) 9168 2226

- Lake Kununurra provides the 'head' or height for the irrigation water to flow onto farms by gravity, with minimal pumping required
- Irrigation water is delivered to farms via an open channel network which is operated by farmer owned co-operative - Ord Irrigation Co-operative
- Excess water which runs off farms during irrigating is either returned to Ord River system or recycled on-farm for later use. Any water returned to the environment is subject to rigorous testing.
- Irrigation water is relatively cheap compared to other areas in Australia yet every single other cost is significantly higher in the ORIA – staff, fuel, insurance, fertiliser, freight , market access
- Water entitlements are attached to land in the ORIA, with 17 megalitre per hectare allocated in Ord Stage I and 15 megalitre per hectare allocated in Ord Stage II
- Average current cost of water in the ORIA is approximately $400 per hectare, per year. This fluctuates slightly depending on which crops are grown and how much water they require
- The Ord Irrigation Coop (OIC) hold a licence to divert water for their members (the farmers)
- There are no water rights as such. Members get an allocation based on area farmed, which has a base allocation.
- The licence to divert water is re negotiated every 10 years. There is no certainty that members will receive the same amount of water as previous periods.
- Members can not trade all their water "away" from their farm. A minimum of 12 ML/ha must always remain as per the articles of association.

LAND & SOIL

- Total of 14,000 hectares in Ord Stage I. First developments for farming commenced in 1963. Owned and farmed by a number of farming families and corporate entities.
- Additional 7,400 hectares developed between 2013 and 2015 as the first phase of Ord Stage II. This is known as the Goomig farmland, with Kimberley Agricultural Investment (KAI) holding a long-term lease over this land and meeting all costs associated with developing the farmland. Traditional owners via MG Corporation also hold ownership of approximately 10% of Goomig. WA and Commonwealth governments contributed to this development by funding the road and irrigation channel infrastructure.
- KAI was announced as preferred developer of the Knox Plain farmland at the same time as Goomig in 2012. This parcel is 6,000 hectares in total and is adjacent to the WA / NT border. After considerable delays due to approvals and cotton industry establishment, the development of Knox Plain is now underway with staged farming set to commence in 2025. KAI have entered into a joint arrangement with Keep Farming to develop and farm this land.
- A section of Carlton Hill Station has been approved for agricultural development, with 2,000 hectares to be ready for farming by 2026. Carlton Hill Station is owned by KAI, who will develop and crop the farmland.
- It is expected that the total farming area in the ORIA will be 30,000 hectares by 2026.
- The main soil type is typically known as Cununurra clay or 'black soil' – derived from its dark colour. These soils are fertile and well suited to flood / furrow irrigation.

Ord River District Co-operative Limited
ABN: 17 167 701 286
Kununurra WA 6743
672 Weaber Plains Road
PO Box 2120

Ph: (08) 9168 2255 Fax: (08) 9168 2226

- Some crops are produced on lighter, more sandy soil types and these are irrigated by drip irrigation, sprinklers, centre pivots or lateral move systems.

CROPS

- Almost any crop can be grown in the ORIA – except for those which need a proper cold snap. It's more a case of which crops can consistently turn a profit.
- The main crops being grown are;

Horticulture: made up of rockmelon, honeydew melon, seedless watermelon, butternut pumpkin and Kent pumpkin. Mostly sold within Australia with it highly likely that a melon purchased in a supermarket between April & November having come from the ORIA. Some exports also to Hong Kong and Singapore. All produce is trucked to major centres / capital cities for distribution. Grown between February and October each year.

Corn / maize (not sweetcorn): typically planted at the end of the wet season and grows for approx. 150 days. The corn kernels are naturally sun-dried in the paddock on the cob and then mechanically harvested to produce individual kernels. Exported from Wyndham Port to South Korea for processing into breakfast cereal & corn chips. Corn / maize is also an excellent energy feed source for cattle and is sold to surrounding cattle stations. Crop water usage of 10-12 megalitres per hectare.

Cotton: planted between January – March and grows for around 180 days. Planting in the wet season takes advantage of rainfall to establish the crop and also sees ideal weather conditions for flowering, fruiting and harvesting. Genetically modified cotton is produced in the ORIA, which allows the crop to be produced at the ideal time and significantly reduces the amount of water and pesticides needed to produce a top-quality product (more on this below). Cotton is harvested using a specialised John Deere picker, which cost around $1.6 million each.

Harvested cotton is processed in a ginnery or gin, which separates it into lint and seed. Lint is exported to overseas mills in 227kg bales where it is spun into thread which is used to make jeans, shirts, bed sheets, nappies, socks & jocks. Cotton seed, which makes up around half the weight of picked cotton, is fed to cattle and can also be crushed to make oil. Crop water usage of approx 7 megalitres per hectare.

