

# WOODCHIP PADS for out-wintering cattle

## Notes on pad design, construction and management

Out-wintering pads (OWPs) offer a sustainable alternative to out-wintering livestock on grassland and a reduced cost alternative to conventional housing. These pads are well suited for use by dry cows, suckler cows, beef steers and young stock and research in Ireland has demonstrated significantly improved performance in finishing cattle on OWPs compared to those housed on slats or straw yards. A three-year project is currently developing guidance on the design and management of OWPs, to reduce the risk of problems such as pad failure and pollution.

■ Professional advice on design should be sought at an early stage, to ensure any planning requirements are fulfilled and Environment Agency (EA) approval obtained.

■ Pad size will depend upon stock type, animal numbers, feeding practice and pad occupancy (continuous or part-time); with off-pad feeding, minimum space allowances advised are 12-15m<sup>2</sup>/head, 10-12m<sup>2</sup>/head, or 6-8m<sup>2</sup>/head, for dairy cows, finishers/sucklers, or young stock, respectively.

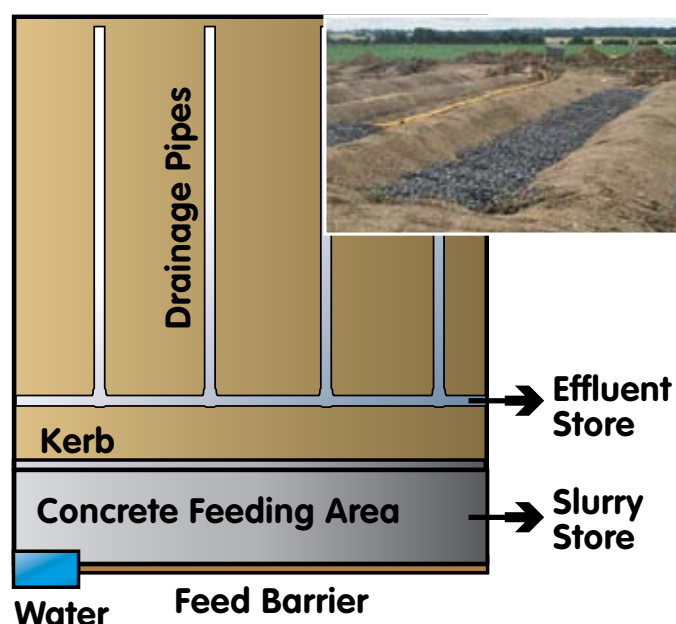
■ Effluent draining from an OWP is considered to be slurry and requires appropriate storage provision. Effluent production can be estimated from pad area, rainfall and animal numbers. Some reduction in volume is likely as a result of slurry solids retention in the chip and evaporative losses. Woodchip also has a significant capacity to absorb water.

■ The base of the pad must be sealed (e.g. compaction of subsoil if of sufficient clay content, or use of suitable plastic lining) and drainage system installed to collect the effluent. This avoids the risk of pollution.

■ Drainage pipe should be perforated plastic, with minimum 80mm internal diameter and installed in trenches/base of subsoil ridges, with a fall of at least 2% (1:50) and covered with ca. 30cm drainage stone.

■ Fine chip appears better for animal welfare but retains more dung solids and so may result in dirtier animals; however, greater retention of solids by the chip may help to keep drainage clear. In Ireland, chip size <50mm is favoured, often with a coarser base layer.

■ Depth of woodchip above the drainage stone varies between 20cm and 50cm; woodchip may



be sourced from sawmill by-product, chipped logs/forestry thinnings, or recycled timber. EA guidance should be sought before using waste wood containing "foreign" material, which may be considered a "controlled waste".

■ External access to the drainage system is suggested, e.g. extension of capped lateral pipes





**Effluent from the pad should be collected and stored**



**Restricted access to off-pad feeding can lead to a local build-up of slurry**



**Scraping surface layer to remove a heavy accumulation of slurry solids**

beyond the banks of the OWP, to allow jetting should blockage with slurry solids occur.

- Spreading of woodchip within the pad should be undertaken carefully, to avoid disruption of drainage. Chipping onto the pad reduces the need for wheelings; spreading should begin from the edge, allowing the loader to work on the lain chip.

- Feeding and watering facilities are better placed outside of the pad area; the feed stance should be concrete and designed to allow daily scraping of slurry; a step up/down to the woodchip, with a kerb, will help exclude slurry from the pad; a step or kerb at the base of the feed barrier will prevent contamination of silage.

- Free and rapid access to the feed area, rather than through a gate or narrow ramp, is important to avoid overloading with slurry solids at the restricted access.

- Access to an off-pad yard area or paddock should be available to allow the removal of livestock from the pad during freezing weather.

- Nutrient content of the dirty woodchip is similar to that of farmyard manure (FYM); land application should therefore be at rates appropriate for FYM. An advantage of using fine woodchip is that, following spreading, the woody residue disappears quickly; coarse chip residues are very persistent and may be a problem on grassland.

- Occasionally, the pad surface will become very dirty, especially after a period of very dry or cold weather. Remedial action may require scraping away the surface few centimetres of chip, adding clean chip if necessary; cultivation of surface layers may also help.

- For a new OWP, a south facing site is ideal, without shade; winds will promote surface drying; avoid close proximity to large trees or walls which may result in muck "hotspots".

Further information and advice is available from

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Web: [www.dairyco.org.uk](http://www.dairyco.org.uk)

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