

## FREE-RANGE PIGS INTEGRATED WITH AGROFORESTRY

M. Jakobsen and A.G. Kongsted

Aarhus University, Agroecology, Blichers allé 20, 8830 Tjele, Denmark;  
malene.jakobsen@agro.au.dk

Among consumers there is an increasing interest in pork from conventional and organic free-range production. In many ways free-range production support animal welfare in terms of animals being able to perform species-specific behaviour. However, there are also some serious challenges related to animal health and welfare. Sudden death of lactating sows related to the disease complex called 'summer-sows' is a huge challenge on some farms and is expected to be related to heat stress. Furthermore, sows are snout-ringed which prevents them from performing species-specific behaviour such as rooting. Rooting destroys the grass cover thereby increasing the risk of nutrient leaching. Integration of free-range pigs with agroforestry, e.g. production of tree biomass for energy production, could have some immediate animal benefits. The crops provide a more natural and stimuli-rich environment for the pigs with possibilities to seek shadow in hot seasons and shelter in cold seasons. In addition, the system may eliminate the need for snout-ringing due to uptake of nutrients from the trees independent of grass cover.

The aim is to quantify the expected positive effects of integrating free-range pigs with agroforestry in terms of animal health and welfare, environment and performance. An on-farm experiment will be carried out to investigate the behaviour of lactating sows and piglets as well as nutrient leaching in paddocks with poplar trees and paddocks without poplar trees. Among others, explorative behaviour in lactating sows and play behaviour in piglets will be recorded as well as the pigs' use of the additional resources in terms of trees in the system with poplar. Furthermore, clinical signs of MMA and signs of heat stress (e.g. respiratory rate) will be registered.