

# FINAL REPORT

ACO00020

## 'Farming after Fires' workshops for growers impacted by the Pinery Bushfire

### PROJECT DETAILS

PROJECT CODE: ACO00020

PROJECT TITLE: 'FARMING AFTER FIRES' WORKSHOPS FOR GROWERS IMPACTED BY THE PINERY BUSHFIRE

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END DATE: 30.06.2016

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### Summary

The November 2015 Pinery bushfire destroyed an area of more than 85,000 hectares of highly productive agricultural land in South Australia's (SA's) Lower North region. The destruction and damage caused by this fire will continue to have lasting consequences on the productivity of this land.

The effect of the fire posed significant challenges to growers' productivity from erosion and bared soils, finances from under insurance and machinery replacement and the emotional toll of processing the devastating loss to land, animals and infrastructure.

More than 90 participants attended two workshops in Mallala and Freeling to assist in the recovery of farm business and ensure productivity in 2016.

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## Conclusions

- o Learning from other growers who have experienced bushfires is invaluable, with participants rating this session highly.
- o Reminding growers to look after themselves, take a holiday, look after their family and loved ones is essential and needs to be continually stated.
- o GRDC delivering workshops in a timely and efficient manner post traumatic event is seen as valuable and worthwhile.
- o The importance of workshop components where individuals work with an adviser is invaluable as there need to be opportunities to share information.
- o There is a significant research gap into managing burnt soils in SA. While there are some learnings, there is an opportunity to complete more research trials to look at herbicide efficacy, soil erosion, soil biology and strategic tillage post fire.

## Recommendations

It is recommended that:

- o GRDC maintains close links with speakers to determine research opportunities for fire affected areas, potentially collecting yield data from paddocks with burnt and unburnt areas. Data to look at soil nematode populations, nutrition content and overall plant performance.
- o GRDC maintains close contact with Regional Cropping Solutions Network (RCSN) and Panel members in the region to determine if further mental health or agronomic support is required throughout the growing season.
- o GRDC maintains its ability to offer quick turnaround workshops to support growers who experience traumatic regional events.

## Outcomes

Growers and advisers attending the workshops received information that assisted them plan and manage a range of immediate business and agronomic issues prior to sowing. They gained important emotional support to build resilience and assist them in the process of recovery and rebuilding after the Pinery bushfire.

### Economic Outcomes

Participants were able to ask experts how to manage soil health following the fire which caused degradation through intense heat and erosion. Knowledge was provided about replanning the farm structure following loss of fencing, with emphasis placed on relocation of watering points and improved fence lines for modern farming enterprises. The importance of re-vegetation was also considered. Weed control was a popular topic with growers anxious about the implications of herbicide applications due to the absence of residue and soil cover. Researchers discussed potential risks to crops, application rates,

product choice and timing. A list of financial and business support options was provided from representatives of government and private enterprise advisers. Sowing strategies developed through changed rotation to more wheat on wheat, hay on hay, closing up the row spaces, getting seed tested for viability and the lowering of seeding rates for different soil types were all considered. A small benefit raised was that frost prone areas are now better off due to no stubble cover and the ability to sow earlier.

#### Environmental Outcomes

Strategies to inhibit soil erosion post fire were addressed. The issue of prevailing winds on bare soil was discussed and strategic tillage options were proposed. The importance of seeding into tilled soil and using more soil throw (no disc machines) was discussed as a seeding strategy. Awareness and management of weed contamination from donated feed hay was addressed. The increased risk from rhizoctonia (due to working land to stop erosion and early sowing into dry soils) was investigated. Sowing with heavier rates in sandy soils, whilst keeping the speed slow, was presented as a potential strategy. Presenters identified the need to keep the tillage ridges during seeding with rolling after crop emergence. Overall, the risk of erosion was considered high and growers were urged to take important management.

#### Social Outcomes

Very strong messages were put forward for mental health with an emphasis on communication, talking to your neighbour and supporting others in the community - ask if you are ok. It was reinforced to communicate with your family and your spouse, communicate with your neighbours and friends, consult with your agronomist, your banker, your insurance broker and your accountant and look after yourself. Emphasis was placed on seeking out support to re-finance loans, re-build infrastructure, replace plant and to revisit the business model and insurance system, to look at all options going forward and to positively identify a potential change in business direction.

## Achievements/Benefits

#### Background:

The November 2015 Pinery bushfire destroyed an area of more than 85,000 hectares of highly productive agricultural land, in SA's Lower North region. The destruction and damage caused by this fire will continue to have lasting consequences on the productivity of this land. The magnitude of losses have been enormous and included the loss of dwellings, livestock, grain, hay and seed for future plantings, plant and equipment, infrastructure (fences, sheds, grain storage) and land condition (ground cover, and potentially soil carbon, nutrients, and microbes).

