

Successful 2016-17 Beyond SoilCare Small Project Grants

Organisation	Project Name	Project brief
Goulburn Murray Landcare Network	Continuing to improve the uptake of sustainable farming practices in the GMLN	This project will build on our successful project which has been undertaken in the GMLN area for the past 2 years, which has built on improving sustainable farm practices. The project will continue to engage and provide support to all landholders within the Goulburn Murray Landcare Network area with the delivery of community education around soil health. This project will include specialist presentations, field days, distribution of project material, facilitated information sharing and articles in landcare newsletters and local media. This project supports other network projects including our annual farm forum, where over the past six years there has been a consistent and overwhelming interest in soil health and management related issues. The project also complements and will run alongside the soil health projects being delivered by DEDJTR and GBCMA where a strong partnership has already been established.
Goulburn Murray Landcare Network	Growing farmer confidence with soil health knowledge	This project will continue building on the interest and enthusiasm of participants from the past two years of soil health workshops. Land managers who have attended are eager to continue gaining skills that benefit their understanding of sustainable land management practices. This project will deliver a series of workshops that will cover topics about how to improve farm productivity by understanding soil health and its benefits to producing quality products and maintaining our natural resources in a sustainable manner. Workshops would be held on-farm with practical components, delivered by knowledgeable presenters with input from local land managers and Landcare groups.
Irrigated Cropping Council Inc	The effect of compaction and amelioration in irrigated soils	Irrigators are aware that to have healthy soils, there must be adequate aeration through the profile to allow plant and microbial activity. However during the course of the cropping season, there is a necessity to traffic bays at a time when they are moist which leads to compaction, affecting soil health. One technique currently being trialled across the state, particularly in the south west, is subsoil manuring. Improvements identified to soil structure and consequent plant growth may have benefits to irrigators, but this needs to be identified, as well as the potential side effects such as soil compaction if the technology is to be adopted on the medium textured clays common to irrigated cropping. The ICC will work in collaboration with DEDJTR and GRDC (subsoil project) to investigate the level of compaction created when using agricultural machinery to apply subsoil ameliorants, and assess the effects on soil health through monitoring changes in soil density and structural stability down the soil profile through the season. The effect of soil compaction on plant growth will also be studied by monitoring crop performance (biomass and yield).

Riverine Plains Inc	Refining deep soil nitrogen testing to reduce environmental losses	This project will use on-farm demonstration sites to illustrate the value of considering paddock variation when sampling for N, and depth-incremented sampling to understand where the N is distributed in the soil profile. Furthermore, through collecting deep N samples at key stages through the season this project will demonstrate how the test values can change according to when the sampling was done. Assessments of plant growth stage and greenness (NDVI) will be done at each stage to assist in defining the optimum time for N sampling to be done.
Goulburn Murray Landcare Network	Growing positive farming futures	This project will build farmer knowledge and skills to manage their businesses and the natural resources of their farms productively and sustainably through Holistic Management (HM) principles. A farmer-led project steering committee will lead engagement of new farmers and development of practical activities and knowledge sharing opportunities based on industry peer support. Together with a course in HM, this will lead to adoption of practices like planned grazing, cover cropping and integration of livestock into cropping systems. The outcomes of which will improve farm productivity and sustainability through building farmers' capacity to successfully manage changing conditions -climate, water availability and markets.
Gecko Clan	Resilient Sustainable Agriculture – Strategic farming practices for soil, catchments, water and climate resilience	Decline in soil condition in dryland extensive grazing systems contributes to the susceptibility of farms to drought and climate change effects. Soil compaction from livestock reduces soil moisture, ground cover and increases in erosive run off. Whilst strategic cultivation approaches (Yeomans plough, pasture aerators, contour ploughing etc) have been used by farmers, learnings of their benefits and disbenefits has been rarely evaluated and shared. This project will demonstrate strategic pasture sowing approaches to improve resilience to climate change. Such approaches will include sowing unconventional species that provide quick ground cover in drought affected zones. The project will also explore the value of water planning and management and look at new technology for farms such as the value of moisture probes and soil temperature for sowing at the right time.
South West Goulburn Landcare Network	Strategic livestock husbandry to address tunnel erosion	This project aims to demonstrate cost effective and practical ways to increase ground cover to reduce the impact of tunnel erosion. It will take advantage of existing farm management in feeding cattle to increase soil nutrient and plant establishment in strategic areas that contribute to tunnel erosion. Conventional approaches to treating tunnel erosion are based on large inputs such as earthworks, mechanical soil amendments and pasture sowing all of which are expensive and can deter farmer uptake. This approach will involve feeding cattle specifically on an identified area that contribute to the ingress of rainwater into the surface profile that leads to tunnel erosion.

GV Food Cooperative	Reviving traditional SoilCare for a better GV land usage	This project will coordinate a series of four seminars to build greater understanding of organic soil health principles from the varying practices of bio-dynamic, organic, permaculture, regarian and polyfarming.
Maize Association of Australia	Understanding soil chemistry and biology and the relationship to processing maize production	<p>In this demonstration two to three maize paddocks with significant yield variability will be selected based on yield maps generated in previous season. Each paddock will be broken into 2-3 yield classes covering the range of yields in that paddock. Up to six soil samples will be collected within each yield class to assess the variability in soil physical, chemical and biological properties both within and between yield classes. Two soil samples will be collected from each sampling point; one for chemical testing, and the other for soil biology. This sample will be sent to the University of Melbourne for a T-RFLP fingerprinting test, which will identify to Family level. Some samples will also undergo DNA extraction, the PCR DNA will then be sequenced to identify to Genus using the Robosomal Database Project -II. This is expected to be carried out with the assistance of a student. Penetrometer and soil depth will also be measured at the time of sampling.</p> <p>At the end of the project a number of maps will be generated that show the differing nutrient and biology levels across the paddocks. These soil test results will be considered in combination with soil type maps, yield maps and any other spatial data available to determine what factors are driving yield variability. This data together with grower experience will be used to establish management zones within each paddock and appropriate management responses can be planned for the various management zones.</p>
Warby Range Landcare Group	Understanding Soils; The Next Step - Biology	This project will build on learnings from a 3 day Soil workshop with Nicole Masters and 2 field days with Gwyn Jones and Roger Hall held previously. We have looked at the physical and chemical factors of our soils and we would now examine the impact of biological and biology enhancing treatments. The project will trial biological treatments to gauge the benefits to determine if there is a noticeable difference compared to conventional management. The trials will give farmers the opportunity to personally assess the effects, positive and negative, of these biological treatments.
Euroa Arboretum	Healthy Hectares – information, training and services for small landholders	An emerging trend within the Goulburn Broken region is the purchase of small blocks of land by new landholders. Some of these landholders can have limited knowledge in property management. This aim of the Healthy Hectares project is to engage , empower and inspire new landholders to develop well manage, diverse, and environmentally sustainable farms. A booklet will be created that is informative and practical, a workshop series that focuses on participants actual property and the management issues they may be facing.

