



Department of
**Agriculture,
Fisheries and Food**

An Roinn
**Talmhaíochta,
Iascaigh agus Bia**

FAS Training Module 3 Nov/Dec 2009

Soil Organic Matter

FAS Training Module 3 Carrick
on Shannon, Mitchelstown and
Birr '09

Soil Organic Matter

- ✦ It is an requirement under **Good Agricultural and Environmental Condition** since 05
- ✦ Advice from Teagasc was that it was not a problem in Ireland
- ✦ Became an issue at EU Audits:

What controls are in place???

GAEC Legal basis

Council Regulation 73/2009 (1782/2003)

Article 6 - Agricultural land, *especially land which is no longer used for production purposes*, must be maintained in GAEC

§ MS to define minimum requirements for GAEC in keeping with Annex III.

Organic Matter

Maintain Soil Organic Matter levels through appropriate practices

Good agricultural and environmental condition referred to in Article 5

OLD-05

Issue	Standards
<p>Soil erosion:</p> <p>Protect soil through appropriate measures</p>	<ul style="list-style-type: none"> — Minimum soil cover — Minimum land management reflecting site-specific conditions — Retain terraces
<p>Soil organic matter:</p> <p>Maintain soil organic matter levels through appropriate practices</p>	<ul style="list-style-type: none"> — Standards for crop rotations where applicable — Arable stubble management
<p>Soil structure:</p> <p>Maintain soil structure through appropriate measures</p>	<ul style="list-style-type: none"> — Appropriate machinery use
<p>Minimum level of maintenance:</p> <p>Ensure a minimum level of maintenance and avoid the deterioration of habitats</p>	<ul style="list-style-type: none"> — Minimum livestock stocking rates or/and appropriate regimes — Protection of permanent pasture — Retention of landscape features — Avoiding the encroachment of unwanted vegetation on agricultural land

Good agricultural and environmental condition referred to in Article 6

New 09

Issue	Compulsory standards	Optional standards
Soil erosion: Protect soil through appropriate measures	<ul style="list-style-type: none"> — Minimum soil cover — Minimum land management reflecting site-specific conditions 	<ul style="list-style-type: none"> — Retain terraces
Soil organic matter: Maintain soil organic matter levels through appropriate practices	<ul style="list-style-type: none"> — Arable stubble management 	<ul style="list-style-type: none"> — Standards for crop rotations
Soil structure: Maintain soil structure through appropriate measures		<ul style="list-style-type: none"> — Appropriate machinery use
Minimum level of maintenance: Ensure a minimum level of maintenance and avoid the deterioration of habitats	<ul style="list-style-type: none"> — Retention of landscape features, including, where appropriate, hedges, ponds, ditches trees in line, in group or isolated and field margins 	<ul style="list-style-type: none"> — Minimum livestock stocking rates or/and appropriate regimes — Establishment and/or retention of habitats
	<ul style="list-style-type: none"> — Avoiding the encroachment of unwanted vegetation on agricultural land 	<ul style="list-style-type: none"> — Prohibition of the grubbing up of olive trees
	<ul style="list-style-type: none"> — Protection of permanent pasture 	<ul style="list-style-type: none"> — Maintenance of olive groves and vines in good vegetative condition
Protection and management of water: Protect water against pollution and run-off, and manage the use of water	<ul style="list-style-type: none"> — Establishment of buffer strips along water courses ⁽¹⁾ — Where use of water for irrigation is subject to authorisation, compliance with authorisation procedures 	





**HELPSHEET / TERMS & CONDITIONS
FOR THE
2009**

**EU SINGLE PAYMENT SCHEME (SPS)
AND FOR**

**THE 2009 DISADVANTAGED AREAS
SCHEME,
AND OTHER 2009 AREA - BASED
SCHEMES.**

DEPARTMENT OF AGRICULTURE, FISHERIES AND FOOD





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HELPSHEET / TERMS & CONDITIONS FOR THE

2009

PAYMENT SCHEME (SPS)

FOR

AREAS

Maintenance of soil organic matter

Introduction – The Importance of Soil Organic Matter

Soil organic matter comprises all living soil organisms and the remains of previous living organisms in their various degrees of decomposition. Soil organic matter plays a major role in maintaining soil quality as it positively influences a wide range of soil properties such as the provision of nutrients, water retention and release, as well as reducing the risks of soil compaction, surface crusting and soil erosion. The practice of continuous tillage, (i.e. tillage for six years or more), tends to reduce the organic matter content of the soil unless appropriate management practices are implemented to reverse this trend. This decline is a gradual process. In like manner the process of replenishing soil organic matter is slow, but can be achieved through adapted agricultural management practices and the addition of organic materials to the soil.

