

LUCAS 2018
(Land Use / Cover Area Frame Survey)

Technical reference document C2
Field Form and Ground Document (template)



1 Identification and access to point

1.1 IDENTIFICATION

A	User ID:	B	Point ID:	C	Point altitude:
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D	PI extension point*: 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	E	EX-ANTE point*: 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
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*If D or E "yes", skip the access to point section

7	Date:	8	Start time:	9	End time:
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1.2 ACCESS TO POINT

11	Car park latitude: (N.R. = 88,888888)	12	Car park longitude E/W: <input type="checkbox"/> E <input type="checkbox"/> W <input type="checkbox"/> N.R.	13	Car park longitude: (N.R. = 88,888888)
14	GPS coordinate system: 1 <input type="checkbox"/> WGS84 2 <input type="checkbox"/> Problem with signal <input type="checkbox"/> N.R.	15	GPS precision (meters): (N.R. = 8888)	16	GPS Elevation (meters): (N.R. = 8888)
17	Point latitude: (N.R. = 88,888888)	18	Point longitude E/W: <input type="checkbox"/> E <input type="checkbox"/> W <input type="checkbox"/> N.R.	19	Point longitude: (N.R. = 88,888888)
20	GPS distance to point: (N.R. = 8888)	21	GPS calculated distance to point		

F	Way to point (previous campaign)
500	Description of the way to the point [structured comments / other]

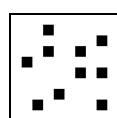
2 POINT OBSERVATION

24	Type of observation: 1 <input type="checkbox"/> Field survey, point visible, <= 100 m 2 <input type="checkbox"/> Field survey, point visible, >100 m to point 3 <input type="checkbox"/> Photo-interpretation in the field 4 <input type="checkbox"/> Point not visible. PI not possible 5 <input type="checkbox"/> Out of national territory 6 <input type="checkbox"/> Out of EU 28 7 <input type="checkbox"/> Photo-interpretation in the office	25	Direction of observation: 1 <input type="checkbox"/> On the point 2 <input type="checkbox"/> To North 3 <input type="checkbox"/> To East <input type="checkbox"/> N.R.
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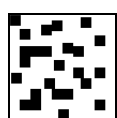
500	Remarks about point observation [structured comments / other] <i>(why observation not at the point (distance > 50m, point not visible), access difficult, PI not possible, ground document not clear, problems with marker etc.)</i>
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3 LAND COVER AND LAND USE

28	LC1 land cover 1:	31	LC2 land cover 2:	34	LU1 land use 1:	37	LU2 land use 2:
29	LC1 plant species:	32	LC2 plant species:	35	LU1 land use type:	38	LU2 land use type:
30	LC1 coverage (%):	33	LC2 coverage (%):	36	LU1 coverage (%):	39	LU2 coverage (%):



10%



25%



50%



75%



90%

40	Parcel area (ha): 1 <input type="checkbox"/> area < 0.1 2 <input type="checkbox"/> 0.1 ≤ area < 0.5 3 <input type="checkbox"/> 0.5 ≤ area < 1 4 <input type="checkbox"/> 1 ≤ area < 10 5 <input type="checkbox"/> area ≥ 10 N.R.		
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4 FAO PARAMETERS*

*For points with trees in CX0, D10, E10 and for all points with crops in B70 or B80

42	Height of trees (CXX, D10, E10)/crops (B70,B80) at survey 1 <input type="checkbox"/> < 5 m 2 <input type="checkbox"/> ≥ 5 m <input type="checkbox"/> N.R.	43	Height of trees (CXX, D10, E10)/crops (B70,B80) at maturity 1 <input type="checkbox"/> < 5 m 2 <input type="checkbox"/> ≥ 5 m <input type="checkbox"/> N.R.	44	Width of feature: 1 <input type="checkbox"/> < 20 m 2 <input type="checkbox"/> ≥ 20 m <input type="checkbox"/> N.R.
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5 LAND MANAGEMENT

