AUSTRALIAN Pork

Fact Sheet

FACT SHEET

Outdoor Piggery Fact Sheet Series
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DESIGN AND MANAGEMENT OF OUTDOOR FREE RANGE AREAS FOR PIGS

Free Range (FR) pig production is often promoted on the basis of improved animal welfare and environmental performance compared to conventional pork production. However, if not managed well, outdoor production systems pose different and sometimes higher risks than indoor (conventional / deep litter) piggeries such as nutrient overloading and subsequent losses, soil structure issues (e.g. compaction), vegetation degradation and soil erosion.

Site selection factors important in applying good agricultural practices outdoor free range areas include:

- Finding a site with an annual rainfall of less than 750 mm, a mean maximum January temperature of less than 28°C and a mean minimum July temperature exceeding 3°C;
- Providing sufficient land for a sustainable system to operate;
- Protecting surface waters by providing a buffer at least:
    i. 800 m wide between the piggery and a major water supply storage, and
    ii. 100 m wide between the piggery and a defined watercourse;
- Protecting sensitive land uses such as by providing separation distances between the FR piggery and sensitive land use of at least:
    i. 200 m to a public road carrying >50 vehicles per day, and
    ii. 100 m to a public road carrying <50 vehicles per day, and
    iii. 750 m to a town, and
    iv. 500 m to a rural residential area, and
    v. 250 m to a rural dwelling, and
    vi. 20 m to a property boundary;
- Selecting a site with soils that are well drained but which contain sufficient clay to retain nutrients in the root zone. Sites with light soils are subject to wind erosion (and nutrient removal) when groundcover is denuded. Sites with heavy soils may be difficult to traffic during wet weather; and
- Selecting a site with gently sloping land to minimise the likelihood of local flooding.

Design and management factors important in applying good agricultural practices within outdoor free range areas include:

- Nutrient budgeting. While N, P and K accumulate in soils of FR piggeries, the nutrient accumulation rate is generally not high unless an area has been stocked continuously for more than two years. Consequently, rotations should be planned such that pigs are not continuously stocked on an area for longer than two years. Following the pig stocking phase, crops should be grown to utilise accumulated N, P and K.
- Encouraging even spreading of manure nutrients. A major challenge of FR systems is that manure, and consequently nutrients, is not spread evenly across the paddock. This increases the risk of nutrient overloading, leaching and/or runoff. Moving pig housing and feeding facilities regularly during the stocked phase will help spread nutrients more evenly.
- Adopting strategies to minimise uncontrolled movement of nutrients from FR piggery paddocks. These including regular spelling from pig production, with a plant growth and harvest phase to remove the nutrients added through the stocked phase and provision of a physical barrier and / or a good hardy vegetative cover around the piggery perimeter.
- Providing wallows on soils that allow for minimal nutrient leaching (alternatively clay can be added to the wallows to reduce the leaching rate through the base). Wallows need to be frequently emptied and cleaned to avoid heavy contamination. Wallows should be remediated by ripping; applying gypsum as needed; and proper refilling and levelling.
- Undertaking routine environmental monitoring, particularly soil monitoring during the cropping phase of the rotation.