

Soils under grassland can become compacted due to untimely cultivations associated with reseeded and/or stock grazing or farm traffic associated with field operations. Compaction in grassland reduces the infiltration of rainfall, increasing the risk of run-off and flooding, and adversely affects water quality.

Amelioration of soil compaction in grassland will help improve water infiltration and nutrient use resulting in reduced risk of offsite impacts such as flooding, sediment and nutrient losses. Timely removal of compaction in grassland will also improve sward productivity.

Sward slitters or aerators have a limited working depth, normally 5 to 10cm, and cannot address deeper seated compaction beyond 10cm depth that is often found under grassland.

### Requirements

- Check that subsoiling will not damage any archaeological remains or existing field drains and, if grassland is unimproved, that it is not subject to an EIA which may restrict management options.
- Ensure that subsoiling is permitted in options that you are entered in under any agri-environment schemes
- Inspect soil profile at sites with suspected compaction, by digging several soil pits to assess the severity and extent of the soil damage.
- Where soil compaction is identified within the top 35cm of the soil profile, use grassland subsoiler in the autumn at an angle across any slope, to create vertical fissuring within the compacted layer.
- Check implement working depth - Working depth should be 2.5cm below the compacted layer.
- Check soil moisture levels at intended working depth - Soil moisture at working depth should be sufficiently dry to prevent smearing and allow vertical fissuring within the profile.
- Avoid subsoiling prior to prolonged dry weather as the sward will be more prone to drought stress as a result of root pruning caused by the subsoiling operation.
- Do not stock or perform field operations for 10 weeks following subsoiling, as weight bearing capacity of recently disturbed soil is reduced and at risk from further compaction if stocked or travelled.

This option is unlikely to deliver long term improvement on sites subject to waterlogging caused by high water tables or on sites with slowly permeable subsoils without an out flow for soil water - such as field drains and ditches.