*Only for points with LC = BXX, CXX, DXX, EXX, FXX, HXX

46	Signs of ploughing in the field? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No <input type="checkbox"/> N.R.	47	Slope of ploughed field (if ploughed): 1 <input type="checkbox"/> Flat 2 <input type="checkbox"/> Gently sloping 3 <input type="checkbox"/> Steeply sloping 4 <input type="checkbox"/> Undulating <input type="checkbox"/> N.R.	48	Plough direction (if ploughed): 1 <input type="checkbox"/> Across the slope 2 <input type="checkbox"/> Down the slope <input type="checkbox"/> N.R.
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<p>49 Presence of stone walls:</p> <p>1 <input type="checkbox"/> No</p> <p>2 <input type="checkbox"/> Stone wall, not maintained</p> <p>3 <input type="checkbox"/> Stone wall, well maintained</p> <p><input type="checkbox"/> N.R.</p>	<p>50 Presence of crop residues:</p> <p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p> <p><input type="checkbox"/> N.R.</p>	<p>51 Presence of grass margins:</p> <p>1 <input type="checkbox"/> No</p> <p>2 <input type="checkbox"/> Grass margins ≤ 1m width</p> <p>3 <input type="checkbox"/> Grass margins > 1m width</p> <p><input type="checkbox"/> N.R.</p>
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6 SPECIAL REMARKS

<p>53 Signs of grazing in the field (for points with LC in BXX, CXX, DXX, EXX, FXX, HXX):</p> <p>1 <input type="checkbox"/> Visible signs of grazing</p> <p>2 <input type="checkbox"/> No signs of grazing</p> <p><input type="checkbox"/> N.R.</p>	<p>54 Special status:</p> <p>1 <input type="checkbox"/> Protected</p> <p>2 <input type="checkbox"/> Hunting</p> <p>3 <input type="checkbox"/> Protected and Hunting</p> <p>4 <input type="checkbox"/> No special status</p> <p><input type="checkbox"/> N.R.</p>	<p>55 Special remarks on land cover/ land use:</p> <p>1 <input type="checkbox"/> Harvested field</p> <p>2 <input type="checkbox"/> Tilled/sowed</p> <p>3 <input type="checkbox"/> Clear cut</p> <p>4 <input type="checkbox"/> Burnt area</p> <p>5 <input type="checkbox"/> Fire break</p> <p>6 <input type="checkbox"/> Nursery</p> <p>7 <input type="checkbox"/> Dump site</p> <p>8 <input type="checkbox"/> Temporarily dry (river bed / lake)</p> <p>9 <input type="checkbox"/> Temporarily flooded</p> <p>10 <input type="checkbox"/> No Remark</p> <p><input type="checkbox"/> N.R.</p>
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7 COPERNICUS (on the copernicus quadrants)

* Only collect Copernicus data if point is part of Copernicus module and Field 24 (observation type) is 1

<p>G Copernicus point:</p> <p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p>		
<p>57 Can you do the Copernicus survey?</p> <p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p>	<p>58 Copernicus LC:</p>	

	Extension of Copernicus LC in the 4 cardinal directions (in m) Values: 5 – 51(m) Extension >50: always insert 51.		Breadth of next Copernicus LC in the 4 cardinal directions (%) if the distance is ≤ 50m		Next Copernicus LC if the distance is ≤ 50m (LC or -1)	
N	60		65		70	
E	61		66		71	
S	62		67		72	
W	63		68		73	

500	Remarks about Copernicus assessment [structured comments / other]
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8 INSPIRE

<p>80 Point in urban area?:</p> <p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p> <p><input type="checkbox"/> N.R.</p>	<p>81 Imperviousness (%) (0 – 100):</p>
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INSPIRE PLCC (Pure Land Cover Components) * Only for points with LC=CXX, DXX, EXX or FXX

	Class	Percentage (0 – 100, 1% steps); Total = 100%
83	Coniferous forest trees	
84	Broadleaved forest trees	
85	Shrubs	
86	Herbaceous plants	
87	Lichens and mosses	
88	Consolidated (bare) surface	
89	Unconsolidated (bare) surface	
90	Other	

9 EUNIS HABITAT COMPLEX*

* Only for points with trees (permanent crops included)

92	EUNIS Complex (X06 or X09):	500	EUNIS complex [structured comments / other]:
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10 GRASSLAND* (check either on transect (20*2.5m), enlarged transect (20*10m) or field)

*Skip grassland module if point is not part of grassland module

*Skip grassland module if Field 24 – Observation type is not 1

*Skip grassland module if grass cover < 50%

H	Grassland point: 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	I	GRASS region:
96	Grassland survey possible?* 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No <input type="checkbox"/> N.R.	500	Grassland survey cannot be done [structured comments / other like GPxx mandatory if field 96 is No]:

*If Field 96 – Grass survey possible is NO skip the grassland module and go to the next module

10.1 GRASSLAND EUNIS HABITAT TYPE (enlarged transect)

98	EUNIS Grass habitat type:	500	EUNIS Grass Habitat type [structured comments / other]:
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10.2 GRASSLAND SITE (enlarged transect)