Increasing soil organic matter will result in a 'win-win' situation with respect to positively influencing soil fertility and quality and maintaining the physical, chemical and biological conditions necessary in sustainable continuous tillage practices. A number of factors influence the rate of decline of soil organic matter levels including soil type and physical properties, climate, topography, vegetation and land management practice. Soils with organic matter levels above 3.4% are not considered to be vulnerable. This equates to a soil organic carbon content of 2%. The conversion factor from soil organic carbon to soil organic matter is approximately 1.72 (i.e., Soil Organic Matter (SOM) = 1.72 multiplied by Soil Organic Carbon (SOC)).

Requirements under Good Agricultural and
Applicants for the single

DAFF SOM Requirements

Paragraph 16, 2009 Terms & Conditions

Must take soil samples if:

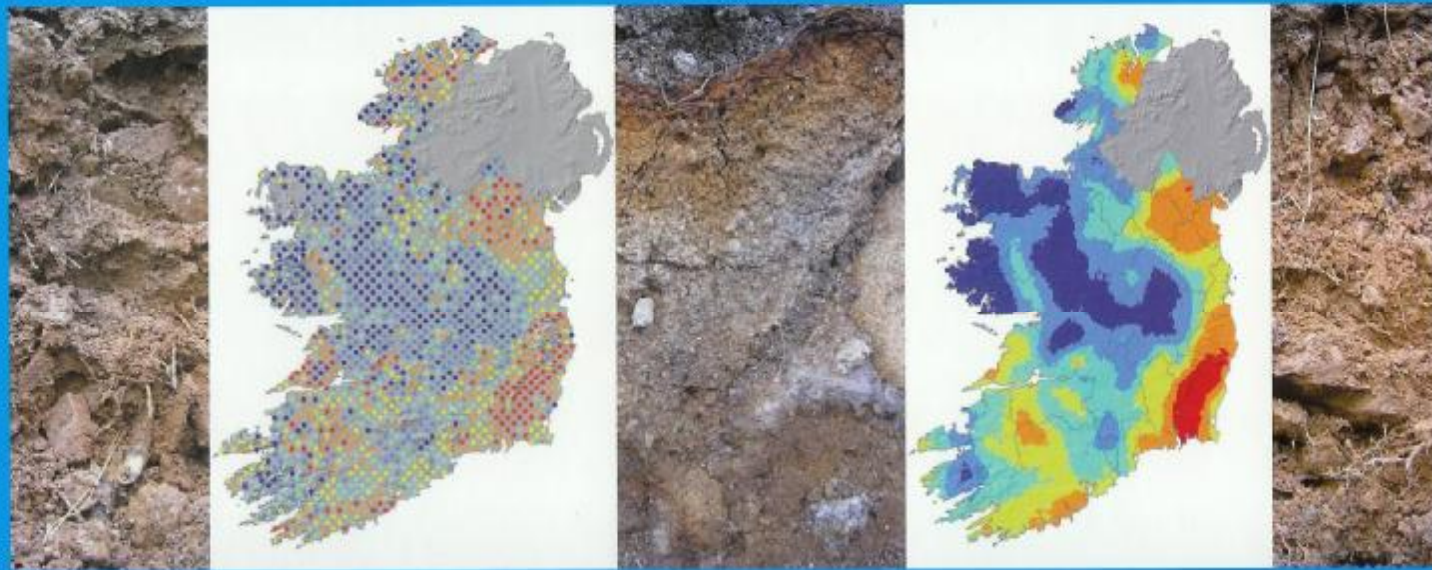
- § Parcel cropped continuously for 6 yrs. or more
- § In SOM vulnerable area and
- § Written to by DAFF in 09

