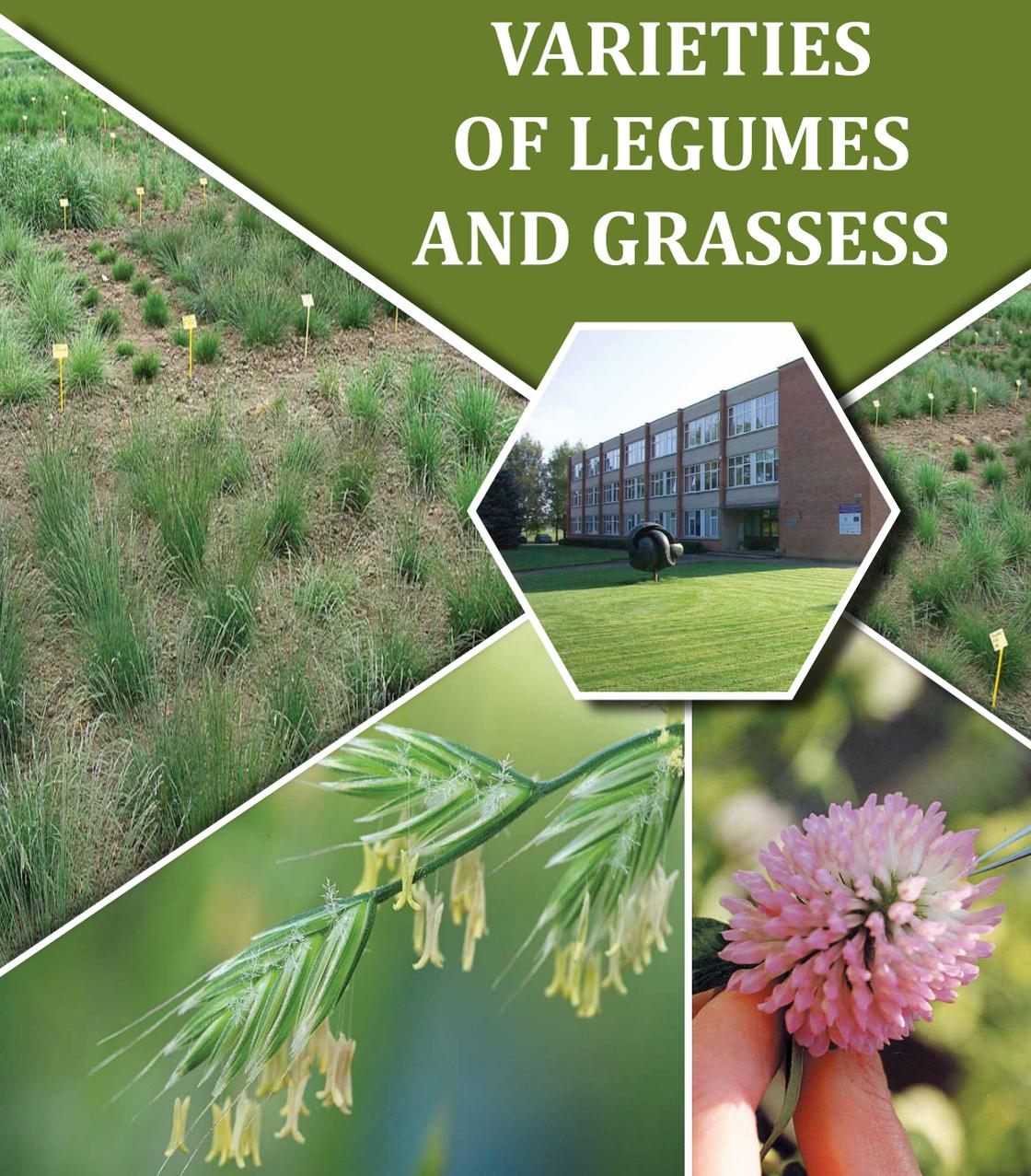




LITHUANIAN
RESEARCH CENTRE
FOR AGRICULTURE
AND FORESTRY

VARIETIES OF LEGUMES AND GRASSES



FORAGE LEGUMES

Red clover

Red clover (*Trifolium pratense* L.) is one of the most valuable legumes grown in Lithuania. It is most commonly cultivated for forage, and its aftermath is grazed.