100	Site orientation: 1 <input type="checkbox"/> Flat 2 <input type="checkbox"/> N 3 <input type="checkbox"/> NE 4 <input type="checkbox"/> E 5 <input type="checkbox"/> SE 6 <input type="checkbox"/> S 7 <input type="checkbox"/> SW 8 <input type="checkbox"/> W 9 <input type="checkbox"/> NW <input type="checkbox"/> N.R.	101	Site slope (in degrees): Possible values: 0 – 90. (Final classification: 0, <3, <8, <15, <25, <35, >= 35)
102	Site moisture: 1 <input type="checkbox"/> Wet	103	Soil surface: 1 <input type="checkbox"/> Even

	2 <input type="checkbox"/> Moist 3 <input type="checkbox"/> Mesic 4 <input type="checkbox"/> Semi-dry 5 <input type="checkbox"/> Dry 6 <input type="checkbox"/> Mixed <input type="checkbox"/> N.R.		2 <input type="checkbox"/> Heterogeneous 3 <input type="checkbox"/> Very heterogeneous <input type="checkbox"/> N.R.
104	Presence of animal paths: 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No <input type="checkbox"/> N.R.		

10.3 GRASSLAND FERTILISATION (enlarged transect / field)

106	Fertilisation: 1 <input type="checkbox"/> No 2 <input type="checkbox"/> 3 <input type="checkbox"/> Probably 4 <input type="checkbox"/> For sure 5 <input type="checkbox"/> Unclear <input type="checkbox"/> N.R.	107	Type of fertilisation (if, probably or for sure): 1 <input type="checkbox"/> Mineral 2 <input type="checkbox"/> Slurry 3 <input type="checkbox"/> Solid manure 4 <input type="checkbox"/> Pasture dung 5 <input type="checkbox"/> Unclear <input type="checkbox"/> N.R.
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10.4 GRASSLAND TYPE (enlarged transect / field)

109	Grassland type: 1 <input type="checkbox"/> Meadow 2 <input type="checkbox"/> Pasture 3 <input type="checkbox"/> Other grassland <input type="checkbox"/> N.R.				
110	Growth if meadow: 1 <input type="checkbox"/> 1 st growth 2 <input type="checkbox"/> 2 nd growth 3 <input type="checkbox"/> Fallow meadow <input type="checkbox"/> N.R.	112	Grazing if pasture: 1 <input type="checkbox"/> Before 1 st grazing 2 <input type="checkbox"/> After 1 st grazing 3 <input type="checkbox"/> Fallow pasture <input type="checkbox"/> N.R.	124	Other grassland type: 1 <input type="checkbox"/> Meadow or pasture (not clear or both) 2 <input type="checkbox"/> Pastured woodland 3 <input type="checkbox"/> Amenity grassland 4 <input type="checkbox"/> Ruderal grassland 5 <input type="checkbox"/> Fallow other grassland 6 <input type="checkbox"/> Other kinds of grassland n.e.s. <input type="checkbox"/> N.R.
111	If recently mown meadow (= 2nd growth): 1 <input type="checkbox"/> <= 1 week 2 <input type="checkbox"/> 1-3 weeks 3 <input type="checkbox"/> >= 3 weeks ago <input type="checkbox"/> N.R.	113	If freshly grazed pasture: 1 <input type="checkbox"/> Rough grazing 2 <input type="checkbox"/> Seasonal grazing 3 <input type="checkbox"/> Strip grazing 4 <input type="checkbox"/> Unclear <input type="checkbox"/> N.R.	500	If other kind of grassland n.e.s. [structured comments / other]:
			Animals if grazed pasture: (multiple choice)		
		115	1 <input type="checkbox"/> Cattle		
		116	2 <input type="checkbox"/> Horses		
		117	3 <input type="checkbox"/> Sheep		
		118	4 <input type="checkbox"/> Goats		
		119	5 <input type="checkbox"/> Donkeys		
		120	6 <input type="checkbox"/> Pigs		

		121	7 <input type="checkbox"/> Geese/ducks/...		
		122	8 <input type="checkbox"/> Deer/roe buck/...		
		123	9 <input type="checkbox"/> Other		
125	Age, if fallow (meadow, pasture or other fallow) :				
	1 <input type="checkbox"/> ≤ 2 years 2 <input type="checkbox"/> > 2 years <input type="checkbox"/> N.R.				

