

# **Cotton at Griffith**

## **Part of our response to the drought**

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Commins Enterprises operates a diverse farming and manufacturing business at Whitton near Griffith in the Murrumbidgee Irrigation Area. We commenced our farming operation in 1989, purchasing our first 500 acre irrigation property. We now have six farms, all laser leveled and developed with integrated drainage recycle systems.

The last 2 – 3 years have presented new challenges to our farming operation, predominantly water related.

We are now in uncharted waters as to our best way forward; are we just experiencing a dry cycle or is this, the permanent weather pattern for the foreseeable future - “Climate Change”; nobody really knows. However, what we do know is that we have to adapt our farming programme and practices to make the most of this precious resource, **WATER**.

Returns now have to be based on Gross Margins/ML and not Gross Margins/Ha as they were previously. Traditionally land was our limiting resource, not water.

We run a diverse business comprising cotton, maize, seed sunflowers, seed onions, winter cereals, faba beans, beef cattle, 350 acres of hardwood eucalyptus plantation for saw log production, a stainless steel tank manufacturing business, and a 38 million litre wine storage complex. Recently we have planted 30 ha, which is the first stage of a horticultural development growing seedless easy peel mandarins under an intensive open hydroponic irrigation system protected by hail netting. We also have an interest in liquid fertilizer manufacturing and distribution.

For many years maize has been our bread and butter crop. Although the seed crops grown offer a much higher return/ML, there is considerably more risk attached. Strategically we cannot plant the majority of our area to seed crop due to being financially over exposed if there was a production problem. The challenge has been to find a broad acre summer crop which was more profitable than maize, which would suit our existing farming system in regards to our crop rotations, irrigation infrastructure, geographical location, existing machinery, labour and management experience and a crop which had good market opportunities.

### **Cotton**

Cotton was on the short list and has been on our radar for a few years now. However, it must be noted that we are in a very sensitive area due to the close proximity of neighbouring farms and the

complex irrigation supply system of the MIA. Cotton has only been an option since the development of the G M Bollgard varieties.

We looked at the challenges and benefits of growing cotton in our farming system and after analysing this data we decided to give it a crack. I have listed the main areas of concern and what our response is to overcoming potential issues:

#### ▪ **Irrigation**

The development of the terraced bankless channel irrigation layout has given us the biggest improvement in irrigation efficiency over any of our existing systems.

Advantages of this system include:

- Dramatic reductions in irrigation labour, i.e. elimination of the dreaded siphon change every 12 hours.
- An ability to achieve high yields on poor subbing soils.
- Very good chemical incorporation.
- Minimal drainage water, which means fuel saving on drainage pumps.
- Smaller drainage pumps required so less capital investment.
- Excellent machinery access i.e. no rotor bucks.
- Increased yield due to less water logging.
- Slightly less water used on free draining soils.

#### ▪ **Plant Establishment**

Due to our shorter growing season we need to get our plants cranking as early in the spring as possible. However we have had establishment issues with cold weather, i.e. 40 cold shock days recorded in our first year and 31 in the second year. We know this cold weather during the establishment phase of the crop has some detrimental effect on yield. Our aim is to reduce seedling stress or mortality by:

Pre-irrigation and plant into moisture, use pop-up fertilizers, plant at a slightly higher population, control soil borne insect pests and aim to have water on and off in 12 hours. This can be achieved with our bankless channel system.

#### ▪ **Geographical Location.**

We are as far south and east as any commercial cotton growing area. We are very mindful of the total day degrees so our crops have to be managed for earliness as a priority to ensure fibre quality. This means the use of cutout pix in mid to late January to manage earliness and timely defoliation to ensure mature fibres are a pre requisite for this area. We are also prepared to sacrifice yield to reduce our risk of exposure to a wet harvest compared to growers up north.

#### ▪ **Harvest Weather Risk.**

This was probably our greatest concern. Having a crop being ready to pick and being Johnny-come-lately to the industry, we believed we would find it difficult to entice a contractor to start,

when they had a lot of larger existing clients that they were committed to. So we alleviated that problem by buying our own machinery:

We can now have machinery in the field the day the crop is ready to pick. By purchasing our own equipment created some initial challenges, mainly through lack of experience. However, with our second harvest behind us I feel we managed quite well all things considered.

The biggest challenge was committing to the large capital investment before we had even grown our first crop. This decision was made easier because the drought has had a big impact throughout NSW & QLD, and there is a lot of surplus good quality equipment available at very reasonable prices.

We bought:

2 x JD 9976 Pickers

4 x Module Builders

1 x Boll-Buggy etc.

#### ▪ **Water**

The shortage of this resource is an issue faced by everyone. The reality is it will become more valuable and less available in the future. Water security is high on our agenda and we have been proactive in securing both general and high security entitlements along with groundwater to complement our farming business. We have also built a network of storage dams to harvest water if there is significant rainfall or off allocation events.

#### ▪ **Labour**

To most organizations labour is an issue, particularly harvest labour if you are doing your own harvest. Irrigation labour can also be a challenge. We are fortunate that we can call on staff from our other enterprises to fill the gaps during the busy times.

Agronomy Staff is contracted. Due to our inexperience in cotton agronomy, we have utilized the services of Allan Jones an experienced cotton agronomist through Elders for our in field advice.

All other fieldwork is done by our own experienced staff.

