

THE MULTI-USE OF WOODCHIP - FROM ANIMAL BEDDING TO MUSHROOM PRODUCTION

D. Frost, B. McLean and J. Wildig

ADAS Pwllpeiran, Cwmystwyth, Aberystwyth, Ceredigion, SY23 4AB

Straw has for long been the basis of livestock bedding but is becoming expensive, particularly in areas of the UK where it has to be imported. As a result, livestock farmers are becoming increasingly interested in alternatives. Initial observation studies at Pontbren suggested that hardwood chips offer considerable potential as bedding and that resultant composted manure may have a market potential.

At ADAS Pwllpeiran, a study was undertaken to investigate the potential of woodchip as an alternative to straw for animal bedding. Three bedding treatments were used; straw, hardwood chips and softwood chips for both a sheep and cattle study. Assessments were made for animals (performance, health, cleanliness and feed intake), bedding (quantity, frequency of bedding, costs and labour requirements) and the final compost (leachate losses, temperature changes during the composting process and the quality of the end product).

The development of organic mushroom growing is limited by the requirement that all straw and manure used as a growing substrate must come from an organic source. Because of the shortage of organic straw and its high price, other growing substrates are now being investigated including sawdust and woodchip. In a second ADAS study, the resultant woodchip composts from the cattle and sheep bedding studies are being used in a mushroom growing trial. Two approaches to growing mushrooms are being evaluated which include the establishment of an indoor growing room with mushrooms grown on trays and the establishment of outdoor beds with or without weed suppressant matting. Four varieties of exotic mushrooms are being evaluated, including Oyster, King stopharia, *Agaricus blazei* and Parasol. Assessments comprise analysis of the nutrient level of the compost pre-inoculation and post-harvest, compost temperatures, mycelium growth, date of emergence of fruiting bodies, count of fruiting bodies, and weight of crop.