10.5 GRASSLAND AGE (enlarged transect / field)

127	Grassland age:	500	If visible signs are unclear [structured comments / other]:
	1 <input type="checkbox"/> ≤ 5 years 2 <input type="checkbox"/> > 5 years 3 <input type="checkbox"/> Unclear <input type="checkbox"/> N.R.		
128	Grassland installation (if age ≤ 5 yrs or unclear):	500	If other signs for judgement in grassland installation [structured comments / other]:
	1 <input type="checkbox"/> Seeded 2 <input type="checkbox"/> Revegetated 3 <input type="checkbox"/> Other signs <input type="checkbox"/> N.R.		

10.6 GRASSLAND TRANSECT (transect)

130	Grass transect starting point:	131	Direction of grass transect shift (if starting point is 2):
	1 <input type="checkbox"/> On the point 2 <input type="checkbox"/> Shifted <input type="checkbox"/> N.R.		1 <input type="checkbox"/> N 2 <input type="checkbox"/> NE 3 <input type="checkbox"/> E 4 <input type="checkbox"/> SE 5 <input type="checkbox"/> S 6 <input type="checkbox"/> SW 7 <input type="checkbox"/> W 8 <input type="checkbox"/> NW <input type="checkbox"/> N.R.
132	Distance of grass transect shift (if starting point is 2) (in m):	500	Reason for shift of grass transect [structured comments / other]:
133	Direction of grass transect:	134	Length of grass transect (in m):
	1 <input type="checkbox"/> N 2 <input type="checkbox"/> NE 3 <input type="checkbox"/> E 4 <input type="checkbox"/> SE 5 <input type="checkbox"/> S 6 <input type="checkbox"/> SW 7 <input type="checkbox"/> W 8 <input type="checkbox"/> NW <input type="checkbox"/> N.R.		

135	Start of grass transect latitude: (N.R. = 88,888888)	136	Start of grass transect longitude E/W: <input type="checkbox"/> E <input type="checkbox"/> W <input type="checkbox"/> N.R.	137	Start of grass transect longitude: (N.R. = 88,888888)
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138	End of grass transect latitude: (N.R. = 88,888888)	139	End of grass transect longitude E/W: <input type="checkbox"/> E <input type="checkbox"/> W <input type="checkbox"/> N.R.	140	End of grass transect longitude: (N.R. = 88,888888)
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10.7 GRASSLAND VEGETATION LAYERS (transect)

142	Vigour of vegetation: 1 <input type="checkbox"/> 1 2 <input type="checkbox"/> 1.5 3 <input type="checkbox"/> 2 4 <input type="checkbox"/> 2.5 5 <input type="checkbox"/> 3 6 <input type="checkbox"/> 3.5 7 <input type="checkbox"/> 4 8 <input type="checkbox"/> 4.5 9 <input type="checkbox"/> 5 <input type="checkbox"/> N.R.		
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143	Herbaceous layer on grass transect (%) : Possible values: 0 - 100	144	Bare layer on grass transect (%) : Possible values: 0 - 100	145	Woody layer on enlarged grass transect (%) : Possible values: 0 - 100
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(Total >=100)

	Herb layer components (on grass transect)	Percentage (Total >=100) (always related to the total surface) Possible values: 0 - 100 (Final classification: 0, <3, <8, <15, <25, <35, ... <85, >=85)
147	Graminoids (grass-like plants)	Possible values: 0 - 100
148	Forbs (broad-leaved plants)	Possible values: 0 - 100
150	Mosses	Possible values: 0 - 100
151	Lichens	Possible values: 0 - 100
	Bare layer components (on grass transect)	Percentage (Total >=100)
153	Bare soil	Possible values: 0 - 100
154	Rocks and/or stones	Possible values: 0 - 100
155	Litter	Possible values: 0 - 100
	Woody layer components (on enlarged grass transect)	Percentage (Total >=100)
157	Orchard	Possible values: 0 - 100
158	Old trees	Possible values: 0 - 100
159	Shrub	Possible values: 0 - 100
160	Dwarf shrub	Possible values: 0 - 100
161	Other wooded	Possible values: 0 - 100
162	Dead wood	Possible values: 0 - 100

10.8 GRASSLAND HERB LAYER (transect)

	Number of herb layer(s):	Average height of the layer (cm) top first, bottom last, N.R. if fewer layers
165	Layer 1	
166	Layer 2	
167	Layer 3	

