

Min till

	Cost-effectiveness					
	Soil Organic Carbon			Total Greenhouse Gas Emissions		
	High yield impact	Middle yield impact	Low yield impact	High yield impact	Middle yield impact	Low yield impact
Barley						
Denmark	++	+	-	++	+	-
Denmark (winter)	++	+	-	++	+	-
Denmark (spring)	++	+	-	++	+	-
Estonia	+	+	+	+	+	+
Finland	++	+	+	++	+	+
Germany	++	+	+	++	+	+
Greece	++	++	+	++	++	+
Hungary (winter)	+	+	+	+	+	+
Hungary (spring)	+	+	+	+	+	+
Ireland	++	++	+	++	++	+
Italy	++	+	-	++	++	-
Lithuania	+	+	+	+	+	+
Poland	++	+	+	++	+	+
Spain	+	+	-	+	+	-
Spain (rainfed)	++	++	++	++	++	++
Spain (irrigated)	++	++	++	++	++	++
United Kingdom	++	+	-	++	+	-
United Kingdom (winter)	++	+	-	++	+	-
United Kingdom (spring)	++	+	-	++	+	-
Common wheat						
Denmark (winter)	++	+	--	++	+	-
Denmark (spring)	++	+	-	++	+	-
Bulgaria	++	+	+	+	+	+
Czech Republic	++	+	+	++	+	+
Denmark	++	+	-	++	+	-
Estonia	+	+	+	+	+	+
Finland	++	+	+	++	+	+
France	++	+	-	++	+	-
Germany	++	+	-	++	+	-
Greece	++	+	+	++	+	+
Hungary	++	+	+	+	+	+
Hungary (winter)	++	+	+	+	+	+
Italy	++	+	-	++	+	-
Latvia	++	+	+	+	+	+
Lithuania	++	+	-	+	+	-
Poland	++	+	+	++	+	+
Romania	++	+	+	++	+	+
Spain	+	-	-	+	-	-
Sweden	++	+	+	++	+	+
United Kingdom	++	+	-	++	+	-
United Kingdom (winter)	++	+	-	++	+	-
Durum wheat						
France	++	+	-	++	+	-
Greece	++	+	+	+	+	+
Italy	++	+	-	++	+	-
Spain	+	+	-	+	+	-
Grain maize						
France	++	++	+	++	++	+
Germany	++	+	-	++	+	-
Greece	++	++	+	++	++	+
Hungary	++	+	-	++	+	-
Hungary (central region)	++	+	-	++	+	-
Italy	++	+	-	++	+	-
Italy (Tuscany)	++	+	-	++	+	-
Poland	++	+	-	++	+	-
Portugal	++	++	-	++	+	-
Romania	++	+	+	++	+	+
Slovakia	++	+	+	++	+	+
Spain	++	-	--	++	-	--

Legend High to very high positive Moderate positive Low positive No or negligible
 High to very high negative Moderate negative Low negative

Residue management

Cost-effectiveness					
Soil Organic Carbon			Total Greenhouse Gas Emissions		
High yield impact	Middle yield impact	Low yield impact	High yield impact	Middle yield impact	Low yield impact

The negative cost-effectiveness scores for crop residues reflect the fact that these are no longer sold as a crop by-product. The differences in scores across countries reflect the extent to which there are local markets for residues. The analysis did not include potential benefits such as reduced costs arising from improved soil workability.

Barley

Denmark	-	-	-	-	-	-
Denmark (winter)	-	-	-	-	-	-
Denmark (spring)	-	-	-	-	-	-
Estonia	0	0	0	0	0	0
Finland	0	0	0	0	0	0
Germany	-	-	-	-	-	-
Greece	-	-	-	-	-	-
Hungary (winter)	-	-	-	-	-	-
Hungary (spring)	-	-	-	-	-	-
Ireland	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Lithuania	0	0	0	0	0	0
Poland	-	-	-	-	-	-
Spain	-	-	-	-	-	-
Spain (rainfed)	--	--	--	--	--	--
Spain (irrigated)	--	--	--	--	--	--
United Kingdom	-	-	-	-	-	-
United Kingdom (winter)	-	-	-	-	-	-
United Kingdom (spring)	-	-	-	-	-	-

Common wheat

Denmark (winter)	-	-	-	-	-	-
Denmark (spring)	-	-	-	-	-	-
Bulgaria	0	0	0	0	0	0
Czech Republic	-	-	-	-	-	-
Denmark	-	-	-	-	-	-
Estonia	0	0	0	0	0	0
Finland	0	0	0	0	0	0
France	-	-	-	-	-	-
Germany	-	-	-	-	-	-
Greece	0	0	0	0	0	0
Hungary	-	-	-	-	-	-
Hungary (winter)	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Latvia	0	0	0	0	0	0
Lithuania	0	0	0	0	0	0
Poland	-	-	-	-	-	-
Poland (winter)	--	--	--	--	--	--
Poland (spring)	--	--	--	--	--	--
Romania	-	-	-	-	-	-
Spain	-	-	-	-	-	-
Spain (rainfed)	--	--	--	--	--	--
Spain (irrigated)	--	--	--	--	--	--
Sweden	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-
United Kingdom (winter)	-	-	-	-	-	-

Durum wheat

France	-	-	-	-	-	-
Greece	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Spain	-	-	-	-	-	-

Grain maize

France	-	-	-	-	-	-
Germany	-	-	-	-	-	-
Greece	-	-	-	-	-	-
Hungary	-	-	-	-	-	-
Hungary (central region)	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Italy (Tuscany)	0	0	0	0	0	0
Poland	0	0	0	0	0	0
Portugal	-	-	-	-	-	-
Romania	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-
Spain	-	-	-	-	-	-

