



NatureBid Auction Measure Specification **Grassland Subsoiling**



Soils under grassland can become compacted due to untimely cultivations associated with reseeding 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
- 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.
- Grassland subsoilers can help to address layers of compaction identified in the top 35cm of the soil profile, by creating vertical fissuring if undertaken in appropriate soil conditions.

When and how to subsoil

- Inspect soil profile at sites with suspected compaction, by digging several soil pits to assess the severity and extent of the soil damage
- Check implement working depth - working depth should be 2.5cm below the compacted layer
- Tines/legs should be spaced roughly 1.5 times working depth, but is dependent on presence of wings or leading tines (see below)
- 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
- Subsoiling is most effective when the soil is moderately dry and non-plastic to allow the leg and tines to create lateral and vertical fissures in the soil. This is generally in September/early October, but it is important to check soil conditions as this will be variable depending on weather
- Subsoil at an angle across any slope

TYPE OF SUB SOILER	DISTANCE BETWEEN TINES
Conventional	1 to 1.5 x depth of working
Winged	1.5 to 2. x depth of working
Winged plus leading tines	2 to 2.5 x depth of working

Subsoiler tine spacing

Requirements for this measure

- 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 into in any agri-environment schemes
- The grass being subsoiled must be at least a 1-year old ley
- **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. If you are successful in your bid, a FWAG SW Adviser will contact you to discuss the location and specification for this measure, which may include a site visit.

Please note: successful bids for grassland subsoiling will need to be undertaken in Autumn 2022, if and when soil conditions are appropriate as described above