Red clover is characterised by a very high nutritional value, its hay is nutritious and is readily eaten by all cattle. However, red clover is rather demanding in terms of soil. It performs best in humus-rich loams and sandy loams. Red clover does not suit for soils with high groundwater. It persists in grasslands for 2–3 years.

Variety	Ploidy	Winter-hardiness	Earliness	Herbage yield	Seed yield	Susceptibility to	
						clover rot	powdery mildew
Arimaičiai	diploid	— —●	— —●	— —●	— —●	—● —	— —●
Radviliai	diploid	— ●—	●— —	— —●	— —●	—● —	— —●
Sadūnai	diploid	— —●	●— —	— —●	— —●	—● —	— —●
Vyčiai	diploid	— —●	●— —	— —●	— —●	—● —	— —●

Low score of character / earliness



High score of character / lateness





White clover

White clover (*Trifolium repens* L.) has creeping stems, therefore it propagates vegetatively and by seed.

All varieties developed in Lithuania belong to the type *giganteum* × *hollandicum* and combine better winterhardiness from type *hollandicum* clover and seed production with higher competitive ability from type *giganteum* clover.

White clover is the main legume in pastures. It strengthens the turf and is readily eaten by cattle. White clover can be sown on various soils and can be used in almost all mixtures.



Variety	Winter-hardiness	Earliness	Herbage yield	Seed yield	HCN content
Dotnuviai	— —●	● —	— —●	— —●	● —
Nemuniai	— —●	● —	— —●	— —●	● —
Sūduviai	— —●	● —	— —●	— —●	● —

HCN – hydrocyanic acid

Low score of character / earliness ●|—

High score of character / lateness —|—●





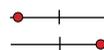
Lucerne

Common lucerne (*Medicago sativa* L.) and sand lucerne (*Medicago varia* Martyn) are characterised by good forage quality, longevity, high dry matter and seed yield. They form a symbiotic relationship with nitrogen fixing bacteria, therefore they do not need nitrogen fertilization, their strong root system enables them to efficiently utilise nutrients and water from deeper soil layers.

Lucerne is very susceptible to root and crown rots. In rainy years, due to the high disease incidence and poor pollination, lucerne produces very low seed yields.

Variety	Winter-hardiness	Earliness	Herbage yield	Seed yield	Susceptibility to	
					clover rot	spring black stem
Antanė	— • —	— • —	— • —	— • —	— • —	— • —
Birutė	— • —	— • —	— • —	— • —	— • —	— • —
Malvina	— • —	— • —	— • —	— • —	— • —	— • —
Žydrūnė	— • —	— • —	— • —	— • —	— • —	— • —

Low score of character / earliness
High score of character / lateness





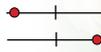
Other legumes

Black medic (*Medicago lupulina* L.) is characterised by good forage quality, rapid regrowth after cuts, is suited for cultivation in short-lived swards.

Alsike clover (*Trifolium hybridum* L.) is high-yielding even in the soils where red clover performs poorly. It is suited for cultivation in wet, acid, flooded and drained peat soils. The forage quality of alsike clover is poorer than that of white and red clover. It is better suited for forage production than for grazing because of its low palatability to livestock.

Variety	Species	Winter-hardiness	Earliness	Herbage yield	Seed yield
Arka DS	black medic	—●—	—●—	—●—	—●—
Lomia	alsike clover	— —●	—●—	— —●	— —●
Poliai	alsike clover	— —●	—●—	— —●	— —●

Low score of character / earliness
High score of character / lateness



FORAGE GRASSES

Perennial and Italian ryegrass

Perennial ryegrass (*Lolium perenne* L.) and Italian ryegrass (*Lolium multiflorum* Lam.) are characterised by very good nutritional value, good tillering and productivity. They produce high yields (especially Italian ryegrass) already in the year of sowing but are very susceptible to adverse wintering conditions. Both species thrive on more fertile soils. They are suited for grazing and forage production in short-lived swards.