168	Layer 4	
169	Layer 5	

170	Herb layer heterogeneity: 1 <input type="checkbox"/> Homogeneous 2 <input type="checkbox"/> Heterogenous 3 <input type="checkbox"/> Very heterogenous <input type="checkbox"/> N.R.	171	Herb layer heterogeneity reason: 1 <input type="checkbox"/> Fallow succession 2 <input type="checkbox"/> Many ungrazed patches 3 <input type="checkbox"/> Invasive neophytes 4 <input type="checkbox"/> Variation in water supply on the site 5 <input type="checkbox"/> Variation in site soil conditions 6 <input type="checkbox"/> Other reasons <input type="checkbox"/> N.R.
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500	Comments on height and heterogeneity [structured comments / other]:
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10.9 GRASSLAND FLOWERS (transect)

173	Number of species of flowering forbs: Possible values: 0 – 21 (Final classification: 0,1, 2, 3, 4, 5, 6, 7, 8, 9, 10, < 15, <20, for > 20: insert 21) It is not necessary to count the exact number if there are more than 20 plants.	174	Flower density (all flowers): 1 <input type="checkbox"/> None 2 <input type="checkbox"/> Very few (hardly any flowers in the transect) 3 <input type="checkbox"/> Very few to few 4 <input type="checkbox"/> Few (a few scattered flowers) 5 <input type="checkbox"/> Few to medium 6 <input type="checkbox"/> Medium (regular flowering but not dense flowering) 7 <input type="checkbox"/> Medium to dense 8 <input type="checkbox"/> Dense (many flowers, but not a flower carpet) 9 <input type="checkbox"/> Dense to very dense 10 <input type="checkbox"/> Very dense (flower carpet) <input type="checkbox"/> N.R.
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10.10 GRASSLAND KEY SPECIES / SPECIES GROUP RICHNESS (transect)

	Key species richness for each of the 10 regions (multiple choice): [41 different species/groups of species in total; only 20 per region]	Number of plants for each of the 20 species/species groups relevant for the region Possible values: 1 – 11 (Final classification: <3, <10, for >10 insert 11) It is not necessary to count the exact number if there are more than 10 plants
177	Achillea spp.	
178	Adonis spp.	
179	Apiaceae	
180	Artemisia spp.	
181	Asphodelus spec., Narthecium spec., Paradisea liliastrum	
182	Astragalus spp., Coronilla spp., Onobrychis spp., Hedysarum coronaria – with red or red-white flowers	
183	Bistorta officinalis (= Polygonum bistorta)	
184	Campanula spp.	
185	Centaurea spp., Serratula tinctoria	
186	Cichorioideae without Tragopogon spp. and without Taraxacum spp.	
187	Cirsium spp., Carduus spp., Carlina spp.	

188	Cistus spp.	
189	Clematis integrifolia	
190	Eryngium planum and other, Echinops spp.	
191	Euphorbia spp.	
192	Euphrasia spp.	
193	Filipendula spp.	
194	Galium spp. (white flowering)	
195	Galium verum	
196	Genista spp. , Spartium spp., Calicotome spp., others	
197	Geranium spec. with big flowers (flower diameter \geq 1 cm)	
198	Juncus spp.	
199	Leucanthemum spp.	
200	Limonium spp.	
201	Myosotis spp.	
202	Orchidaceae spp.	
203	Pedicularis spp.	
204	Phlomis fruticosa	
205	Potentilla spp. without Potentilla anserina	
206	Rhinanthus spp.	
207	Salvia spp.	
208	Sanguisorba spp.	
209	Scabiosa spp., Knautia spp., Succisa spp.	
210	Silene spp., Lychnis flos-cuculi, Dianthus spp. (red flowering)	
211	Thalictrum spp.	
212	Thymus spp.	
213	Tragopogon spp., Scorzonera spp.	
214	Trifolium spp. (red flowering)	
215	Trifolium spp., Medicago spp., Lotus spp., Coronilla (yellow flowering)	
216	Valeriana spp.	
217	Vicia spp., Lathyrus spp., Astragalus spp. (blue or purple flowering)	

10.11 GRASSLAND STRUCTURAL CHARACTERISATION (enlarged transect)

	Structural species/species groups (dominant species for characterisation): (multiple choice)	Percentage for each present structural species/species groups: Possible values: 0 - 100 (Final classification: 0, <3, <8, <15, <25, <40, <60, <80, >=80)
221	Shrub/ Brushwood/ Bramble	
222	Phrygana / Garrigue	
223	Thistles (Carduus spp, and others)	
224	Stinging nettles (Urtica dioica)	
225	Docks (Rumex obtusifolius, and others)	
226	Bracken (Pteridium aquilinum)	
227	Rushes (Juncus spp.)	
228	Sedges (Carex spp.)	
229	Reed (Phragmites)	
230	Wood small-reed (Calamagostis)	
231	Moor grass (Molinia caerulea)	
232	Feather grass (Stipa spp.)	
233	Matgrass (Nardus stricta)	
234	Number of other structural species	

