

### Day Degree accumulation to the 26<sup>th</sup> Nov 07 .

District	Season 07/08	Season 06/07	Season 05/06	Cold Days	Hot Days
Emerald (from 15 <sup>th</sup> Sept 07)	908	888	962	3	12
Theodore (from 25 <sup>th</sup> Sept 07)	781	725	822	2	13

### Tobacco Streak Virus (TSV) in CQ Cotton

Six cotton crops on five properties within the irrigation area of Emerald were inspected for symptoms of virus in early November. Forty two cotton plants were sampled (30 plants with virus-like symptoms & 12 random samples) & tested for Tobacco streak virus (TSV). Of these, 22 of the 30 symptomatic plants were positive for TSV. DNA analysis has shown that the TSV in cotton is the same strain as that found in the sunflowers, mungbeans & parthenium in CQ.

No symptomatic cotton plant was seen in two of the six crops inspected. In the other four crops, about 1% of the cotton plants were symptomatic.

Symptoms included dark necrotic lesions on leaves, sometimes forming numerous diffuse ring spots. On plants with numerous necrotic lesions the upper leaves sometimes also displayed chlorotic mottle & deformed leaves. Symptoms in the young cotton crops were usually mild & generally consisted of single diffuse necrotic lesions. One of the photos shows a typical single diffuse necrotic lesion on a young crop plant & the other shows the more severe numerous necrotic lesions & chlorotic mottle seen on the older volunteer cotton plants.

The volunteer cotton plants seen were older (probably slashed & regrowing from last season) & displayed more severe symptoms with numerous necrotic ring spots & chlorotic mottle. They were growing within 5m of a high density of parthenium weed which was infected with TSV & 38 out of 53 cotton plants were symptomatic. It appears that these more severe symptoms were due to the plants close proximity to a high density of Parthenium.

TSV is transmitted by infected pollen, which can be spread by wind or carried by insects. Thrips are the only known insect vector and are required for TSV infection to occur. Transmission of TSV to plants relies on virus from infected pollen entering plant cells through the feeding injury caused by thrips. Parthenium is an important host in the Central Highlands as it produces a lot of infected pollen, which can then be transmitted by thrips.

Murray Sharman (DPI&F) will be in CQ in January to inspect the infected sites again. If you have any suspect plants, please contact Murray on 07 3896 9374.



*Young plant with  
single lesion*

*Symptoms in older  
volunteer cotton*

### High Yielding Irrigated Grains In Cotton Farming Systems (HYIGICFS)

Research in the HYIGICFS project commenced in the 2007 season. The research questions being addressed in the project relate to;

- establishment practices that maximise the potential for winter cereals to respond to irrigation.
- the response of wheat to limited water scenarios (irrigation based on 50% – 85% PAW).
- the irrigation practices that maximise yield response to applied water.
- the development of a decision support tool for whole of farm water budgeting.

Demonstration trials will be established on-farm, with treatments applied using commercial equipment. It is expected that demonstration trials will have few treatment comparisons, i.e. grower's 'standard' practice vs southern recommendation, however replication is required to counter the influence of within field variability.

Case studies will highlight practices associated with land preparation, soil management, stubble management and sowing methods and water budgets (risk assessment), irrigation application methods and timings and resulting water use indicators; IWUI, GPWUI, Ea, Ef and Du.

There is the opportunity for interested growers in Emerald, and Dawson/Callide regions to be involved in this project. Initially the focus would be on establishing baseline data with the view of establishing a trial site(s) in the future. The researchers are hopeful that their northern counterparts become involved where possible as these regions add a new dimension to any conclusions reached. Any grower interested in more detail should contact Lance Pendergast.

#### *Up coming Meetings:*

CH CG&IA 28<sup>th</sup> Nov 7pm Emerald Ag College  
DV CGA 7th Dec 5pm Theodore Golf Club