ACRES OF OPPORTUNITY
Pick A Future With Cotton

NORTHERN NEWSLETTER
PRE-SEASON

Considering growing cotton this season?

The **First Golden Rule** of growing cotton is to plan and prepare in advance.

Organise your contractors, inputs and suppliers early

You will need to source farm inputs such as seed, fertiliser, herbicides, insecticides, growth regulators and defoliants. You are required to sign a Cotton Seed Distributors (CSD) Grower Agreement to purchase seed and if you plan to grow cotton containing Bayer GM technologies you will also need a Bayer Technology User Agreement (TUA), which is a regulatory requirement. There are several CSD Agents and Bayer Technology Service Providers in Northern Australia.

Most cotton growers engage outside assistance to help manage their crop. This can include a crop consultant (agronomist) to assist with decision making throughout the season, and contractors for time sensitive farm operations (e.g. planting, picking and spraying).

Contact **Crop Consultants Australia** to find a consultant in your area.

Similarly, it is important to have suitable contractors engaged and ready to work when you need them. It is common for planting, spraying and picking of crops to be handled by contractors. In Northern Australia particularly, it is important to have suitable transport options secured early in the season to transport cotton rounds to the gin.

The paperwork - CSD Planting Seed Agreement (Grower Agreement) and Bayer Technology User Agreement (TUA)

Growers must have a Grower Agreement in place before seed can be dispatched from your local agent or reseller. The Grower Agreement is an annual agreement that sets out the rights and responsibilities of CSD, the CSD agent and the grower, with respect to the supply and stewardship of cotton planting seed.

For more details download the **2020 CSD Grower Information Guide**.

Growers must also sign a TUA. A TUA is a legal agreement between Monsanto Australia Pty Ltd (**Note:** Monsanto Australia Pty Ltd is a company owned by Bayer) and a grower, that gives the grower a limited license to use the respective Bayer GM technologies contained in the seeds, and describes stewardship guidelines and obligations for the Bayer traits. A TUA can be completed with your Technology Service Provider (TSP).

Consider the costs

In terms of budgeting and gross margins for growing cotton, there are a number of things to consider. Although the majority of costs come in-crop and at the back end of the season for a cotton crop, there are still costs related to ground preparation, fertiliser, seed etc. which come before planting. Currently, there are general industry gross margins available for both dryland and irrigated crops via the CottonInfo website.

View the suite of **Australian cotton industry gross margin budgets** for the 2019-20 season.

The industry is looking at trying to develop budgets specific to Northern Australia, as costs relating to transport and other factors significantly differ from the rest of the industry. If you are considering growing cotton for the first time, the best course of action is to speak to your chosen agronomist/consultant to develop a gross margin for your individual operation.

Consider your ginning and marketing options

It's also important to investigate cotton ginning and marketing, prior to planting. Remember that you will produce two commodities with each cotton crop - the lint and the seed - both of which can provide lucrative returns if marketed wisely.

For a list of Australian merchants, please visit **www.austcottonshippers.com.au**.

Key dates for Bollgard® 3 and Roundup Ready Flex® in Northern Australia

Cotton Seed GM Technology	Planting Dates	Planting Audit Due Dates	Mid-Season Survey Due Dates	End-of-Season Survey Due Dates
Bollgard 3 / Roundup Ready Flex.	8 week planting window between December 1 and May 30.	Due 2 weeks after the 8 week planting window has closed.	Due 4 weeks after the planting audit due date.	Due 8 weeks after the mid-season audit (dependent on picking time).

- All audits are conducted by your nominated Technology Service Provider (TSP) who will record all the areas planted with cotton seed containing Bayer technologies (together with varieties, field names and associated refuges on all farm units).
- Bayer will advise growers of audit dates once the planting window has been finalised for the region.
- Each valley has a unique planting window.

The Bollgard 3 Resistance Management Plan (RMP)

Insect resistance poses a serious threat to transgenic cotton, as the insecticide toxins it contains are expressed all season long. This persistent exposure to the helicoverpa population offers the potential for even stronger selection for resistance than would come from insecticide sprays targeting the same pest.

The cotton industry has taken a proactive approach to resistance management to ensure the longevity of the technology. As a regulatory requirement of the Australian Pesticides and Veterinary Medicines Authority (APVMA) registration of Bollgard 3, all growers are required to implement a Resistance Management Plan (RMP).

Taking into account the unique environment in Northern Australia, Bayer, in conjunction with the cotton industry has developed a Bollgard 3 Northern Australia RMP. The RMP outlines key management strategies that growers must put in place, in order to grow cotton containing the Bollgard 3 technology. Further details on implementing the RMP is provided in the accreditation program.

For more details: **Bollgard 3 Northern Australia Resistance Management Plan**.