#### ▪ **Stubble Management**

We have developed a stubble management system over the last 7 – 8 years to manage our crop residues without burning. We incorporate high yielding maize stubble, and all crop stubbles for that matter, by mulching and adding lime with the aim of having them break down by the time the following summer crop is ready to plant. We have seen a marked improvement in soil structure, soil biota and water holding capacity. Our soil carbon level has gone from 0.9 to 3.5%.

#### ▪ **GMO Technology**

As stated previously, it has only been because of this technology that it has been possible to grow cotton in this sensitive and closely settled area. The Roundup Ready gene has also made

management more simplified because most of these farms are traditional rice growing farms and there is a significant weed bank of both broadleaf and grasses which would cause problems with control in cotton. We have found this a wonderful tool to clean up our country for subsequent rotational crops.

- **Knowledge Base**

There is a wealth of knowledge and experience, which is readily accessible to all participants within the cotton industry. Technology is constantly changing and improving and it is up to the farmers to continue adapting their farming system to keep abreast of these improvements, which in turn, will help maintain profitable margins.

- **Machinery**

By owning our own machinery we have more control over our own destiny, minimizing our exposure to weather risk and quality discounts, which can be very costly. This is a very difficult topic to quantify in a dollar sense. There will be times when a harvest contractor will be the most economic and there will be times when you will be significantly better off with your own equipment. **“To harvest your own crop or use contractors?”** This is a very individual decision and factors like your financial position, size of operation, adequate and experienced staff, and whether you want the hassle, are just a few factors which will influence your decision.

With your own equipment you can customize your harvest. That is, some fields or areas may not be ready so you can halt for a week and come back later. A contractor aims to get in and out as they are under pressure to get to the next job, therefore compromising yield or quality or both.

To date, it has been very cost effective to purchase good quality second hand equipment due to the effects of the drought.

- **Community Attitude**

There has been no negative feedback towards the cotton industry in this area. I think this is largely due to the guidelines outlined by the cotton B.M.P Programme and also because of the diverse agricultural enterprises in this region. The community is familiar with the practices of similar enterprises.

- **Rotations**

Cotton fits well within our existing enterprises and the Roundup Ready varieties actually enhance opportunities. By this I mean, it assists greatly by cleaning up many troublesome weeds, which cause problems and expensive control in our seed sunflowers & seed onions like blackberry nightshade and bathurst burrs.

- **Ease of Management**

Our experience over the last two years is that cotton is just another crop and to be perfectly honest it is easier to manage than growing maize or seed crops, now that we have access to the Bollgard and Roundup Ready varieties.

Once established, cotton is a very hardy plant. It compensates if you have plant stand issues, unlike maize & sunflowers.

Water management is less critical in cotton than maize. It is more forgiving if you are late with an irrigation, and with less yield penalty.

Being a fibre crop it offers significant diversification from the traditional grain crops we have been growing.

Our staff has enjoyed the challenge of introducing a new crop into the system and it has extended our contacts within the agricultural industry.

## **The Cotton Industry**

We have been welcomed into the industry at all levels and have been very impressed with its support and professionalism. We see similarities with the rice industry of which we have been involved. From the large growers to the small growers, there was free exchange of information and encouragement to achieve the highest yields and quality possible. This is probably due to the fact that all the cotton is exported and there is no specific threat to individual growers, and it is in everyone's best interest to maintain Australia's reputation as a producer of high quality cotton. This is a marked difference to several of the other industries we are involved in namely the vegetable industry, the horticultural industry and manufacturing. Information is kept secret for fear of the competitor gaining an advantage.

The industry priority is for sustainability. Particularly over the last few dry years, all involved have recognized that there is infrastructure being poorly utilized:

- Irrigation infrastructure, landforming, dams, channels, pumps,
- Staff, Labour, experience.
- Machinery and equipment.
- Ginning infrastructure under utilized.
- Contractors – harvesting, aerial spraying contractors etc.
- Chemical Suppliers, Agronomists and seed companies
- Merchants.
- And the list goes on.

## **Cotton in the MIA**

### **Where to from here**

This area has the potential to produce far more cotton than the Lachlan Valley. If you had asked me this question 5 years ago, with the knowledge of the new GM varieties and the dry late autumns, I would say we would see a significant expansion of cotton in this area. However, with the water issues we have at present, we may see a gradual increase amongst some of the more progressive farmers but not a big expansion.

Cotton is a high input crop and very expensive to grow so financial exposure is far greater if you have a crop failure or partial failure. The mindset of the traditional rice farmers will not accept the cost to risk of cotton. While grain prices remain high, the return/ML on grain/cereal crops is similar to cotton. Farmers will thus remain with the grain/cereal option.

I see the development of the new harvesting technology of baling on the go, eliminating the hassles of harvest labour and OH&S issues, as having a positive impact on opening up this area to cotton. However this technology is several years forthcoming. These farms are too small to justify the capital investment of owning their own equipment so it will be contractors only. It is also important that new growers have a successful result from cotton otherwise it will attract negative publicity and will not be adopted as an alternative crop.

### **The Challenge**

Our No. 1 goal is to develop a farming system that offers long term sustainability to our business. Because of the dynamics of farming, we will be continually changing and adapting to keep abreast of technology, changing climate, increasing input costs and changing markets. For what it's worth, I see a positive future for agriculture going forward. We as farmers need to position ourselves to meet the changing forces and embrace the needs of a more discerning public who will return to natural fibres and grain to meet their basic needs.