Variety	Ploidy	Winter-hardiness	Earliness	Re-growth	Herbage yield	Seed yield	Susceptibility to rust	Digestibility
Alduva	tetraploid	— ●	— ●	— ●	— ●	— ●	— ●	— ●
Elena DS	tetraploid	— ●	— ●	— ●	— ●	— ●	— ●	— ●
Raminta	tetraploid	— ●	— ●	— ●	— ●	— ●	— ●	— ●
Sodré	tetraploid	— ●	— ●	— ●	— ●	— ●	— ●	— ●
Veja DS	diploid	— ●	— ●	— ●	— ●	— ●	— ●	— ●
Verseka	tetraploid	— ●	— ●	— ●	— ●	— ●	— ●	— ●
Ugné*	tetraploid	— ●	— ●	— ●	— ●	— ●	— ●	— ●

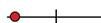
* - Italian ryegrass

Meadow fescue

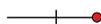
Meadow fescue (*Festuca pratensis* Huds.) is a long-lived, high-yielding, winterhardy, tolerant of drought bunchgrass. It grows well on many and varied soil types, except for wet and acid soils; is suited for hay making and grazing.

Variety	Ploidy	Winter-hardiness	Earliness	Herbage yield	Seed yield	Susceptibility to diseases	Digestibility
Alanta	diploid	— ●	— ●	— ●	— ●	— ●	— ●
Kaita DS	diploid	— ●	— ●	— ●	— ●	— ●	— ●
Mituva	diploid	— ●	— ●	— ●	— ●	— ●	— ●
Raskila	tetraploid	— ●	— ●	— ●	— ●	— ●	— ●
Sigita	diploid	— ●	— ●	— ●	— ●	— ●	— ●

Low score of character / earliness



High score of character / lateness



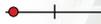


Festulolium

Festulolium is a cross between ryegrass and fescue. It is more winterhardy than ryegrass and its herbage quality is better than that of fescue. It thrives on fertile clay and loam soils and performs worse on peat soils; is suited for grazing and forage production.

Variety	Winter-hardiness	Earliness	Re-growth	Herbage yield	Seed yield	Susceptibility to rust	Susceptibility to rust
Lina DS	—●—	—●—	—+●—	—+●—	—+●—	—●—	—+●—
Punia DS	—●—	—●—	—+●—	—+●—	—+●—	—●—	—+●—
Vètra	—+●—	—●—	—+●—	—+●—	—+●—	—●—	—+●—

Low score of character / earliness



High score of character / lateness



Timothy

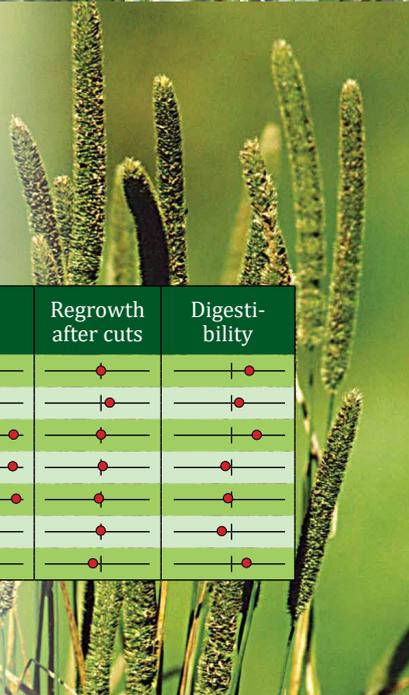
Timothy (*Phleum pratense* L.) produces high dry matter yield of the first cut; however, under moisture shortage conditions exhibits poor regrowth, therefore it suits better for cutting than for grazing.

Variety	Earliness	Plant height	Herbage yield	Seed yield	Regrowth after cuts	Digestibility
Dainiai	—●—	—+●—	—+●—	—+●—	—●—	—+●—
Dovas DS	—●—	—+●—	—+●—	—+●—	—+●—	—+●—
Dubingiai	—+●—	—+●—	—+●—	—+●—	—●—	—+●—
Jauniai	—●—	—+●—	—+●—	—+●—	—●—	—+●—
Gintaras II	—●—	—+●—	—+●—	—+●—	—●—	—+●—
Obeliai	—+●—	—●—	—+●—	—+●—	—●—	—+●—
Žolis	—+●—	—●—	—+●—	—+●—	—●—	—+●—

Low score of character / earliness



High score of character / lateness





Cocksfoot

Cocksfoot (*Dactylis glomerata* L.) is characterised by stable productivity, rapid regrowth, and tolerance of droughts. It is an aggressive grass which often smothers other species in mixtures, is suited for cutting and grazing, especially when grown as a sole crop. It grows well on the soils that are not acid and not waterlogged.

