



CGA FINAL REPORT

Part 1 - Summary Details

Please use your TAB key to complete Parts 1 & 2.

CRDC Project Number: CGA1806

Project Title: Gwydir Valley & Macquarie CGA SLW and mealybug meetings

Project Commencement Date: 1Nov2017 **Project Completion Date:** 1Mar2018

Part 2 – Contact Details

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Part 3 – Final Report

Background

1. Outline the background to the project.

The Gwydir has been experiencing varying but rising levels of the incidence of Silverleaf Whitefly (SLW) over the last few years, and the Macquarie is only a season or two behind. The growers and consultants in both the Gwydir and Macquarie valleys see this as a significant emerging issue and are highly supportive of Area Wide Management Groups that could possibly help implement a more targeted approach to the prevention and management of Silverleaf Whitefly.

The project proposed to engage in peer to peer learning to support consultants and growers in their management of Silverleaf Whitefly. The experience of consultants and growers in Emerald, St George and the Macintyre would provide insight into what may happen if this pest is not controlled in an appropriate manner. Importantly, CottonInfo and the Macquarie and Gwydir Valley Cotton Grower Associations (CGA) want to ensure that consultants and growers fully understand the potential implications from a fibre quality perspective. Can we effectively link the impact of cotton fibre discounts with the effective implementation of Integrated Pest Management (IPM).

Objectives

2. List the project objectives (from the application) and the extent to which these have been achieved.

- I. To provide an opportunity for growers to hear firsthand experiences from other growers and consultants on how they have managed Silverleaf Whitefly. Talk about practical management tools that overcome issues with Silverleaf Whitefly and Mealy Bugs.
- II. Increase grower awareness of the consequences of a sticky cotton reputation from a global perspective

Both objectives have been achieved.

Methods

3. Detail the methodology and justify the methodology used. Include any discoveries in methods that may benefit other related projects.

The extension activity was specifically targeted to the Area Wide Management groups in the Macquarie and Gwydir Valley. The Warren meeting was targeting 20 participants and the Gwydir Valley 40 participants. Invitations and promotion was through the CottonInfo extension officers Amanda Thomas in the Macquarie and Janelle Montgomery in the Gwydir Valley. The Gwydir promotion was also through the Gwydir Valley CGA networks and database.

The Workshop involved presentations from consultants (Dave Parlato and Iain MacPherson) and grower (Brad Anderson) from northern regions where they had experience with both Silver Leaf Whitefly and Mealy bugs. It was also important to include discussion on the impact of these pests on fibre quality, with specific reference to stickiness, to achieve this Arthur Spellson (Auscott Limited & ACSA) participated in the workshop.

Presenters were transported between the sites via charter plane.

Attendance sheets were completed, and a comprehensive evaluation form distributed for completion. The Area Wide Management groups have continued throughout the season providing growers a link with each other on the management of Silverleaf Whitefly and Mealy bug.

Outcomes

4. Describe how the project's outputs will contribute to the planned outcomes identified in the project application. Describe the planned outcomes achieved to date.

Attendance at Macquarie Workshop: 4 Consultants, 8 Growers, 1 Industry (13 total), 9 completed the evaluation form.

Attendance at the two Gwydir Valley workshops: 12 Consultants, 18 Growers and 12 Industry (50 total), 29 completed the evaluation form.

Comprehensive minutes were taken on the day and distributed as appropriate to local growers and consultants.

Findings from the Evaluation:

- Increase grower and consultant awareness of the consequences of a sticky cotton reputation – 26% improvement in understanding.
- Improve grower and consultant knowledge of Silverleaf Whitefly (SLW) management in cotton - 30% found the workshop of significant help (5) 49% (4) and 22% (3) (where 1 is no help and 5 significant help)

The general discussion at the workshops covered the topics of the importance of beneficials and of protecting them throughout the season, the use and effectiveness of soft chemical options and the potential to implement IPM on a broad regional scale to assist in managing both Silverleaf Whitefly and mealy bugs. There was good interaction between all in attendance.

