

Soil management and monitoring plan (F-023)

Trading name:



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Background

It is a requirement of the ISCC program and the Renewable Energy Directive (RED II) regulation Article 29(2) that growers develop a Soil management and monitoring plan to promote soil carbon sequestration and soil quality.

Soil carbon in the context of RED II, can be considered to represent soil organic content, i.e. the amount of carbon stored in the soil. Soil carbon content can also be expressed as soil organic matter. Soil organic matter levels reflect soil health. It influences soil structure, water and nutrient retention, soil biodiversity and plant nutrition. A decrease in organic matter can indicate a decline in soil health, fertility and structure.

Growers can describe and verify their adoption of practices that promote soil carbon sequestration and soil quality as below.

A documented Soil management and monitoring plan must be kept for at least five years. It details an integrated approach of on-farm practices that enhances long-term sustainable soil management.

Completing the table below can meet these requirements.

Soil management Activity	Requirement and quality parameter	Is in place	
		Yes	No
Crop rotation	<p>3-year crop rotation that includes legumes, or green or brown manure crops in the cropping system.</p> <p>Do you have a suitable rotation written in a cropping plan?</p> <p>(This is to promote an integrated approach to managing soil fertility, soil carbon sequestration, erosion mitigation, soil biodiversity, and weed and pathogen management.)</p> <p>List crops in rotation</p> <p>Year 1 _____</p> <p>Year 2 _____</p> <p>Year 3 _____</p>		

Soil management Activity	Requirement and quality parameter	Is in place	
		Yes	No
Soil compaction management	<p>To minimise soil compaction, appropriate frequencies and timing of field operations including sowing/tillage are to be planned to avoid traffic on wet soils.</p> <p>Aims to maintain/improve soil structure and soil biodiversity.</p> <p>Do you adopt minimum/no till techniques to prevent compaction and improve soil organic matter/structure?</p> <p>NB: This is a mandatory requirement.</p> <p>Do you adopt any other techniques to minimise soil compaction.</p> <p>If yes, select any that apply:</p> <p><input type="checkbox"/> Control traffic configurations on seeding equipment</p> <p><input type="checkbox"/> Control traffic configurations on spraying equipment</p> <p><input type="checkbox"/> Control traffic configurations on harvest equipment</p> <p><input type="checkbox"/> Allocate off-field sites for grain harvest bins</p> <p><input type="checkbox"/> Avoid traffic on wet soils</p> <p><input type="checkbox"/> Livestock exclusion on wet soils</p> <p><input type="checkbox"/> Strategic deep ripping/tillage</p> <p><input type="checkbox"/> Gypsum amelioration</p> <p>Other (please describe): _____</p>		
Soil erosion management	<p>Prevent erosion and retain/improve soil biodiversity.</p> <p>Do you adopt minimum/no till techniques to minimise soil erosion and improve soil biodiversity?</p> <p>NB: This is a mandatory requirement.</p> <p>Do you adopt any other techniques to minimise soil erosion and improve soil biodiversity?</p> <p>If yes, select any that apply:</p> <p><input type="checkbox"/> Control traffic configurations on seeding equipment</p> <p><input type="checkbox"/> Control traffic configurations on spraying equipment</p> <p><input type="checkbox"/> Control traffic configurations on harvest equipment</p> <p><input type="checkbox"/> Avoid traffic on wet soils</p> <p><input type="checkbox"/> Maintain stubble/residues</p> <p><input type="checkbox"/> Maintain ground cover levels.</p> <p><input type="checkbox"/> Livestock exclusion on wet soils</p> <p>Other (please describe): _____</p>		
Stubble/crop residue retention	<p>Retain crop residues.</p> <p>Do you retain stubble?</p> <p>Do you make hay?</p>		
Brown manure	<p>Do you use brown manure crops?</p>		
Stubble burning	<p>No burning is permitted on arable land except where an exemption has been granted for plant health reasons.</p> <p>This is to promote the retention of soil carbon.</p> <p>Do you burn stubble?</p> <p>If yes, do you have a burning permit or other authorisation?</p> <p>NB: This evidence will be required to be shown if selected for an audit.</p>		

