whats up...

September 2006 Issue 9/06

Pursehouse Rural Newsletter

HOWWET are your Fallows

Did you know that...

- On average, 60% of rainfall is lost as evaporation before plants get a chance to use it!
- The amount of water stored in soil during a fallow can range from 10% to 40% of total rainfall, depending on how the rain falls!
- 10% of all rainfall on average is lost as runoff or drainage.

HOWWET is a computer program which uses farm rainfall records to estimate how much rain has been stored as Plant Available Water (PAW).

Inputs are simple - just select a range of soil types and climate localities from the menus then enter farm rainfall data. Tables of weekly temperatures and evaporation rates are held for each location. Default plant-available water capacities have been selected from field trials conducted by APSRU on the Liverpool Plains. The hydrology component of **HOWWET** is derived from the **PERFECT** and **APSIM** models. Rainfall is entered in a simple spreadsheet calendar.

Output is given as tables of total rainfall, runoff and evaporation

- Plant available water in the soil profile (calculated from daily evaporation, rainfall and runoff),

Aim

- The aim of this exercise is to compare stored fallow moisture levels for the past five years for both long fallow from winter cereals and short fallow from sorghum.

Parameters:

Long Fallow

- Long fallow starts from the 1 December and finishes the following 1 October (10 months) when summer crop is sown.
- Ground cover starts at 80% finishes at 70%
- Deep Black Clay Soils
- Moisture holding capacity of 250mm in top 1.2m
- Starting soil moisture of 25mm or 10%
- Rainfall data from the Pine Ridge area

Short Fallow

- Short Fallow starts 1 April and finishes 1October (6 months)
- Ground cover starts at 40% finishes at 30%
- Deep Black Clay Soils
- Moisture holding capacity of 250mm in top 1.2m
- Starting soil moisture of 25mm or 10%
- Rainfall data from the Pine Ridge area

How Do the Years Compare?

Long Fallow	1/12/01 to 1/10/02		1/12/02 to 1/10/03		1/12/03 to 1/10/04		1/12/04 to 1/10/05		1/12/05 to today	
	mm	% of rain	mm	% of rain	mm	% of rain	mm	% of rain	mm	% of rain
Fallow Rain	322		420		620		684		346	
Evaporation	293	91	306	73	350	57	357	52	258	75
Runoff	0	0	10	2	47	8	112	10	2	1
Gain of Soil Water	29	9	105	25	223	36	214	31	86	25
Total Fallow Moisture	54mm	21% full	130mm	52% full	248mm	99% full	239mm	96% full	111mm	44% full

Short Fallow	1/4/02 to 1/10/02		1/4/03 to 1/10/03		1/4/04 to 1/10/04		1/4/05 to 1/10/05		1/4/06 to today	
	mm	% of rain	mm	% of rain	mm	% of rain	mm	% of rain	mm	% of rain
Fallow Rain	84		225		248		278		205	
Evaporation	89	105	184	82	161	65	158	57	139	68
Runoff	0	0	1		1	0	13	5	2	1
Gain of Soil Water	-4	-5	40	18	86	35	107	38	64	31
Total Fallow Moisture	21mm	8% full	65mm	26% full	111mm	44% full	132mm	53% full	89mm	36% full

Discussion:
The simulations show that long fallow soil moistures at this stage are comparable to an average year short fallow. The question now is how do we manage this risk?

NO WATER? THINK FORAGE SORGHUM

In today's farming managing the amount of water required to grow a successful crop has become of vital importance. Factors such as unreliable rainfall, limited sub-soil moisture and variable irrigation water supply are making forage production decisions more difficult. The question of how much irrigation water or stored soil moisture needed to grow a viable forage sorghum crop is often asked thus there is a need for the efficient use of stored moisture and irrigation water. For example forage sorghum requires approximately 60% less water than lucerne to produce the same amount of dry matter.

Forage sorghum has a number of mechanisms that enable the plant to cope with drier growing conditions including-

- The ability to remain dormant when conditions are dry and resume growth when conditions improve,
- The plants leaves roll during the hottest times of the day reducing leaf area,
- Waxy coating on the stems reduce moisture losses,
- Large root systems,
- The ability to withstand very high temperatures.

There are a number of other factors that should be taken into consideration when making the decision to plant forage sorghum. These include, the time of sowing and the product end use. However, there are few forage crops that will produce as much dry matter relative to the water inputs as forage sorghum.

For more information on summer forage production whether it be for grazing, hay or silage please contact your local Pursehouse Rural Agronomist.

Roundup Ready Flex Cotton

Questions & Answers

What is Roundup Ready Flex Cotton?

Roundup Ready flex is the next generation of Roundup Ready cotton. RRF cotton has been modified using gene technology to tolerate application of glyphosate, the active ingredient in the roundup family of herbicides. Conventional cotton is susceptible to glyphosate and so with Roundup Ready cotton and RRF cotton, growers can apply Roundup Ready herbicides to control weeds that emerge in their crop without causing crop damage.

How does RRF cotton differ from Roundup Ready cotton?

RRF contains two copies of the gene ***cp4epsps*** (which confers tolerance to glyphosate) as opposed to the one copy present in Roundup Ready. The addition of this gene means that RRF cotton is able to tolerate Roundup Ready herbicide at much later stages of plant growth than its predecessor.

What benefits does RRF cotton offer growers?

RRF cotton can be safely sprayed over-the-top with Roundup Ready Herbicide from crop emergence right throughout the key window for controlling economically damaging weeds. The application at later stages enables growers to control weeds if bad weather or mechanical breakdown delays spraying.

Quirindi Monthly Specials

* 500 Litre Round Plastic Troughs only $360.00 (two only. so be quick)
* 250 Litre Square Line Midwest Concrete Trough $310.00 (one only)

(all prices inclusive of GST)

September Weather Summary

visit http://www.pursehouserural.com.au/services/weather_station.html

Location	Average Temp (°C)	High Temp (°C)	Low Temp (°C)	Number of Days < zero	Rain mm	Average Wind Speed Km/h	High Wind Speed Km/h	Dominant Wind Direction
Cattle Lane, Willow Tree	13.8	30.9	-0.4	1	28.2	10.7	70.8	S
"Murlow", Quirindi	13.3	32.1	-2.6	4	18.6	10	78.9	S
"Dow Site", Breeza	14.5	32.0	0.4	0	53.6	8.5	66.0	SSE

Data recorded to 12.00pm, 27 September 2006