The financial and emotional cost of this event has been devastating for local grain growers, their families, communities and their farm businesses. Dust storms have become a regular event and growers are extremely anxious about the effects that the erosion is having on their land and how this may affect yields and productivity. Further, many growers have raised concerns about the management practices associated with bare soils i.e. herbicide efficacy, seeding depth, crop choice, nitrogen (N) mineralisation and fertiliser requirements. Support and information are required to ensure that agronomists and growers in the region are adequately prepared for the 2016 season.

The fire has also posed significant financial challenges for many grain growers. Under insurance, unforeseen costs of the clean up after the fire, business interruption, and the need to purchase replacement plant and equipment have subjected farm businesses to cash flow and debt pressures.

Coupled with the farming and business challenges following fire are the emotional challenges. The emotional toll and the process of recovery and rebuilding are a momentous task for growers that require significant planning. The provision of emotional support and tools to build resilience are essential to ensure that growers are in a position to look after themselves, their families, friends, community and their farm businesses.

The importance of this investment is to address the issues that growers will face immediately following the aftermath of the catastrophic fire event. The workshops delivered information, knowledge and support networks against the following areas of need:

- (1) Farm business support: Review of farm business insurance, farm business planning and support, review of budgets and payment structures for machinery replacements.
- (2) Weed management post fire: Herbicide behaviour in burnt soils, weed control strategies, minimising chemical damage to crops and the fate of weed seeds.

- (3) Experiences and lessons of growers affected by the Wangary fire event: Community involvement and mental health, rehabilitation of land and soil management, farm plans, enterprise mix and farming practices.
- (4) Managing soils post fire: Soil health, managing cultivated land, managing erosion and disease and nutrition testing.
- (5) Farm strategies following fire: Review of farming strategies in the region (cultivation, sowing strategies, and variety choice).
- (6) Post fire support services: Natural Resource Management (NRM) offerings available through Adelaide and Mt Lofty Ranges.
- (7) Thriving after fire: Changing habits or diets and reactions after the fire, survivor's guilt, and emotional reactions following fire - a group exercise was conducted in what to say and not say.

A key component of the workshops was a facilitated discussion to identify knowledge and research gaps. Bill Long worked with each group to determine answers to their outstanding questions, and developed a clear agronomic management plan for affected growers.

Areas identified from each table in small group activities were:

- o No change to sowing time or pre-emergent herbicide applications in the Freeling area. Current plan remains.
- o Growers to manage soil according to type and structure. Suggest no disc machines sowing into worked ground where possible.
- o Note that seeding rate changes for different soil types, lower inputs into warm soils, double sowing rates in sand hills but keep the speed down, higher rate if late break, no dry seeding on sands, watch early sowing of small seeds, sowing depth - alternate strip cultivation, leave ridged after sowing and roll after crop emergence.
- o Plan to be proactive: Have two plans - identify risky paddocks, sow sands into good moisture.
- o Insects and pests: Some snails have survived, lucerne flea and redlegged earth mite (RLEM), mice still there.
- o Herbicides: Reduced residual, rainfall risk after sowing.
- o Frost: Risk lower with no stubble cover, possibility of early sowing opportunity.
- o Rhizoctonia: Dry soil increases risk and working up reduces risk.
- o Communications: Consult your adviser, talk to neighbours, communicate to accountant and insurance broker.
- o Rotations: More wheat on wheat in burnt areas.
- o Seeding: Close up row spaces for weed control, minimum rolling of pulses, test seed, lower rates, issues with existing stubble in burnt areas.
- o Fence lines: Realignment planning, vegetation on roadsides - is this a council priority?
- o Chemicals: Avadex<sup>®</sup># is an opportunity.

Major achievements:

- o Participants were able to leave with information and knowledge of how to manage their business, to plan for the coming season, to gain networks for financial, emotional and business support, to communicate their experiences of loss and survival with their peers, to understand how others are moving forward, to gain motivation to remain positive and productive for their future.
- o They will have recognised that as levy, tax and rate payers that they have support from specialists, advisers, government and their research bodies to be viable for future production.
- o That the community spirit is strong and supportive and willing to help others affected by tragedy and devastation to rebuild and reunite for future generations.

How these achievements will benefit the industry:

- Increased potential for positive and productive recovery including improved resilience in both farming practices and the community in general.
- Increased awareness of farming methodologies to manage burnt soils.
- Increased awareness of business management decisions following a traumatic event, therefore delivering improved sustainable practices from both a general business and farming perspective.

## Additional information

### Attachment

Farming after the fire workshop flyer.