



# Industry update

5 February 2014

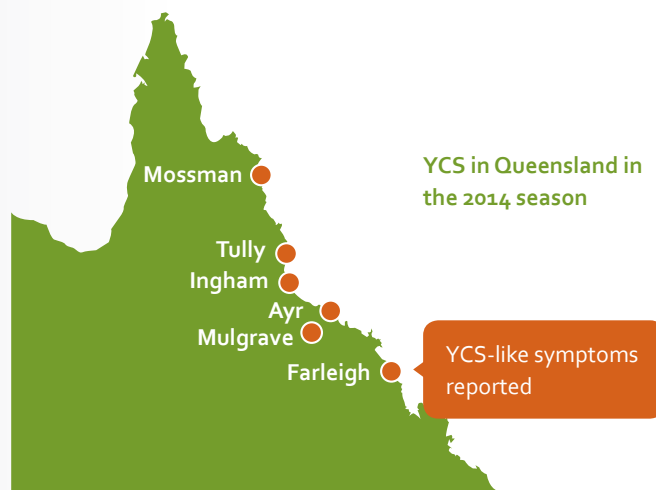
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Sugar Research  
Australia

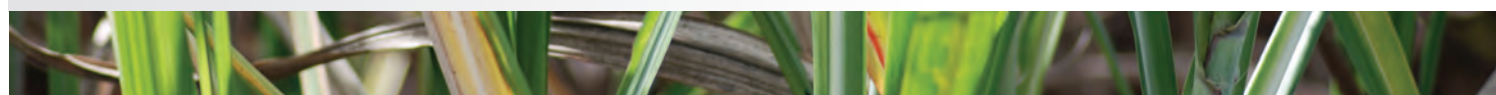
## ► What we know about YCS

Sugar Research Australia and our research partners – Burdekin Productivity Services Limited, Herbert Cane Productivity Services Limited and the Department of Agriculture, Fisheries and Forestry – continue to prioritise research activities to understand what YCS is, how it behaves and its impact on our industry.

Trials, observations and tests conducted throughout 2013 have ruled out a number of possible causes of YCS.



Possible causes of YCS that have been investigated	Possible causes that have been ruled out	Why this possible cause has been ruled out	Future research activity
Herbicides	Herbicide application	YCS has been seen on farms where no herbicides have been applied. Where symptoms have been seen they do not reflect the impact of one particular herbicide.	No further research at this stage.
Nutrition	Nutrient deficiency or toxicity	The widespread distribution of YCS on many soil types, over a number of regions, make it extremely unlikely to be a nutritional or chemical problem.	No further research at this stage.
Root growth	Poor root growth	Roots examined from affected and unaffected crops have shown similar levels of poor root growth.	No further research at this stage.
Disease	Known systemic, viral, bacterial and fungal diseases	The symptoms of YCS and its distribution within regions are not the same as any known disease. International pathologists have agreed with this conclusion.	See: 'What our current research is looking into'
Virus or bacteria	Yellow Leaf Virus and other phytoplasma	Molecular testing found no evidence of Yellow Leaf Virus or other phytoplasma in YCS-affected plants.	
Insects	Linear bugs	Although YCS symptoms may resemble insect damage, trials have shown that they are not related to an infestation of linear bugs.	
Environmental stress	Nil	Environmental stress has not been ruled out as a cause.	





## What our current research is looking into

As more has been learnt about YCS we have fine-tuned our research approach and the possible causes that we are investigating. Our current research efforts are focused on the following:

### Monitoring YCS

A series of sites that have been established in the Burdekin and Herbert cane-growing regions are regularly monitored at various levels of intensity. Observing when YCS appears and how its general appearance may be impacted by certain conditions such as rainfall, will help build a better understanding of the condition.

### An unknown disease

Molecular work will continue in 2014 to look for unique proteins in YCS-affected plants to identify any possible new disease.

### Insects (other than linear bugs)

Trials into whether another insect may cause YCS continue in Tully.

### Environmental stress

A range of trials are looking at whether certain conditions reduce the likelihood of YCS appearing or ease its symptoms. The treatments being tested include:

- water stress
- improvements in root conditions
- cold-soak-hot-water treatment
- Imidacloprid

## What's next for the research program

The Scientific Research Panel, an independent group of plant scientists were appointed as part of the Solving Yellow Canopy Syndrome research project.

This month the panel, SRA's YCS research project leaders, and SRA management will attend meetings with industry in the Burdekin, Herbert and Mulgrave regions and tour affected farms.

In March these groups will meet with the SRA research team to review what we have learnt so far and identify any new areas of research that we should look into.

## Answers to common grower questions

### Can YCS be transmitted via plant cane?

It has been suggested that YCS may be transmitted in planting material. Our trials in Tully and Woodford seek to confirm whether this is the case or not.

### I have found YCS in my crops. What will it do to my cane as it grows?

YCS can impact cane in a number of ways. In 2013 we saw some crops grow poorly early in the season and then recover as time passed. Other crops did not recover. We noticed that YCS can come and go 'in waves'. If you notice yellowing in your crops ensure that you check the symptoms with your local productivity services group. They will help confirm that you have YCS.

### What happened to growers who were affected by YCS last year?

It has been difficult to assign yield losses solely to YCS except in cases where blocks were severely affected and where repeated waves of yellowing were observed over an extended period of time.

Although CCS levels appeared to be lower in severely affected cane early in the crush, the levels improved as the crush continued. Little if any apparent losses of CCS were recorded as the season progressed.

Some growers have reported that fields affected last year are not yet showing YCS symptoms, while others report that YCS is again present.



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