Accreditation

Prior to planting any of Bayer's technologies, including Bollgard 3, growers must complete an accreditation course. The accreditation course provides information on the process required to grow the technology and outlines the key strategies within the RMP. Growers only need to complete an accreditation once for each cotton technology, prior to planting.

For further information contact: Mark Dawson, Australia Row Crop Sales Lead on **mark.dawson@bayer.com** or 0428 106 090.

What is a cotton planting window?

Cotton planting windows are a resistance management technique that restricts the period in which planting can occur, with the aim of restricting the number of generations of *Helicoverpa* spp. exposed to the proteins in Bollgard 3 cotton each season.

For more details please refer to the **Cotton planting windows and key RMP timings for Northern Australia Guide**.

Preparing to plant your crop

IS YOUR CURRENT MACHINERY SUITABLE TO GROW COTTON?

If not, you will need to engage the services of a contractor to assist.

Some field operations - particularly planting - are time sensitive, so there is tangible value in having machinery serviced early. Having machinery ready to go when planting conditions are right and having the capacity to cover the ground quickly will minimise the chance of missing the opportunity when it arises.

SEED BED PREPARATION

Ground cover, stubble retention and erosion are all important factors to consider. Planting into groundcover in some regions of Northern Australia is essential to protect the seed from excessive soil temperatures, which can effectively 'cook' the seed or burn seedlings on emergence.

8 Golden Rules of Dryland Cotton
Rule 4: Plant into standing stubble and plan refuges.

The ability to use Roundup Ready® Herbicides* over the top of cotton crops that contain Roundup Ready tolerance technology will help to control grasses and reduce competition, post establishment.

The use of equipment such as a strip till machine may also be beneficial when planting cotton into existing

groundcover. These machines only cultivate a small section of soil where the seed will be placed. Strip tillage where stubble or mulch cover is removed from soil either side of the seed row is not recommended for sandy or loamy soils planted to dryland cotton in the top end of the NT (or similar climates). Soil in the cultivated strip where mulch is removed can be too hot and may be subject to crusting, making poor establishment likely.

Variety selection

8 Golden Rules of Dryland Cotton
Rule 6: Choose an appropriate variety, Cotton Choices™ and row configuration.

10 Point Plan for Irrigated Cotton
Rule 3: Select the right variety and seed treatment.

Selecting a cotton variety that has the right regional and production fit is a very important decision. CSD has a range of varieties available, which should be selected based on yield, quality and disease resistance characteristics. Other traits such as determinacy, leaf shape and season length may also be important.

Check out CSD's **variety guide** and consult the **Australian Cotton Production Manual** - Chapter 7: Selecting the seed, page 37.

Neighbourhood relationships

It is your responsibility to ensure chemical drift is minimised on your farm and does not occur outside your property boundaries.

Cotton is highly susceptible to phenoxy herbicides such as 2,4-D. The core best management practice for safe and responsible pesticide use is to develop a pesticide application management plan (PAMP). Letting your neighbours, local resellers, spray contractors and aerial operators know that you have cotton can help minimise risk, particularly in new or isolated areas.

Check out **this handy flyer** for preventing off-target herbicide application.

SataCrop

SataCrop is a free online mapping tool designed to mitigate the risk of spray drift by allowing operators to understand where sensitive crops are located.

To register go to **www.satacrop.com.au**.

*my*BMP

The Australian cotton industry is dedicated to sustainable production and practices. *my*BMP is a program which ensures that best management practices are put in place to cover safety, environment, efficiency, management and sustainability on farm, among a number of other important factors.

The *my*BMP program is currently being adapted to suit cotton production in Northern Australia.

For further information, visit: **www.mybmp.com.au**.

INDUSTRY PROGRAMS

CSD Industry Support Program

CSD offers dryland cotton growers the opportunity to reduce their production risk via the Industry Support Program. For eligible crops which are registered under the program, a dollar for dollar credit towards the following season's seed will apply, if the dryland cotton crop is unable to be picked (excluding crops which are destroyed through hail damage). Terms and conditions apply.

For further information, visit: **www.csd.net.au/isp**.

Please be aware that registrations for Northern Australian growers will be subject to the conditions on the Northern RMP. Registrations for the CSD Industry Support Program must be received by CSD via email within the eight-week Northern Australia planting window for each region.

Roundup Ready PLUS® Program

The Roundup Ready PLUS program is designed to reward cotton growers who plant cotton containing Roundup Ready tolerance technology and who use herbicides sustainably and help slow or prevent development of glyphosate resistance in key weed species. The program encourages growers to use a range of weed control practices through product recommendations, education and stewardship campaign and financial rebates. Terms and conditions apply.

