CURRENT PROJECTS

Projects undertaken by ABA:

Australian Government – Sustainable Agriculture Innovation Grant • INNOV-039 • Innovative and cost-effective solutions to the treatment of acid soils in SA • Commences 1/2/2014 • Ends 31/3/2016	• Funding agreement has been executed • $455,400	This project will address soil acidification. There are more than 1.9 million hectares of agricultural land in SA that are susceptible to soil acidification (SA Strategy - DEWNR, 2013). This is not only a significant land degradation problem but it also significantly affects the potential production of crops and pastures. Soil acidification is becoming an increasing issue due to the high use of nitrogen fertiliser rates and higher yielding crops. Soil pH testing by Rural Solutions SA consultants in recent years has shown that the surface and sub-surface acidity is increasing and the problem is much greater than previously thought. Monitoring data has also shown that only about a third of the lime required is being applied (DEWNR monitoring data). Due to an increase in costs of the lime and freight and the reduced supplies with the closure of several lime sources, farmers have significantly reduced or cut out altogether their application of lime. This project is to provide a greater awareness and understanding of soil acidification and to provide innovative and cost-effective methods to encourage farmers to increase their adoption of liming.

Projects where the ABA acts as sponsor:

Caring for our Country • CLG-1205530-351 • Improving claying practice through addition of organic matter • Sherwood Precision Management Systems Group • Commences 30/8/2013 • Ends 31/3/2015	• Funding agreement has been executed and project logic approved • Funding of $54,340 received in September	Applying clay to sandy soils was developed in this region over 40 years ago and has since spread to other regions in SA, Victoria and Western Australia. Originally designed to overcome non-wetting it has been identified that deep incorporation of clay has improved production by increasing soil water holding and nutrient retention capacity. A current CFoC project has also found that the incorporation of organic material may further increase SOC and production benefits. This project will conduct field demonstrations using different forms of organic material to evaluate production and carbon benefits. This work will improve practices with long term benefits in reducing wind erosion
Caring for our Country • CLG-1205468-324 • Ongoing effects of soil modification using clay • Karoonda and Districts Agricultural Bureau • Commences 30/8/2013	• Funding agreement has been executed and project logic approved • Funding of $53,570 received in September	This project uses a previously established trial site to monitor the ongoing effects of soil modification. Soil modification is a new technique in the area, and farmers are cautious about using the new methods until they are sure that there will be no problems caused by the techniques that can affect crops in later years. They also need to know what ongoing benefits there may be from soil modification, and the cost-benefit analysis and payback

• Ends 31/3/2015		period on investment. Continuous measurement of the effects on soil and crops is needed to provide this information. The group will also hold field days in spring to show the trial to other farmers, and publish trial results in the local farming newsletter.
Caring for our Country • CLG-1205543-361 • Improving surface soil depth and subsoil conditions of soils • Lochaber Agricultural Bureau • Commences 30/8/2013 • Ends 31/3/2015	• Funding agreement has been executed and project logic approved • Funding of $45,540 received in September	Last year we did some investigative work utilising funds from a CFOC MacKillop FMG project. This project identified that farmers in this area struggle with their two main soil types in their farming enterprises, acid sands, and alkaline clays. Both are equally challenging for different reasons. The sands are prone to erosion, have low soil carbon levels and are often acid. The alkaline clays have issues with nutrient tie up and plant toxicity. We wish to further develop and continue to assess the results of a small demonstration site on sandy soils, and create a new alkaline soils demonstration site. Results will be published in a field day booklet and place story describing practices to improve the management of these difficult soils.
Caring for our Country • CLG-1205525-349 • Increasing productivity on clayed sands • Southern Mallee Agricultural Bureau • Commences 30/8/2013 • Ends 31/3/2015	• Funding agreement has been executed and project logic approved • Funding of $54,780 received in September	Previous work by the Southern Mallee Ag Bureau looked at treating water repellent sands with various methods of adding clay (spreading, delving and spading). They were successful in overcoming the water repellence, but found that some clay spread sands did not have the productivity they were expecting. Crops showed signs of poor root growth and low water use efficiency. The group wishes to trial various methods of improving these existing clay spread sands to improve soil carbon levels, soil fertility, root depth, water use and productivity. This work will will reduce wind erosion in this district by reducing risk of crop failure and will support uptake of claying that has been constrained through limited production outcomes.
Caring for our Country • CLG-1205472-325 • Improved soil management and productivity in the Mid North • Halbury Whitwarta Agricultural Bureau • Commences 30/8/2013 • Ends 31/3/2015	• Funding agreement has been executed and project logic approved • Funding of $53,460 received in September	This project will improve farmer knowledge and skills in soils and soil management. This will result in higher ground cover, reduced erosion, increased rainfall infiltration rate, improved soil organic matter resulting in improved water use efficiency and higher productivity. The soil in the district ranges from sands through to heavy clays. Issues identified are reducing water repellency, improving soil nutrition following modifying sands, managing high soil pH soils, subsoil constraints of heavy clays, sodic clays and boron toxicity. On farm trials and demonstrations with in field workshops will allow local assessment and discussion on the problems and the best methods to manage them.
Caring for our Country • CLG-1205477-327 • Innovative sustainable land management at Stockport • Stockport Agricultural Bureau • Commences 30/8/2013	• Funding agreement has been executed and project logic approved • Funding of $49,390 received in September	The Stockport district has a large range of soil types from low fertile water repellant sands to loams with restrictive subsurface and subsoil layers to deep fertile clay soils. Each soil presents differing issues which makes management difficult for landholders. This project will look to examine, discuss, trial and demonstrate innovative and locally untried techniques to resolve some of the problematic issues, across at least four sites.

