

Irrigated Sorghum Agronomy Information

❖ Yield Goals

The yield goal you determine has an enormous bearing on your input costs and subsequent profitability. The first constraint that needs to be determined is the available water. After that the other critical inputs being Variety, Nutrition and Plant Population can be determined.

❖ Water Usage

Sorghum last season used around 3 – 5 ML/ha in a season with very little in crop rain. Good dryland crops produce 15 kg grain / ha / mm of plant available moisture. At the very least you must have a pre-water and one watering.



Bill Linneman's Trickle Irrigated 86G87 Spring crop 7.5 t/ha, ratoon 7.9 t/ha

❖ Variety

Pioneer have three varieties highly suitable for irrigation being 86G87, 85G83 and Bonus. They each fit into different planting decisions.

❖ 86G87

- Good OP Tolerance
- Good ratooning ability See above photo of Bill Lindeman's 86G87
- Good Midge tolerance rating 5. Greg Schwarz's crop came through 3-5 midge per head with little damage

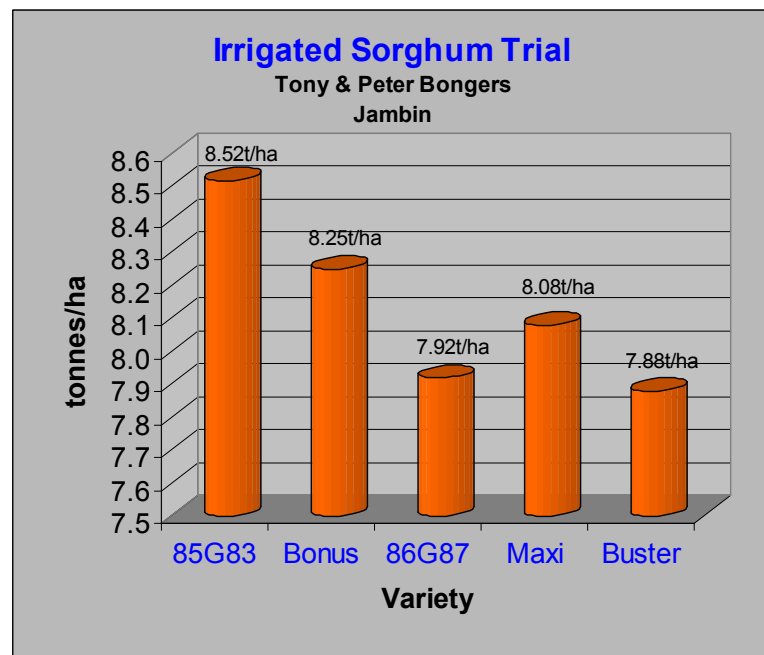
MARSHALL SEED & GRAIN SERVICES PTY LTD

A.B.N. 61 072 338 704



Peter & Tony Bongers Irrigated Trial 86G87 on left 85G83 on the right

- ❖ 85G83
 - Very high yielding commercial crops such as Ken Sullivan produced up to 10 t/ha last season.
 - Good OP tolerance
 - Good midge tolerance rating 6 (Antibiosis)



Ben & Sue Marshall
21 Eclipse Street, PO Box 127
SPRINGSURE Q 4722
☎ 07 4984 1457 or 07 4984 1266
Fax: 07 4984 1675
E-mail: marshallsgs@bigpond.com

MARSHALL SEED & GRAIN SERVICES PTY LTD

A.B.N. 61 072 338 704

❖ Bonus

- Very reliable hybrid. Ernie Young averaged 6.7 t/ha this season under his pivot.
- Bonus was the best spring hybrid at Consuello Cotton Rolleston last spring
- Susceptible to OP sprays keep away from cotton crops
- Midge rating 3

❖ Nutrition Requirements

The actual requirements are outlined below, fertilizer needs need to be determined from soil tests, crop rotations, etc.

