



REGIONAL GOALS

People

Biophysical

Knowledge

Worms in Windrows

Runnymede farm, situated in the Uduc region near Harvey, is owned and operated by Blythe and her partner Gregg. They have a total of 500 acres of land and currently run 400 chickens, producing pastured eggs, and 400 head of grass-fed beef. Their farm is an ex-dairy property, with soils ranging from straight clay to heavy sand that have had high inputs of NPK in the past.

Blythe and Gregg wanted to focus on the health of the whole farming system and regenerative farming guru, Nicole Masters, inspired them to look at practices that

will reduce fertiliser inputs, improve soil health, and also improve plant diversity.

Their Greening Farms project goal was to improve their soils by swapping out the use of traditional fertilisers with natural inputs. They are using worms in windrows to create a fungal dominated casting, which can be used as a liquid application on their farm to increase diversity in soil life and help establish a thriving ecosystem in their pastures.

FUNDING PROGRAM

Australian Government's National Landcare Program

PHCC PROGRAM

Greening Farms

PHCC PROJECT

Worms in Windrows

FUNDING

NLP	\$2,500
In kind	\$5,500

REGIONAL COVERAGE



STAKEHOLDERS

- Blythe Calnan – Land Manager
- WA Future Food Network (previously Southern Dirt Inc – Peel Growers Hub)

BENEFICIARIES

Land Managers

PROJECT MANAGER

Kim Wilson and Mick Davis

STEERING COMMITTEE

- Sustainable Agriculture Steering Committee
- Communications Steering Committee

Blythe and Gregg researched the benefits of a range of different regenerative practices to include in their farming system, but chose worms as they were the perfect package to stimulate the biology of the soil. Worms add food and nutrients for beneficial organism growth and they can also re-establish fungi, bacteria, protozoa and nematodes in the soil.

WANT TO SET UP A WINDROW OF WORMS ON YOUR PROPERTY?

1. Create a mixture of manure, woodchips and cardboard. Add water and let it soak to create the windrow base.

Runnymede farm had several waste streams that were able to be used to create their windrow base. They sourced manure from their cows and chickens, old woodchips from the used chicken bedding and added cardboard that had been used around the farm, including damaged or used egg cartons. This was all soaked in an old dairy sump until it was ready to be transferred to the windrow location.

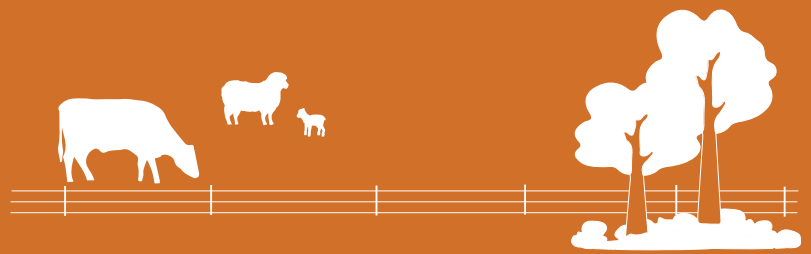


2: Transfer the composted windrow base to your preferred location and populate with worms and castings. The windrow should be located away from trees that would invade the pile, close to a water point and in an area that is conducive to frequent monitoring. Chickens, pigs & other roaming omnivores could consider the worms a tasty snack so appropriate fencing is also required!

Blythe and Gregg designed their windrow to be as wide as the tractor bucket, using old logs to keep the sides up. They utilised a rubber strip from an old conveyor belt on either side of the windrow to ensure no extra ground was extracted when harvesting and the middle section is open to the ground, which allows the worms to retreat if temperatures are extreme. In Winter, they use old carpet as a cover, which allows them to control moisture levels. If using carpet, make sure it has been aged and washed, so that there are no carpet cleaning residues.



This biodiversity creates a perfect base for a range of diverse species of plants to grow.



3: In Spring, remove the carpet and cover with crops and straw. The crops provide shade and exudates for the worms to continue working to refine the compost. The straw provides protection for the worms, while the cover crop is established.

Blythe and Gregg spread a mix of leftover seeds such as sunflower, linseed, peas, buckwheat and cereal rye on their windrow during the warmer months. They try to keep their windrow as moist as possible using a sprinkler, without causing runoff of the highly soluble casting.