The workshops did;

- Increase grower awareness of successful strategies growers and consultants in other regions have used to manage Silverleaf Whitefly.
- Increase confidence of consultants and growers in use of soft chemical options.
- Improve grower knowledge of managing beneficial insects.
- Increase the appreciation of the importance of the implementation of IPM in the management of Silverleaf Whitefly and Mealy bug.
- Provide an opportunity for growers and consultants to interact with and learn from peers.

Silverleaf Whitefly and mealy bug discussions continued into January and February.

5. Please report on any:-

- a) Feedback forms used and what the results were (60% completion)
- b) The highlights for participants or key learnings achieved
- c) The number of people participating and any comments on level of participation (achieved the target of 60 participants)

Evaluation Points of interest:

Identify the two greatest issues you face with Silverleaf Whitefly management

- Available chemistry 10%
- Timing of application 31%
- Product efficacy 21%
- Sampling 13%
- Use of threshold matrix 23%
- Relevance to your region 1%

What is the greatest challenge to implementing IPM?

- I had no challenges implementing IPM 9%
- Cost of soft option 11%
- Confidence of natural enemies and beneficials to control pests 26%
- lack of soft options for some pests 23%
- Thresholds not reliable 12%
- If I let early retentions suffer then it becomes a yield penalty 19%

<i>Question</i>	1 (no help)	2	3	4	5 (sign help)
To what degree has this meeting provided you with information to better manage SLW on your farm (or client’s farms)?	0	0	22%	49%	30%
To what degree has this meeting provided you with information to better manage an outbreak of mealybug on your farm (or client’s farms)?	0	0	13%	50%	37%

Conclusion

6. Provide an assessment of the likely impact of the results and conclusions of the research project for the cotton industry. What are the take home messages?

Key Messages:

Implications with regard sticky cotton and the potential impact on Australian Cotton’s premium position:

- US producers are closing the gap in terms of quality on Australian Cotton.
- Sticky cotton is a known risk.
- Discounts could come through as a national issue.
- Broadly speaking we are only one “bad season” away from this happening.

Consultant and Grower Experience

- It is critical to manage the population all season and to stay soft as long as possible,
- If one grower uses SP’s it can impact others around them.
- It is important to control Silverleaf Whitefly early to make sure the population does not explode.
- Always have Silverleaf Whitefly and Mealybug in mind for every spray decision (esp early season).

- If you control mirids early use fipronil (low rate) plus salt until flowering, the softer the approach the better.
- All the beneficials, parasitic wasps and soft options help but they can't work alone, they need to be working together to control the population, if you disrupt any of these it can be the leg up that Silverleaf Whitefly or Mealy bug need to get a hold.
- Silverleaf Whitefly is a season thing, but Mealy bug is a big problem once you get them it's hard to get rid of them.
- Mealy bug nymphs can travel on the wind and they can overwinter in cooler areas, they have taken hold in the McIntyre now.
- Lacewings, ladybirds and parasitism are the best methods of control, but may not be able to do the whole job, some monitoring the pest/beneficial ration and the population dynamics is critical to ensure any control is well timed.

Growers and Consultants were aware that Silverleaf Whitefly is a potential threat. Bringing them together to discuss how others are approaching the challenge and to discuss with other consultants from other regions improved the understanding of how consultants and growers in the Macquarie and Gwydir can best manage the problem in their areas.

Extension Opportunities

7. Detail a plan for the activities or other steps that may be taken:
 - (a) To tell other CGAs/growers/regions about your project.
 - (b) To keep in touch with participants.
 - (c) For future projects.

There are end of season Area Wide Management meetings scheduled in both areas.

Open discussion with growers and consultants will drive the next step. It is anticipated that they will want to regroup during winter to discuss the management of insect pests in winter crops. Importantly these meetings will need to target consultants who may not work in cotton. Developing effective partnerships between both summer and winter cropping systems will be beneficial to ensuring that the two regions work to minimise impacts on beneficial insects, thus ensuring that populations are robust throughout the year. There will be positive outcomes from such an approach to both the summer and winter cropping systems. Given that a large number of cotton growers are also winter croppers their participation in these discussions will be invaluable.