500	Insert remark if other dominant structural species are present [structured comments + free text]:
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10.12 GRASSLAND LEGUME COVER (transect)

236	Total cover of legumes (part of the forbs, list of legume species see C1-document) (%):
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11 Water management*

* Only if (LU = U111 or U112) and/or Grassland module assessed

251	Presence of water management: 1 <input type="checkbox"/> Irrigation 2 <input type="checkbox"/> Potential irrigation 3 <input type="checkbox"/> Drainage 4 <input type="checkbox"/> Irrigation and drainage 5 <input type="checkbox"/> No visible water management <input type="checkbox"/> N.R.	253	Source of irrigation: 1 <input type="checkbox"/> Well 2 <input type="checkbox"/> Pond/Lake/Reservoir 3 <input type="checkbox"/> Stream/Canal/Ditch 4 <input type="checkbox"/> Lagoon/Wastewater 5 <input type="checkbox"/> Other/not identifiable <input type="checkbox"/> N.R.
252	Type of irrigation: 1 <input type="checkbox"/> Gravity 2 <input type="checkbox"/> Pressure: Sprinkler irrigation 3 <input type="checkbox"/> Pressure: Micro-irrigation 4 <input type="checkbox"/> Gravity/Pressure 5 <input type="checkbox"/> Other/not identifiable <input type="checkbox"/> N.R.	254	Delivery System: 1 <input type="checkbox"/> Canal 2 <input type="checkbox"/> Ditch 3 <input type="checkbox"/> Pipeline 5 <input type="checkbox"/> Other/not identifiable <input type="checkbox"/> N.R.

12 SOIL* (Tab 13 in DMT)

* Only collect soil samples if point is part of the soil module and if Field 24 (observation type) is 1 (distance to point <=100m) and if the LC of the point reached is the same as the LC of the LUCAS point

K	Soil point? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No									
L	Organic horizon point: 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	Bulk point (multiple choice): <table border="1"> <tr> <td style="text-align: center;">M</td> <td> 1 <input type="checkbox"/> Yes (0 - 10) 2 <input type="checkbox"/> No </td> </tr> <tr> <td style="text-align: center;">N</td> <td> 1 <input type="checkbox"/> Yes (10 - 20) 2 <input type="checkbox"/> No </td> </tr> <tr> <td style="text-align: center;">O</td> <td> 1 <input type="checkbox"/> Yes (20 - 30)* 2 <input type="checkbox"/> No </td> </tr> </table>	M	1 <input type="checkbox"/> Yes (0 - 10) 2 <input type="checkbox"/> No	N	1 <input type="checkbox"/> Yes (10 - 20) 2 <input type="checkbox"/> No	O	1 <input type="checkbox"/> Yes (20 - 30)* 2 <input type="checkbox"/> No	P	BIO point: 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
M	1 <input type="checkbox"/> Yes (0 - 10) 2 <input type="checkbox"/> No									
N	1 <input type="checkbox"/> Yes (10 - 20) 2 <input type="checkbox"/> No									
O	1 <input type="checkbox"/> Yes (20 - 30)* 2 <input type="checkbox"/> No									

* Only collected in soil points of Portugal

12.1 SOIL SITE

341	Stones on the surface (%):
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12.2 SOIL BIODIVERSITY

343	Biodiversity sample taken? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> Not possible <input type="checkbox"/> N.R.	344	Biodiversity label (if sample taken) (N.R. = 88888) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	345	Biodiversity expedition date
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500	Remarks about the biodiversity soil sample [structured comments / other] (e.g. why it is not possible to take the biodiversity sample)
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12.3 SOIL BULK DENSITY

347	Bulk (0-10) sample taken? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> Not possible <input type="checkbox"/> N.R.	349	Bulk(10-20) sample taken? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> Not possible <input type="checkbox"/> N.R.	351	Bulk (20-30) sample taken? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> Not possible <input type="checkbox"/> N.R.
348	Bulk (0-10) label (if sample taken) (N.R. = 88888) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	350	Bulk (10-20) label (if sample taken) (N.R. = 88888) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	352	Bulk (20-30) label (if sample taken) (N.R. = 88888) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