For further information, visit:
www.roundupreadyplus.com.au.

Why mulch cover is so important for cotton

By Alex Peachey, Senior Extension Officer, Department of Industry, Tourism and Trade. ***Contact:*** *Alex.Peachey@nt.gov.au*

On 28 October, DITT staff from the Plant Industry Division attended the mulch cover workshop. The workshop was organised by Territory Natural Resource Management and the CRC for Northern Australia and held on Bindaroo Pastures farm in the Douglas Daly region. Over 15 new and existing cotton growers attended.

The workshop demonstrated the importance of planting cotton into mulch cover. This is part of a minimal till farming system, also known as conservation farming. Conservation farming is any farming system that aims to conserve soil and moisture.

Steve Yeates, leading northern Australia cotton researcher, presented cotton research data from a range of cotton trials in Australia's tropics. "The cotton seed is actually very fragile" said Steve "it will die in hot soil".

"Planting a cover crop, such as Jarra grass first, harvesting it, then planting cotton into the Jarra stubble is much more effective than planting into bare soil".

"Unless there is cloud cover and rain at planting soil temperatures without a stubble are just too hot for the cotton seed in the NT" Steve said.

"Cotton also complements cattle. Cattle can be fed the cotton seed as an important source of nutrition" Steve said.

Due to new technologies and management practices cotton today, uses 89% less pesticide and 40% less water than 15 years ago. Other benefits of planting into mulch or stubble from a previous crop is more water infiltration into the soil profile and an increase in water holding capacity of the soil. Mulch cover also protects the soil from intense storm rain crusting the soil surface and preventing the seedling from establishing. There is also evidence of reduced need for herbicide as a minimal till system does not disturb the weed seed bank as much as a conventional till system.

KEY FINANCIAL BENEFITS TO THE FARMER ARE:

There are more planting opportunities with mulch cover due to greater soil water and planting can be done in two passes, without losing time cultivating while saving on diesel fuel. There is also less erosion and loss of topsoil.

"Trial work done in at Katherine Research Station has clearly shown conservation farming and planting into a mulch or stubble has multiple benefits for helping a cotton crop get established" said Fergal O'Gara, who presented on the day.

"We hope new and current cotton growers can learn from research, extension materials that growing cotton in the north is different from southern cotton systems".

"We have a different climate, soil types with different water holding capacities and chemistry, higher soil temperatures and a shorter growing season for rain grown cotton up here in the Northern Territory".

"Having a good mulch cover is the first step in growing a successful northern dryland cotton crop".

When is a La Niña not a La Niña?

By Jon Welsh, AgEcon. ***Contact:*** *jon@agecon.com.au*

With the La Niña announcement old news, commentary in rural media is focused on the strength of the phenomenon. Scientists normally measure the extent of cooling in the western tropical Pacific Ocean as the main metric of strength. Its plausible to assume this will translate into either "wet or very wet". Recent commentary from US tropical hurricane experts note the waters in the Arafura Sea and north of Australia are still coolish. Air pressure at Darwin is still average. The waters in the Coral Sea are also cool/normal, rather than warm. There are nuances within these events and the La Niña's of 1988-89 and 1983-84 are potential analogues of this current condition, which may present some caution when considering most of the rainfall activity centred around the mid-latitudes, rather than the tropics in those years. The Sea Surface Temperatures around Australia will need close monitoring, as will the phases of the Madden Julian Oscillation (MJO) in the coming months, to have greater confidence in farm management decisions this wet season.

For routine climate updates, visit:
www.agecon.com.au/our-climate-story

FOR THE DIARY

Planting in the north - climate considerations and tips for La Niña 2020-21.

CSD invites you to attend a webinar 15 December 2020. More details are to follow.

FOR MORE INFORMATION

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RESOURCES AND TOOLS

Resources

- Acres of Opportunity Irrigated Cotton Guide
- Acres of Opportunity Dryland Cotton Guide
- Tropical Cotton Production: Considerations for Northern Cotton Growers
- Growing Cotton in Northern Australia
- 2020 CSD Grower Information Guide
- Australian Cotton Production Manual
- CSD Variety Guide
- CSD Variety Trial data
- FastStart™ cotton website
- CottonInfo YouTube series - planting and establishment, hosted by John Marshall (formerly CSD)
- CSD Statement of Seed Analysis
- CSD seeds per kilogram
- CSD disease ranks
- Roundup Ready PLUS
- Bollgard 3 Resistance Management Plan for Northern Australia
- Australian cotton industry gross margin budgets

Tools

- Variety Performance Comparison
- FastStart™ Soil Temperature Network
- Cotton Planting Rate Calculator
- Cotton Field Weather Network
- Have you got the green light for planting?
- Bollgard® 3 Refuge calculator