Pulses & Beans: made up of chickpeas and culinary beans such as borlotti beans, mungbeans and black eye peas. Niche crop (small volumes) for supply to the Australian market – predominantly Melbourne and Sydney. The Ord River Chickpea is widely known as the best in Australia for its large size and creamy flavour. Grown during the dry season with sowing in April and harvest in August / September. Mechanically harvested and processed by Ord River District Co-operative before being sent to market by truck. Crop water usage of 6-7 megalitres per hectare.

Sorghum: grown for both cattle feed and human consumption. The ORIA does not produce any gluten-based crops and sorghum is supplied to make gluten-free WeetBix in Perth. Relatively small volumes produced to meet market demand yet gluten-free category is growing in size. Grown during the dry season and harvested mechanically using a combine harvester. Crop water usage of 7-8 megalitres per hectare.

Hay / Fodder: generally grown all year round to supply high-quality irrigated hay to surrounding cattle properties. Rhodes grass is the main variety, with growers aiming for 6-7 cuts per year. Grass is cut and windrowed in the paddock, left for a few days to dry out and then baled into 500kg 'big square' bales. Some sorghum and millet also used for making hay.

Tropical Fruit: made up of mango, banana, paw paw as well as small amounts of star fruit, longan and rambutan. Mangoes are the biggest fruit crop with harvest occurring in October / November

Ord River District Co-operative Limited
ABN: 17 167 701 286
Kununurra WA 6743
672 Weaber Plains Road
PO Box 2120

Ph: (08) 9168 2255 Fax: (08) 9168 2226

each year. The size of the crop varies quite considerably each year as it is heavily influenced by weather – mangoes need at least 5 days of nighttime temps below 18 degrees to induce flowering and very hot weather during fruit fill can cause the fruit to abort and drop. Most mangoes are sold on the domestic market, with a small portion being exported.

Indian Sandalwood: tropical forestry crop which is grown for its heartwood and the essential oil extracted from it. The heartwood and oil is used in perfume, cosmetics, wood carving and religious practices. First commercial plantings in 1999 with it really taking off after the end of sugarcane farming in 2007 as more land became available. Sandalwood is a hemi-parasite which means it needs host plants to supply it with nutrients. There are 2 main corporate growers (Quintis and Santanol) and some smaller individual growers. Sandalwood industry is currently under strain with Quintis entering receivership in April 2024.

TRENDS

- Sandalwood is currently the largest crop by area in the ORIA yet this is changing with the collapse of Quintis and sandalwood plantations being converted back to row cropping such as cotton, corn and horticulture
- Sandalwood will likely remain in the ORIA yet in a much smaller size
- Cotton will become the biggest crop by area in 2025 with around 7,500 hectares forecasted to be planted to support the new cotton gin
- A cotton gin is currently being built, which will be ready to process the 2025 crop. The gin is world-class and the first stage has a throughput capacity of 90,000 bales per season (or about 9,000 hectares of production). This first stage has a cost of $60 million, with this being funded by local growers and industry. The second stage of the gin will cost a further $40 million and increase the throughput capacity to 200,000 bales per season (around 20,000 hectares of production).
- All other crops remain important and will continue to be grown in unison with cotton - maintaining crop rotation and diversity is critical for long-term sustainability

COTTON

- Cotton grown in the 1960/70's didn't continue due to insect attack and the need for high levels of pesticide spraying
- Cotton has been grown or trialled in the ORIA for much of the time since the collapse of the industry in the early 1970's.
- Advancements in genetically modified (GM) traits allow for cotton to now be produced in the ORIA at the ideal time and significantly reduces the amount of water and pesticides needed to produce a top-quality product
- GM cotton plants are either herbicide tolerant, resistant to caterpillar attack, or both
- GM cotton that provides resistance to major caterpillar pests is known as Bt cotton. Bt cotton was developed using a natural soil bacteria which is expressed by the cotton plant and kills specific caterpillars when they eat it.
- GM technology allow the plant to use its energy to produce seed and lint more efficiently, as opposed to fighting pests. As a result the crop is far more efficient and uses less fertiliser, water and other resources to produce a crop.

Ord River District Co-operative Limited
ABN: 17 167 701 286
Kununurra WA 6743
672 Weaber Plains Road
PO Box 2120

Ph: (08) 9168 2255 Fax: (08) 9168 2226

- Herbicide tolerant or Roundup Ready cotton is resistant to the herbicide glyphosate / Roundup. This means that a weedy cotton crop can be sprayed with Roundup and the weeds will be controlled, with no effect on the cotton.
- Growers in the ORIA are growing cotton with both the Bt and herbicide tolerant traits
- A very high level of Government, industry and farmer control is in place to protect and preserve the GM technology and ensure it remains effective and safe
- The development of a cotton industry is a huge positive and has triggered massive investment on-farm and in related industries. Farming continues to be the backbone of economic activity in the ORIA – particularly at a time when other sectors are struggling

This information has been compiled by Ord River District Co-operative (ORDCO) and Ord Irrigation Co-operative (OIC), and is current as of May 2024