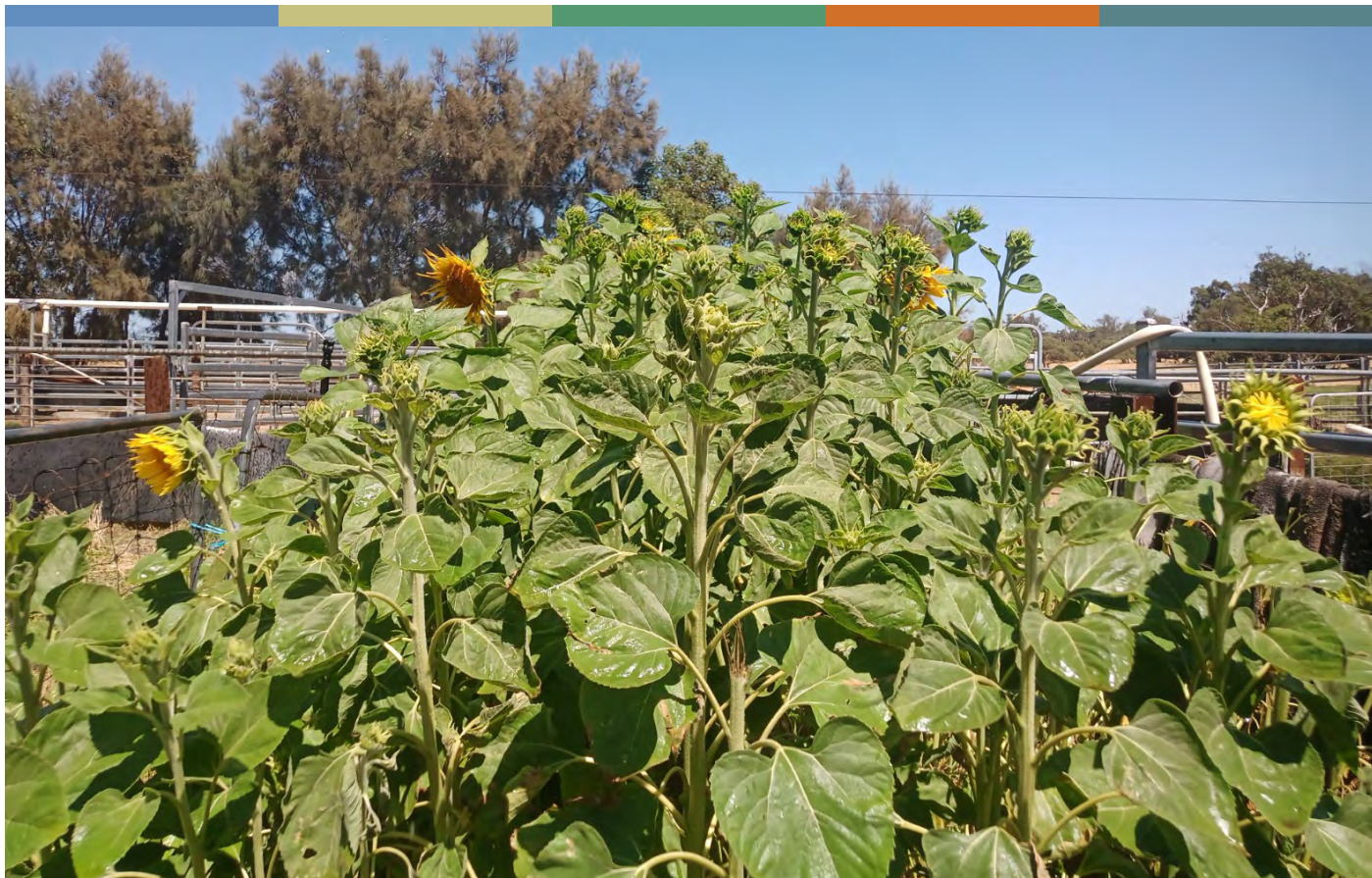


4: Once the windrow has been established and the compost has been refined, add a new source of food at the far end of the windrow (or make another windrow immediately adjacent to the mature one) to attract the worms away from the matured castings. Allow a week for the worms to move to the new material, then harvest the worm free mature castings. The castings are ready for harvest if they have a rich, fine, even texture and they can be distributed into your system once the worms have moved into the new feed source.

Blythe and Gregg will set up another windrow adjoining the existing windrow and cease watering the original windrow, which encourages the worms to crossover to the new windrow, before harvesting the castings of the original windrow. They need to allow enough time for the worms to crossover because worms prefer to spend time in the material they have already worked while they create a suitable environment for themselves in the new windrow.

The castings are then dissolved in water before they are run through a sieve and mixed with molasses, liquid fish, lucerne tea and humates. The sieve system allows for larger particles and any worms still in the casting to be easily removed and returned to the windrow. They will apply most of the castings as a liquid foliar application throughout their property.





KEY ACHIEVEMENTS

- Reduction in animal and operational waste material leaving the farm
- Nutrients are cycled through the farm enterprise, rather than being applied once and then being lost to the system through seepage or going to landfill
- Increase in soil productivity due to compost production by worms

PROJECT OUTCOME

- Creation of an on-farm compost generating worm windrow that can be used to increase farm soil organic matter and reduce waste exports from the property
- Opportunities to extend the knowledge of other farmers to create their own composting facilities

FUTURE ACTIVITIES

- Continued processing of organic waste from the farm
- Opportunity to run a composting workshop for farmers to come and learn first-hand how to build their own composting windrow

ACKNOWLEDGEMENT

This Case Study was developed as part of a partnership agreement between PHCC and WA Future Food Network.