	0-10 cores taken (multiple choice)*
354	1 <input type="checkbox"/> Point
355	2 <input type="checkbox"/> North
356	3 <input type="checkbox"/> East
357	4 <input type="checkbox"/> South
358	5 <input type="checkbox"/> West
	10-20 cores taken (multiple choice)*
367	1 <input type="checkbox"/> Point
368	2 <input type="checkbox"/> North
369	3 <input type="checkbox"/> East
370	4 <input type="checkbox"/> South
371	5 <input type="checkbox"/> West
	20-30 cores taken (multiple choice)**
381	1 <input type="checkbox"/> Point
382	2 <input type="checkbox"/> North
383	3 <input type="checkbox"/> East
384	4 <input type="checkbox"/> South
385	5 <input type="checkbox"/> West

*5 cores are needed; ** 3 cores are needed

500	Remarks about the bulk soil sample [structured comments / other] [required if cores are re-done, comment like SB* required if less than 5 (or 3 in case of 20-30) cores per depth]
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Weight of samples (field)		Weight of samples (air dried)	
395	Bulk 0-10 moist weight (g)	399	Bulk 0-10 dried weight (g)
396	Bulk 10-20 moist weight (g)	400	Bulk 10-20 dried weight (g)
397	Bulk 20-30 moist weight (g)	401	Bulk 20-30 dried weight (g)

12.4 STANDARD SOIL SAMPLE

403	Standard soil sample taken? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> Not possible <input type="checkbox"/> N.R.		404	Soil label (if sample taken) (N.R. = 88888) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
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500	Remarks about the soil sample [structured comments / other]
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12.5 LAND OWNER DETAILS (soil sample results)

408	Land owner requested soil results? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No <input type="checkbox"/> N.R.	409	Land owner name	410	Land owner address (street/number/postal code/city/country)
		411	Land owner phone	412	Land owner e-mail

12.6 SOIL ORGANIC HORIZON

414	Can you assess the organic layer depth? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	415	Is soil cultivated? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No <input type="checkbox"/> N.R.
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Depth of organic horizon: To be measured in the point hole and in two of the other regular collection holes (in cm, up to 40cm)			Or check if more than 40 cm:		
417	Depth of organic horizon at the point		423	<input type="checkbox"/>	
418	Depth of organic horizon on the N hole		424	<input type="checkbox"/>	
419	Depth of organic horizon on the E hole		425	<input type="checkbox"/>	
420	Depth of organic horizon on the S hole		426	<input type="checkbox"/>	
421	Depth of organic horizon on the W hole		427	<input type="checkbox"/>	

500	Remarks about the soil organic horizon assessment [structured comments / other]
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13 EROSION* (Tab 12 in DMT)

* Only if grassland module has been assessed and/or if part of the soil module and the point has been reached (observation type = 1 and the LC in the point reached is the same as the LC in the LUCAS point)

J	Erosion point: 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		
256	Can you do the erosion survey? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	257	Signs of erosion (within the field)? 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No <input type="checkbox"/> N.R.

13.1 Sheet erosion (within 500m, if visible)

Direction (multiple choice):		Distance from LUCAS point: (one for each present direction, except point)	
260	1 <input type="checkbox"/> Point		
261	2 <input type="checkbox"/> North	266	
262	3 <input type="checkbox"/> East	267	

263	4 <input type="checkbox"/> South	268	
264	5 <input type="checkbox"/> West	269	

13.2 Rill erosion (within 500m, if visible)

Direction (multiple choice):		Distance from point: (one for each present direction, except point)	
272	1 <input type="checkbox"/> Point		
273	2 <input type="checkbox"/> North	278	
274	3 <input type="checkbox"/> East	279	
275	4 <input type="checkbox"/> South	280	
276	5 <input type="checkbox"/> West	281	

13.3 Gully erosion (within 500m, if visible)

Direction (multiple choice):		Distance from point: (one for each present direction, except point)	
284	1 <input type="checkbox"/> Point		
285	2 <input type="checkbox"/> North	290	
286	3 <input type="checkbox"/> East	291	
287	4 <input type="checkbox"/> South	292	
288	5 <input type="checkbox"/> West	293	

13.4 Mass movement (within 500m, if visible)

Direction (multiple choice):		Distance from point: (one for each present direction, except point)	
296	1 <input type="checkbox"/> Point		
297	2 <input type="checkbox"/> North	302	
298	3 <input type="checkbox"/> East	303	
299	4 <input type="checkbox"/> South	304	
300	5 <input type="checkbox"/> West	305	