Crop		Yield (t/ha)	Nitrogen (kg/ha)	Phos (kg/ha)	Potash (kg/ha)	Sulphur (kg/ha)	Zinc (kg/ha)
Sorghum	Grain	6	95	8	19	7	0.1
	Stubble		100	13	141	10	0.2
	Total		194	21	160	17	0.4
Sorghum	Grain	10	158	13	31	11	0.2
	Stubble		166	22	235	17	0.4
	Total		324	35	266	28	0.6

❖ Plant Populations

The ideal plant population is determined by the yield goals you wish to set. This is based on the amount of available water and the amount of fertilizer added. If too heavy a plant population is established without adequate levels of nutrition and water the resulting yields can be very disappointing.

Yield Goal	Established Plant Population
8 – 10 t/ha	80-90000 pl/ha
6 - 8 t/ha	70000 pl/ha
4 - 6 t/ha	40-50000 pl/ha

❖ Insect Management

- Plant Establishment - Soil Insects

Always use treated seed to gain an even establishment.

Pioneer can supply seed pre-treated with Gaucho or Cruiser Concep II if Dual Gold is to be applied.

Alternatively you can treat seed yourself with Cosmos.

Ben & Sue Marshall
21 Eclipse Street, PO Box 127
SPRINGSURE Q 4722
☎ 07 4984 1457 or 07 4984 1266
Fax: 07 4984 1675
E-mail: marshallsgs@bigpond.com

MARSHALL SEED & GRAIN SERVICES PTY LTD

A.B.N. 61 072 338 704

- Flowering

Physically check crops from flowering onwards

The main pests to look for are Heliothis and Rutherglen Bug.

Both pests can devastate potential yields.

Sorghum Midge aren't really a problem with the new varieties such as 86G87 and 85G83



Greg Schwarz pictured in 86G87 this crop was sprayed with Gemstar for Heliothis (4-6 grubs/head) and also had 3-5 midge / head as well (no treatment required)

❖ Plant-back Periods

The table below highlights plant-back periods from commonly used chemicals in cotton, chickpea and wheat.

Chemical	Plant-back Period		Comments
	Maize	Sorghum	
Simazine	Nil	nil	
Balance	nil	6mths	For sorghum cultivate country
Metsulfuron	3 months	3 months	Heat causes break down
Cotogard	6 mths	6 mths	
Cotoran	6 mths ??	6 mths ??	
Trifluralin	12 mths	12 mths	
Flame	36 mths**	24 mths	**Commercial grower results show that 3395IR
Spinnaker	10mths**	10 mths	Can be planted into treated ground with no effect.
Diruon	6-12 mths	6-12 mths	

Ben & Sue Marshall
21 Eclipse Street, PO Box 127
SPRINGSURE Q 4722
☎ 07 4984 1457 or 07 4984 1266
Fax: 07 4984 1675
E-mail: marshallsgs@bigpond.com

MARSHALL SEED & GRAIN SERVICES PTY LTD

A.B.N. 61 072 338 704

Strategic Watering

If you have limited soil moisture and limited water available an option to look at is growing a crop using strategic watering.

Look at establishing Sorghum in the 40000 pl/ha. The ceiling of the yield you can achieve is going to be determined by available water and then nutrients.

We are looking at limiting vegetative growth and any moisture we apply is to go into reproductive material. If flood irrigating apply at flowering or late head emergence. If using Sprinkler irrigation the water can be also applied at later stages as well.

If you have a full profile at planting using this method you should be able to budget on 3 - 5 t/ha depending on any in-crop rain you get. If you do get adequate moisture, we have seen up to 7.5 t/ha grown in CQ at these populations, generally Nitrogen becomes the limitation.

Ben & Sue Marshall
21 Eclipse Street, PO Box 127
SPRINGSURE Q 4722
☎ 07 4984 1457 or 07 4984 1266
Fax: 07 4984 1675
E-mail: marshallsgs@bigpond.com