Plant	Red clover	37(06013)	Primary essential character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Plant length	10 plants, 2 replications	Measurement	cm (integer)	Plant length from the ground to the tip of plant at flowering time
2	Stem thickness	10 plants, 2 replications	Measurement	mm (integer)	Diameter of the middle part of stem
3	Hairiness	10 plants, 2 replications	Observation	0:None 1:Extremely little 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Slightly abundant 7:Abundant 8:Very abundant 9:Extremely abundant	Amount of pubescences on the internode just below flower stalk
4	Leaflet length	10 plants, 2 replications	Measurement	mm (integer)	Length of the middle leaflet of the biggest leaf at flowering time
5	Leaflet width	10 plants, 2 replications	Measurement	mm (integer)	Width of the middle leaflet of the biggest leaf at flowering
6	Clearness of leaf water mark	10 plants, 2 replications	Observation	0:None 1:Extremely vague 2:Very vague 3:Vague 4:Slightly vague 5:Intermediate 6:Slightly clear 7:Clear 8:Very clear 9:Extremely clear	Presence and clearness of leaf water mark
7	Flowering date	20 plants	Observation	date	Date when 50% of plants have begun flowering
8	Flower color	10 plants, 2 replications	Observation	1:White 2:Extremely light red 3:Light red 4:Slightly light red 5:Red 6:Slightly dark red 7:Dark red 9:Other	Color of flower just after flowering

Plant	Red clover	37(06013)	Primary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Growth type	10 plants, 2 replications	Observation	1:Type 0 2:Type 0-1 3:Type 1 4:Type 1-2 5:Type 2 6:Type 2-3 7:Type 3 8:Type 3-4 9:Type 4	Growth type according to Bird's grouping observed in May for autumn sowing and in September for spring sowing
2	Number of internodes	10 plants, 2 replications	Measurement	Number of internodes per stem (round to the 1st decimal place)	Number of internodes per stem observed at the flowering stage of the first harvest in the second year
3	Number of heads	10 plants, 2 replications	Measurement	Number of heads per plant (round to the 1st decimal place)	Number of heads per plant
4	Number of florets	10 plants, 2 replications	Measurement	Number of florets per head (integer)	Number of florets per head estimated by sampling 5 heads per plant
5	Weight of 1000 seeds	10 plants, 2 replications	Measurement	g (round to the 2nd decimal place)	Weight of 1000 seeds estimated by sampling 100 seeds from mixture of 20 plants with 4 replications

Plant	Red clover	37(06013)	Secondary essential character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Virus resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Rather high 9:Extremely high	Degree of resistance to virus based on the infection when it became apparent by artificial inoculation or planting in an infected field
2	Northern anthracnose resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Rather high 9:Extremely high	Degree of resistance to Kabaliella caulivora based on the infection when it became apparent by the artificial inoculation or planting in an infected field
3	Sclerotinia root rot and crown rot resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Rather high 9:Extremely high	Degree of resistance to Sclerotinia trifolii based on the infection when it became apparent by the artificial inoculation or planting in an infected field
4	Regrowth	10 plants, 2 replications	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly vigorous 7:Vigorous 8:Very vigorous 9:Extremely vigorous	Regrowth observed 2 to 3 weeks after the first harvest
5	Plant vigor in spring	10 plants, 2 replications	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly vigorous 7:Vigorous 8:Very vigorous 9:Extremely vigorous	Amount of growth 1 month after sprouting in spring
6	Plant vigor in summer	10 plants, 2 replications	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly vigorous 7:Vigorous 8:Very vigorous 9:Extremely vigorous	Amount of growth in mid summer
7	Plant vigor in autumn	10 plants, 2 replications	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly vigorous 7:Vigorous 8:Very vigorous 9:Extremely vigorous	Amount of growth in autumn