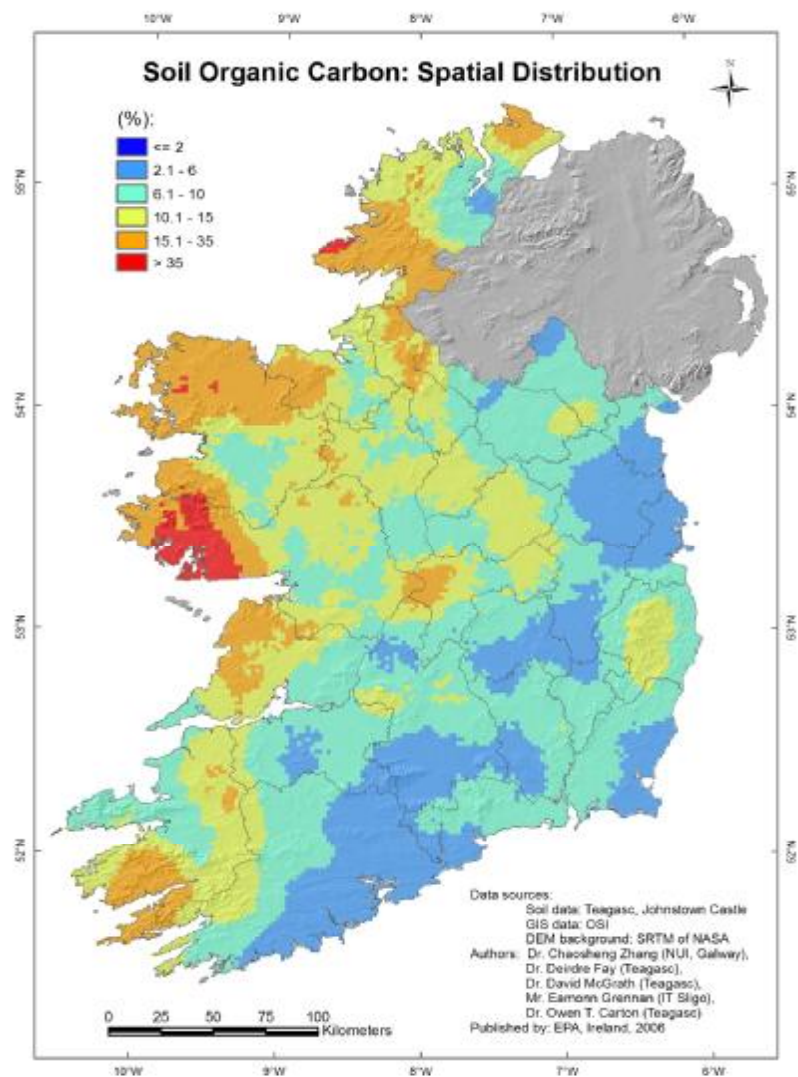
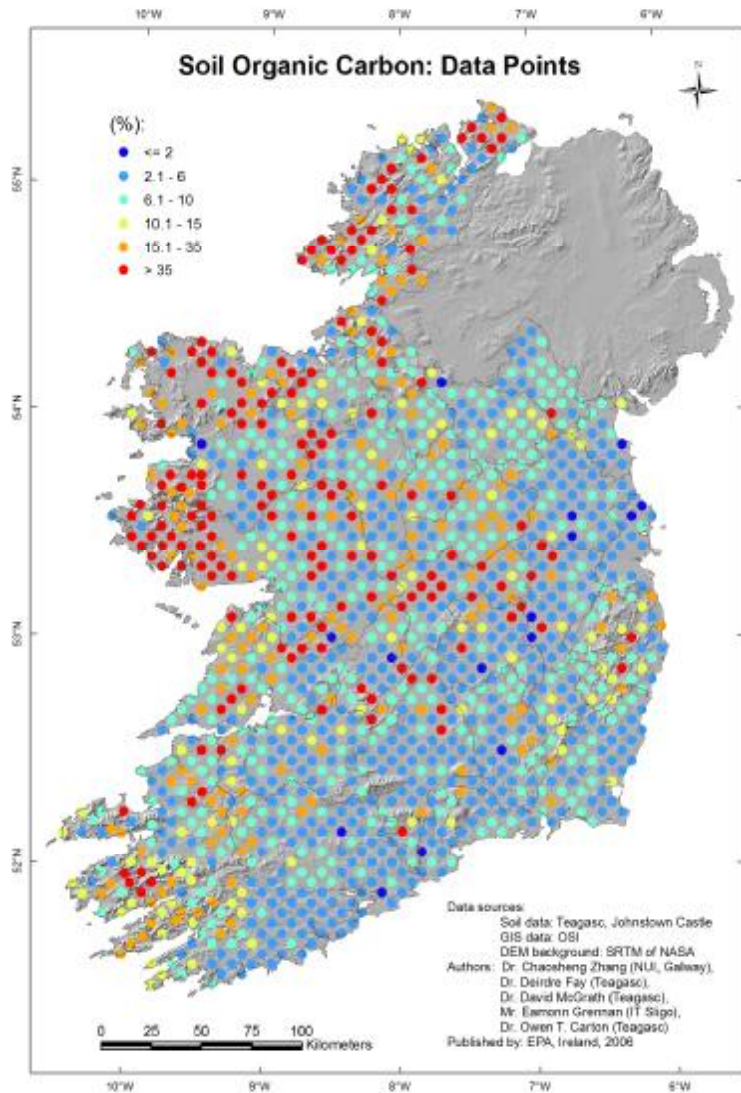