Legend High to very high positive Moderate positive Low positive No or negligible High to very high negative Moderate negative Low negative

Crop rotations (with legumes)

	Cost-effectiveness					
	Soil Organic Carbon			Total Greenhouse Gas Emissions		
	High yield impact	Middle yield impact	Low yield impact	High yield impact	Middle yield impact	Low yield impact
Barley						
Denmark (winter)	+	+	+	+	+	+
Denmark (spring)	+	+	+	+	+	+
Estonia	+	+	+	+	+	+
Finland	+	+	+	+	+	+
Germany	+	+	+	+	+	+
Greece	+	+	+	+	+	+
Hungary (winter)	+	+	+	+	+	+
Hungary (spring)	+	+	+	+	+	+
Ireland	++	++	++	++	++	++
Italy	+	+	+	+	+	+
Lithuania	+	+	+	+	+	+
Poland	+	+	+	+	+	+
Spain	+	+	+	+	+	+
Spain (rainfed)	++	++	++	++	++	++
United Kingdom	+	+	+	+	+	+
Common wheat						
Denmark (winter)	+	+	+	+	+	+
Denmark (spring)	+	+	+	+	+	+
Bulgaria	+	+	+	+	+	+
Czech Republic	+	+	+	+	+	+
Estonia	+	+	+	+	+	+
Finland	+	+	+	+	+	+
France	++	++	++	++	++	++
Germany	+	+	+	+	+	+
Greece	+	+	+	+	+	+
Hungary	+	+	+	+	+	+
Hungary (winter)	+	+	+	+	+	+
Italy	+	+	+	+	+	+
Latvia	+	+	+	+	+	+
Lithuania	+	+	+	+	+	+
Poland	+	+	+	+	+	+
Poland (winter)	++	++	++	++	++	++
Poland (spring)	++	++	++	++	++	++
Romania	+	+	+	+	+	+
Spain	+	+	+	+	+	+
Spain (rainfed)	++	++	++	++	++	++
Spain (irrigated)	+	+	+	+	+	+
Sweden	++	++	++	++	++	++
United Kingdom	+	+	+	+	+	+
Durum wheat						
France	+	+	+	+	+	+
Greece	+	+	+	+	+	+
Italy	+	+	+	+	+	+
Spain	+	+	+	+	+	+
Grain maize						
France	++	++	++	++	++	++
Germany	++	++	++	++	++	++
Greece	++	++	++	++	++	++
Hungary	+	+	+	+	+	+
Hungary (central region)	+	+	+	+	+	+
Italy	++	++	++	++	++	++
Poland	++	++	++	++	++	++
Portugal	++	++	++	++	++	++
Romania	+	+	+	+	+	+
Slovakia	+	+	+	+	+	+
Spain	++	++	++	++	++	++

Legend High to very high positive Moderate positive Low positive No or negligible
 High to very high negative Moderate negative Low negative

Cover crops

Cost-effectiveness					
Soil Organic Carbon			Total Greenhouse Gas Emissions		
High yield impact	Middle yield impact	Low yield impact	High yield impact	Middle yield impact	Low yield impact

The negative cost-effectiveness scores for cover crops arise due the additional seed and cultivation costs for these crops, in some instances there may also be displacement of winter crops that might not provide sufficient winter cover. However, these costs may be partially offset by reduced fertiliser costs for the following crop although we have not been able to establish the extent of these savings across all regions.

Barley

Denmark	+	--	--	+	--	--
Denmark (winter)	+	--	--	+	--	--
Denmark (spring)	++	--	--	++	--	--
Estonia	-	--	--	-	--	--
Finland	-	--	--	-	--	--
Germany	+	--	--	+	--	--
Greece	+	--	--	+	--	--
Ireland	+	--	--	+	--	--
Italy	--	--	--	--	--	--
Lithuania	-	--	--	-	--	--
Poland	-	--	--	-	--	--
Spain	++	-	--	++	-	--
United Kingdom	+	--	--	+	--	--
United Kingdom (winter)	--	--	--	--	--	--
United Kingdom (spring)	+	--	--	+	--	--

Common wheat

Bulgaria	-	--	--	-	--	--
Czech Republic	+	--	--	+	--	--
Denmark	+	--	--	+	--	--
Denmark (winter)	--	--	--	--	--	--
Denmark (spring)	++	--	--	++	--	--
Estonia	-	--	--	-	--	--
Finland	-	--	--	-	--	--
France	+	--	--	+	--	--
Germany	++	--	--	++	--	--
Greece	-	--	--	-	--	--
Hungary	-	--	--	-	--	--
Italy	--	--	--	--	--	--
Latvia	-	--	--	-	--	--
Lithuania	+	--	--	+	--	--
Poland	+	--	--	+	--	--
Poland (spring)	++	--	--	++	--	--
Romania	-	--	--	-	--	--
Spain	++	-	--	++	-	--
Sweden	+	--	--	+	--	--
United Kingdom	++	--	--	++	--	--

Durum wheat

France	+	--	--	+	--	--
Greece	-	--	--	-	--	--
Italy	--	--	--	--	--	--
Spain	++	-	--	++	-	--

Grain maize

France	++	--	--	++	--	--
Germany	++	--	--	++	--	--
Greece	++	--	--	++	--	--
Hungary	+	--	--	+	--	--
Italy	--	--	--	--	--	--
Italy (Tuscany)	--	--	--	--	--	--
Poland	+	--	--	+	--	--
Portugal	++	--	--	++	--	--
Romania	+	--	--	+	--	--
Slovakia	++	--	--	++	--	--
Spain	++	+	--	++	+	--
Spain (irrigated)	+++	+	--	+++	+	--

Legend High to very high positive Moderate positive Low positive No or negligible
 High to very high negative Moderate negative Low negative