13.5 Re-deposited soil (within 500m, if visible)

Direction (multiple choice):		Distance from point: (one for each present direction, except point)	
308	1 <input type="checkbox"/> Point		
309	2 <input type="checkbox"/> North	314	
310	3 <input type="checkbox"/> East	315	
311	4 <input type="checkbox"/> South	316	
312	5 <input type="checkbox"/> West	317	

13.6 Wind erosion (within 500m, if visible)

Direction (multiple choice):		Distance from point: (one for each present direction, except point)	
320	1 <input type="checkbox"/> Point		
321	2 <input type="checkbox"/> North	326	
322	3 <input type="checkbox"/> East	327	
323	4 <input type="checkbox"/> South	328	
324	5 <input type="checkbox"/> West	329	

13.7 Rills or gullies

331	Number of rills or gullies 1 <input type="checkbox"/> < 5 rills or gullies 2 <input type="checkbox"/> 5-10 rills or gullies 3 <input type="checkbox"/> > 10 rills or gullies <input type="checkbox"/> N.R.				
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14 Comments

See in the respective sections the fields numbered "500"

15 Photos

15.1 List of photos

Type	Photo ID	Taken [Auto]	To be anonymised
602 P-Point		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	604 <input type="checkbox"/>
605 C-Crop – Cover		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	607 <input type="checkbox"/>
608 N-North		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	610 <input type="checkbox"/>
611 E-East		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	613 <input type="checkbox"/>
614 S-South		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	616 <input type="checkbox"/>
617 W-West		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	619 <input type="checkbox"/>
620 K-Copernicus		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	622 <input type="checkbox"/>
623 I-Irrigation		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	625 <input type="checkbox"/>
626 L-Soil standard		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	628 <input type="checkbox"/>
629 X-Soil standard label		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	631 <input type="checkbox"/>
632 Y-Soil bulk label		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	634 <input type="checkbox"/>
635 Z-Soil biodiversity label		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	637 <input type="checkbox"/>
638 D-Soil organic horizon depth @P		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	640 <input type="checkbox"/>
641 B-Soil organic horizon depth @N		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	643 <input type="checkbox"/>
644 H-Soil organic horizon depth @E		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	646 <input type="checkbox"/>
647 J-Soil organic horizon depth @S		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	649 <input type="checkbox"/>
650 V-Soil organic horizon depth @W		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	652 <input type="checkbox"/>
653 A-Grassland with unclear age		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	655 <input type="checkbox"/>
656 M-Grassland transect on map		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	658 <input type="checkbox"/>
659 U-Grassland transect start		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	661 <input type="checkbox"/>
662 R-Grassland from above		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	664 <input type="checkbox"/>
665 Q-Grassland transect end		1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	667 <input type="checkbox"/>

15.2 Additional photo(s)(max. 9)

Type	Photo ID	Taken [Auto]	To be anonymised
669 <i>e.g. Grassland legumes</i>	1	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	671 <input type="checkbox"/>
672 <i>e.g. Grassland rare species</i>	2	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	674 <input type="checkbox"/>
675 <i>e.g. Grassland dominant species</i>	3	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	677 <input type="checkbox"/>
678	4	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	680 <input type="checkbox"/>
681	5	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	683 <input type="checkbox"/>
684	6	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	686 <input type="checkbox"/>
687	7	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	689 <input type="checkbox"/>
690	8	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	692 <input type="checkbox"/>
693	9	1 <input type="checkbox"/> Taken 2 <input type="checkbox"/> Not taken <input type="checkbox"/> N.R	695 <input type="checkbox"/>

500	Remarks about the photos [structured comments / other]
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Location map (incl. point marker + point id + numerical and graphical scale + north arrow + different marker for points belonging to soil or other specific module). © if applicable <p>[If needed previous campaign photos can be printed on a separate page]</p>	Point ID Latitude (WGS84) Longitude (WGS84) PC Date PC Distance PC X PC Y PC Observation type PC Direction PC Special Remark PC LC1 PC LC2 PC LU1 PC LU2	
		PC Point Photo

PC North Photo	PC East Photo	PC South Photo	PC West Photo
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Orthophoto (overview) (incl. point marker + numerical and graphical scale + 1ha reference* + 10 ha reference* + 50 m reference + north arrow + year + projection + previous GPS track + Reference for Copernicus circle (50m)* and cardinal quadrants). © if applicable

Recomended scale of 1:5.000 and coverage of 700x700m (49ha)

***these symbols must be only outlined, not filled!**

Transect + Orthophoto detail (including regular* and extended window circles* + transect line + 50m distance intervals)

***these symbols must be only outlined, not filled!**