Soil management Activity	Requirement and quality parameter	Is in place	
		Yes	No
Compost / manure	XXX		
Acid soils	<p>Lime application to improve soil structure, soil biodiversity and soil carbon</p> <p>Do you measure soil pH? If yes, is lime applied? Do you use variable rate technology to apply lime? How often is limed applied? Every _____ years What is the average rate applied? _____ kg/ha Is the rate available in the fertiliser records? (This will need to be shown during an audit.) Excluding lime application, do you use other strategies to manage acid soils? Select any that apply:</p> <p><input type="checkbox"/> Regularly monitor soil pH <input type="checkbox"/> Grow acid tolerant crops and pastures <input type="checkbox"/> Avoid acidifying fertiliser e.g. MAP, SOA <input type="checkbox"/> Banding fertiliser at sowing <input type="checkbox"/> Topdress N fertiliser to actively growing crops <input type="checkbox"/> Apply N fertiliser using variable rate technology <input type="checkbox"/> Encourage deep rooting of crops <input type="checkbox"/> Avoid or minimise hay production Other (please describe): _____</p>		
Soil fertility improvement	<p>Crops should be grown on suitable soils. To ensure the sustainable treatment of soils, good agricultural soil management practices must be adopted.</p> <p>Do you use any techniques to improve soil fertility? If yes, select any that apply:</p> <p><input type="checkbox"/> Monitor changes in soil fertility <input type="checkbox"/> Incorporate legumes in the rotation <input type="checkbox"/> Tactical fertiliser use to meet crop requirements and longer term soil targets <input type="checkbox"/> Use of variable rate technology to apply fertiliser <input type="checkbox"/> Retain crop residues <input type="checkbox"/> Grow green/brown manure crops <input type="checkbox"/> Apply composted organic material e.g. manure, chicken litter, biosolids <input type="checkbox"/> Include perennial-based pastures <input type="checkbox"/> Manage livestock grazing to avoid overgrazing Other (please describe): _____</p>		

Soil management Activity	Requirement and quality parameter	Is in place	
		Yes	No
Salinisation	<p>Do you use techniques to minimise salinisation?</p> <p>If yes, select any that apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Implement whole farm planning to identify appropriate land use zones <input type="checkbox"/> Sow crops early in sowing windows <input type="checkbox"/> Agronomic management to enhance healthy vigorous crops to utilise available soil water <input type="checkbox"/> Agronomic management to enhance healthy vigorous pastures to utilise available soil water <input type="checkbox"/> Minimise frequency of long fallows <input type="checkbox"/> Maintain long-term perennial-based pastures <input type="checkbox"/> Manage livestock grazing to avoid overgrazing <input type="checkbox"/> Conserve and manage remnant vegetation <input type="checkbox"/> Plant trees <p>Other (please describe): _____</p>		
Soil structure	<p>There are several, often integrated approaches used to improve soil structure. Do you use any techniques to improve soil structure?</p> <p>Strategy: Increasing organic carbon and organic matter</p> <p>Select any that apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Grow a diverse range of crop (and pasture) types <input type="checkbox"/> Grow deep rooting, vigorous crops (and pastures) <input type="checkbox"/> Incorporate legumes in the rotation <input type="checkbox"/> Grow multi-species crops <input type="checkbox"/> Retain crop residues <input type="checkbox"/> Grow green/brown manure crops <input type="checkbox"/> Include perennial-based pastures <input type="checkbox"/> Manage livestock grazing to avoid overgrazing <p>Other (please describe): _____</p>		
	<p>Strategy: Use of soil ameliorants</p> <p>Select any that apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Apply composted organic material e.g. manure, chicken litter, biosolids <input type="checkbox"/> Include perennial-based pastures <input type="checkbox"/> Apply soil ameliorant e.g. gypsum <input type="checkbox"/> Use of variable rate technology to apply gypsum <p>Other (please describe): _____</p>		
	<p>Strategy: Cultural practices</p> <p>Select any that apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strategic deep ripping/tillage <input type="checkbox"/> Incorporation/deep ripping of gypsum amelioration <p>Other (please describe): _____</p>		

Monitoring approach Activity	Requirement and quality parameter	Is in place	
		Yes	No
Risk assessment	<p>Do you have a document/cropping plan that identifies areas with high risk of soil quality decline and a plan/strategy that improves or prevents further decline of these areas?</p> <p>This is a mandatory requirement.</p> <p>Describe the steps that have been undertaken to improve/prevent the further decline of these areas:</p> <p>_____</p> <p>_____</p> <p>_____</p>		
Soil organic matter/ organic carbon	<p>Monitoring requires consistent sampling of soil organic matter levels. This enables appropriate strategies to be applied to changing levels. It is a requirement that you have records that demonstrate that soil organic matter/organic carbon is measured on an ongoing basis.</p> <p>Do you have records that show that soil carbon/matter is measured?</p> <p>If yes,</p> <p>1. Complete at least one value as below:</p> <p>Year _____ Value _____ Units _____</p> <p>Year _____ Value _____ Units _____</p> <p>Year _____ Value _____ Units _____</p> <p>2. Upload the last 3 years' reports or any reports you may have within this period.</p>		
Soil erosion assessment	<p>Are there any areas on the farm that have suffered from soil erosion?</p> <p>If yes, describe what steps have been undertaken to address the soil erosion in these areas?</p> <p>_____</p> <p>_____</p> <p>_____</p>		

Please complete this form, and keep it on file for five (5) years.

You are only required to send this form to SGA if you are selected to be audited.