



Keith Mungham and Beth Read from CALMScience Busselton with Ian Charchalis from Mornington District adopt safe working practices near the biosolid stockpile.

Photo by Ian Dumbrell

CALMScience in the biosolid

STAFF from Busselton CALMScience division in conjunction with the Water Corporation, Softwood Business Unit and Mornington District staff, have recently established a biosolids research trial in Myalup plantation. Biosolids are the stabilised organic solids produced by a wastewater treatment plant. They are high in organic matter and contain essential plant nutrients such as phosphorus, nitrogen, calcium, copper and zinc. Unfortunately, they may also contain heavy metals, organic pesticides and pathogens.

The research trial involves the application of approximately 1000 tonnes of biosolids to 11.6 ha of 17-year old *Pinus pinaster* using a tractor-drawn manure spreader (dung

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flinger). Two biosolids application rates have been used, with the higher of the two rates calculated to yield equivalent rates of nitrogen and phosphorus as current mineral fertiliser applications used in plantations. The lower rate is half of the higher rate. In addition to the biosolids treatments, there is a control treatment receiving no fertiliser, and a mineral fertiliser treatment of 500 kg/ha DAP and 250 kg/ha Urea.

The objectives of the trial are to determine the growth response of *P. pinaster* to biosolids and assess the value of biosolids as a fertiliser replacement in plantations. Also, to use a valuable product in an environmentally respon-

sible manner and determine the feasibility of applying biosolids to plantations on the Swan Coastal Plain.

Monitoring of the trial will include tree growth measurements, foliar nutrient analysis, and soil and groundwater analysis for nitrogen, phosphorus, a number of heavy metals and pathogens. Monitoring began several months before the application of the biosolids, to gain baseline information, and will continue for at least three years.

The Water Corporation currently produces 66,000 m³ of biosolids annually. If this trial proves successful, the Water Corporation will have another option available for disposal of its biosolids and CALM will have access to an alternate valuable nutrient supply for its plantations.