Soil Geochemical Atlas of Ireland

D. Fay
G. Kramers
C. Zhang
D. McGrath
E. Grennan

Edited by
G. Kramers





DAFF SOM Requirements

- § From 2010 all parcel cropped continuously for 6 yrs. or more must be soil sampled.
- § Resample every 10 years.
- § Normal sample for P,K and Lime will suffice but must specify SOM
- § Soil Analysis Report must be retained



Soil Sampling

- # Best done post harvest.
- # Must follow SI 101 2009 and use Approved Laboratories
- # 1 sample per 4 Ha. or up to 8Ha. if soil type, cropping history and fertiliser treatment is the same.
- # Sampling sketch for large fields

DAFF SOM Requirements

- # If SOM level is $<3.4\%$ farmer must get advice from a CC-FAS Advisor
- # CC-FAS advisors must complete a report, sample by sample, setting out where appropriate the remedial actions required.
- # Farmer must retain the report
- # Will be looked for at inspection

Cross Compliance Inspection 2010

If written to in 09:

1. Must have SOM analysis in 09
2. Must have FAS SOM Report in 2010 if analysis shows SOM at $<3.4\%$
3. If inspected after Winter crop is sown in 2010, must have applied any remedial action between harvest and planting

Cross Compliance Inspection 2010

If not written to in 09 but have
parcels in continuous tillage

1. Must have SOM Analysis in 2010
2. Must have FAS SOM Report in 2011 where analysis shows SOM <3.4%.
3. Apply remedial actions after 2011 harvest.

CC-FAS Organic Matter Report

- # Can only be prepared and signed by an Approved CC-FAS advisor
- # Report must deal with each sample with an SOM reading of $<3.4\%$
- # If >1 sample per parcel then each sample area must be dealt with separately in the report
- # Report must set out remedial actions for following 10 year period

Cross Compliance-FAS Organic Matter Report for land under Continuous Tillage

Applicant Name	Herd No	Analytical Laboratory	Sample Year 20__
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Soil Organic Matter Analysis	Remedial action Required (Y/N)	DETAIL OF ANY REMEDIAL ACTION TO BE UNDERTAKEN WHERE NECESSARY
Parcel ID	% Organic Matter	Date of analysis

Confirmation that annual remedial action has been completed where required →	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td><td style="width: 5%;">Year</td><td style="width: 5%;">y/m</td> </tr> </table>	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m
Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m		

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Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m	Year	y/m		

Certification by FAS advisor and Applicant
 I certify that soil sampling was conducted in accordance with the procedures outlined in the SI No. 101 of 2009 and that the analysis was conducted in an approved laboratory.

Signed : _____ CC-FAS AGENCY Code: _____ Date: _____
Approved Cross Compliance - FAS advisor

I certify that that I will undertake any remedial actions outlined above.

Signed : _____ Date: _____
Single Payment Applicant

Note : The applicant must arrange for the soil sampling to be conducted in accordance with the requirements of SI No. 101 of 2009. Where a plot is found to be below 3.4% soil organic matter, an organic matter report must be completed by the applicant in conjunction with the CC-FAS advisor. The soil organic matter analysis reports from the laboratory must be retained by the applicant and be available for inspection. A value of 2% organic carbon (3.4% SOM) is the threshold value below which remedial action may be necessary. Details of any remedial action to be applied should be recorded for the relevant plots and confirmed by the applicant each year. Where remedial action is not necessary for plots below the threshold value, the scientific basis for this should be recorded for each such plot.
 Further soil sampling may be conducted on inspection.

Cross Compliance Inspection 2010+

Depending on timing of the inspection
sanctions will apply where:

1. No soil analysis for SOM
2. Has SOM analysis but didn't seek advice
from a CC-FAS advisor
3. Did not apply remedial actions

NOTE: low organic matter levels will not
incur a sanction



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Thank you for your attention

Any questions?

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