



From rags to riches: the story of carbon, nutrients and pasture with dairy compost application

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Around the world, dairy farmers are transforming dairy waste to compost for land application. In southeastern Australia, farmers are using composted dairy waste to increase production and reduce costs. In addition, the farmers are considering the benefits of compost for increasing sequestration of soil carbon, and on-farm nutrient retention. The “Carbon Farming Initiative” in Australia is exploring the option to allow farmers to trade Carbon Credits for carbon stored in the soil. Compost also retains vital nutrients, such as N, on farm rather than importing N in the form of mineral fertilisers. Composting also reduces greenhouse gas emissions, such as CH₄, compared to when stored in effluent ponds. This project will investigate if dairy compost applied to pasture improves carbon sequestration, nutrient retention and pasture production. In this project dairy compost, made from dairy effluent, feedpad waste, spoilt sillage and wood mulch, was applied onto a 1Ha field and companion plots at a rate of 0, 3, 6 and 12 t/ha. The field plot is open to grazing and normal farm management practices. The companion plots are being subjected to simulated grazing (mowing). The trials, currently underway will run for 18 months. Along with preliminary soil carbon results, this work will also include preliminary data for total and plant available nutrients, and farm biomass production. The outcomes of this research, and benefits it finds for “Carbon Farming” and nutrient retention has practical, policy and economic applications for world wide markets.