• Ends 31/3/2015		Improving soil condition will be achieved by reducing the impact of subsoil clays which provide a root barrier by poor structure, a heavy clay content, sodicity or the presence of toxic layers. In other soils surface and sub surface acidity is restricting growth, in sands soil nutrition is a main limiter.
Caring for our Country • CLG-1205506-340 • Improving soil structure in hard setting soils of Eastern Eyre Peninsula • Crossville Agricultural Bureau • Commences 30/8/2013 • Ends 31/3/2015	• Funding agreement has been executed and project logic approved • Funding of $44,990 received in August	This project will trial and evaluate new technologies to address soil physical issues in soils on Eastern Eyre Peninsula. Poor soil structure results from high levels of sodium, low organic carbon levels and/or the nature of the clay found in these soils. Past farm practice has assisted in the development of compacted hard pans in the soil profile. Hard setting soils reduce seedling emergence, plant root growth and water use efficiency and restrict soil biological activity. Treatment has generally been the application of gypsum but the efficacy is reduced as entry to the compacted layers is limited. This work will trial ways to apply gypsum and organic matter directly into the affected areas leading to more effective and affordable options.
State NRM Community Grants • CGMA136652E • Improving water repellent sandy soils near Coomandook • Coomandook Agricultural Bureau • Commences 30/9/2013 • Ends 30/9/2014	• Funding agreement has been executed • $33,000	Water repellence is a problem affecting many sandy soils in SA, and it contributes to increased erosion risk, decreased productivity and poor nutrient and water use efficiency. Clay application has been used successfully in other areas to overcome this, but there are still many areas in SA where clay is not an economic option. Work in WA has looked at other methods of managing water repellent sands and found some ways that have worked well there. A small grant obtained in Feb 2013 enabled the Coomandook Ag Bureau to begin a project looking to test ways of better managing water repellent sands to reduce erosion risk and increase productivity in an area that is not suitable for using clay as an ameliorant. The Bureau now needs further funding to monitor and analyse the trials, and share the results.
State NRM Community Grants • CGMA 136958E • Initiating claying sands Dublin to Pinery • Mallala Agricultural Bureau • Commences 30/9/2013 • Ends 30/9/2014	• Funding agreement has been executed • $33,000	Claying of sands whether it be by spreading, delving or spading is not an adopted practice in the Northern and Yorke region (NY potential area 200,000ha, currently 4,000ha treated) and Adelaide and Mount Lofty Ranges region (Northern area). Landholders have only been introduced to the practice with very minimal local experience or skills in the techniques in the region or in the Dublin to Pinery districts. Another barrier to adoption is that there are no contractors based in the region, resulting in adding extra expenses to the operation and virtually no on going promotional activities. The area has problems with sandy soils prone to erosion, low in nutrition and organic matter, and is commonly water-repellent. Where these sands are deep or shallow lying over clay subsoil, there is potential to modify the soil using clay spreading, delving or spading to bring clay to the surface, to

		resist erosion, improve soil cover (SASP T 70) increase the rooting zone, increase nutrient holding capacity in the sand, and overcome water repellence

Caring for our Country, community land care grants awarded directly to bureau branches:

- Angaston – Monitoring Soil Moisture to Improve Productivity and NRM in Grazing Systems
- Kangaroo Island (sponsored by Agriculture Kangaroo Island Incorporated) – Testing, testing, tasting - Kangaroo Island
- Koonunga – Improving Soil Health in the Koonunga District
- Monarto (sponsored by Rural Directions Trust) – Recycled Organics as Soil Amendments

State NRM Community Grants awarded directly to bureau branches:

- Angaston – Barossa producer groups sustainable pasture challenge paddocks
- Koonunga –Improving poor soil health in North Barossa vineyards
- Monarto –Pasture improvement and no-till interface

As at 24/2/2014