Plant	Red clover	37(06013)	Secondary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Common leaf spot resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Pseudopeziza trifolii based on the infection when the infection and the varietal differences became apparent
2	Violet root rot resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Helicobasidium mompa based on when the infection and the varietal differences became apparent
3	Stemphylium leaf spot resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Stemphylium botryosum/Pleospora herbarum based on when the infection and the varietal differences became apparent
4	Pepper spot resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Leptoshaerulina trifolii based on when the infection and the varietal differences became apparent
5	Ring spot resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Stemphylium sarcinaeforme based on when the infection and the varietal differences became apparent
6	Southern anthracnose resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Colletotrichum trifolii based on when the infection and the varietal differences became apparent
7	Rust resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Uromyces fallens based on when the infection and the varietal differences became apparent
8	Powdery mildew resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Erysiphe trifolii based on when the infection and the varietal differences became apparent

Plant	Red clover	37(06013)	Secondary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
9	Leptotrochila trifolii resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Leptotrochila trifolii based on when the infection and the varietal differences became apparent
10	Sooty blotch resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Polythrincium trifolii/Cymadothea trifolii based on when the infection and the varietal differences became apparent
11	Pythium snow blight resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Phythium iwayamai based on when the infection and the varietal differences became apparent
12	False melon beetle resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Atrachya menetriesi based on when the infection and the varietal differences became apparent
13	Aphid resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of resistance to Aphids based on when the damage and the varietal differences became apparent
14	Lodging resistance	10 plants, 2 replications	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Resistance to lodging observed when the varietal differences became apparent
15	Overwintering ability	10 plants, 2 replications	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly good 7:Good 8:Very good 9:Extremely good	Overwintering ability based on the ratio of dead plants and the degree of winter injury in early spring

Plant	Red clover	37(06013)	Tertiary essential character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Green yield of the first harvest	2 plots	Measurement	kg/a (integer)	Green yield estimated from fresh weight harvested from an area more than 2 square meters in the middle of a 6 square meter plot at the first harvest
2	Dry matter ratio of first harvest	2 plots	Measurement	% (round to the 1st decimal place)	Ratio of dry matter estimated by sampling 300 to 500 g of fresh sample at the first harvest and drying at 70 centi degrees for 48 hours
3	Dry matter yield of first harvest	2 plots	Calculation	kg/a (integer)	Dry matter yield calculated by fresh yield x dry matter ratio/100 for the first harvest
4	Green yield of regrowth	2 plots	Measurement	kg/a (integer)	Total green yield of regrowth measured in the same way as the first harvest
5	Dry matter rate of regrowth	2 plots	Measurement	% (round to the 1st decimal place)	Average dry matter ratio of regrowth measured in the same way as the first harvest
6	Dry matter yield of regrowth	2 plots	Calculation	kg/a (integer)	Total dry matter yield calculated in the same way as the first harvest

Plant	Red clover	37(06013)	Tertiary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Dry matter digestibility	2 plots, 3 replications	Measurement	% (round to the 1st decimal place)	Ratio of digestible dry matter measured by in vivo test or in vitro enzyme method
2	Crude protein content	2 plots, 3 replications	Measurement	% (round to the 1st decimal place)	Ratio of crude protein content on a dry matter base analyzed by Kjeldahl method or Near Infra-red Analyzer
3	Acid detergent fiber (ADF)	2 plots, 3 replications	Measurement	% (round to the 1st decimal place)	Ratio of ADF content on a dry matter base analyzed by acid detergent-acetone washing
4	Acid detergent lignin (ADL)	2 plots, 3 replications	Measurement	% (round to the 1st decimal place)	Ratio of ADL content on a dry matter base analyzed by acid detergent-acetone washing
5	Number of seeds per head	2 plots, 2 replications	Measurement	mg/head (integer)	Weight of clean seeds per head estimated by sampling 20 heads
6	Seed productivity	2 plots, 2 replications	Obs.&Measr.	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly good 7:Good 8:Very good 9:Excellent	Seed productivity estimated by observation or measurement of pure seed yield from 1 square meter after maturity
7	Number of mature seeds per floret	2 plots, 2 replications	Measurement	Mature seeds/floret (round to the 1st decimal place)	Number of clean seeds per floret estimated by sampling 20 heads
8	Persistency	2 plots, 2 replications	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly good 7:Good 8:Very good 9:Excellent	Persistency estimated by the coverage of stubbles after the last harvest in the 3rd year