Variety	Earliness	Re-growth	Plant height	Herbage yield	Seed yield	Susceptibility to diseases	Digestibility
Anksta	● — —	— — ●	— — ●	— — ●	— — ●	— — ●	— — ●
Aukštuolė	— — ●	— — ●	— — ●	— — ●	— — ●	— — ●	— — ●
Luknė DS	● — —	— — ●	— — ●	— — ●	— — ●	— — ●	— — ●
Regenta DS	— — ●	— — ●	— — ●	— — ●	— — ●	— — ●	— — ●

Low score of character / earliness ● —|—
 High score of character / lateness —|— ●

Other grasses

Tall fescue (*Festuca arundinacea* Schreb.) can grow in wet and drier soil. It tolerates well waterlogging, shallow ground water. Its biomass is suitable for biogas or biofuel production. It has a very strong root system, therefore can be grown as anti-erosion plant.

Reed canary grass (*Phalaris arundinacea* L.) is a tall perennial grass species. Its plants are long-lived, resistant to adverse growing conditions, because they tolerate growing waterlogging, shallow ground water, are relatively resistant to drought. As a source of renewable energy, its biomass can be used for biofuel production.





Smooth-stalked meadow grass (*Poa pratense* L.) is an early variety, loves moisture, regrows very well after grazing, forms a dense turf. It is suited for sowing in mixtures with various grasses for forage.

Meadow foxtail (*Alopecurus pratensis* L.) is the earliest maturing forage grass in Lithuania. It performs best on wet and fertile soils; is better suited for cutting than grazing.

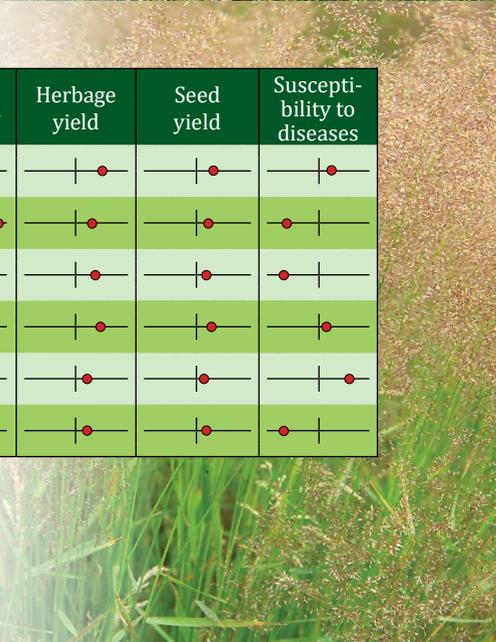
Redtop (*Agrostis gigantea* Roth.) is a late variety. It can grow on the soils of various texture and moisture, forms a dense turf. Its nutritional value is inferior to that of the best grass species. Due to its late development, it is cut young (before flowering); therefore its forage quality is good. It is better suited for cutting.



Variety	Species	Earliness	Regrowth	Herbage yield	Seed yield	Susceptibility to diseases
Medainis	tall fescue	— —●	— —●	— —●	— —●	— —●
Navas DS*	tall fescue	— ●—	— —●	— —●	— —●	— ●—
Pievys DS	reed canary grass	— ●—	— —●	— —●	— —●	— ●—
Rusnė DS	smooth-stalked meadow grass	●— —	— —●	— —●	— —●	— —●
Valentas	meadow foxtail	●— —	— —●	— —●	— —●	— —●
Violeta	redtop	— —●	— —●	— —●	— —●	— ●—

* – developed at Vokė Branch of LAMMC

Low score of character / earliness ●—|—
 High score of character / lateness —|—●



LAWN GRASSES

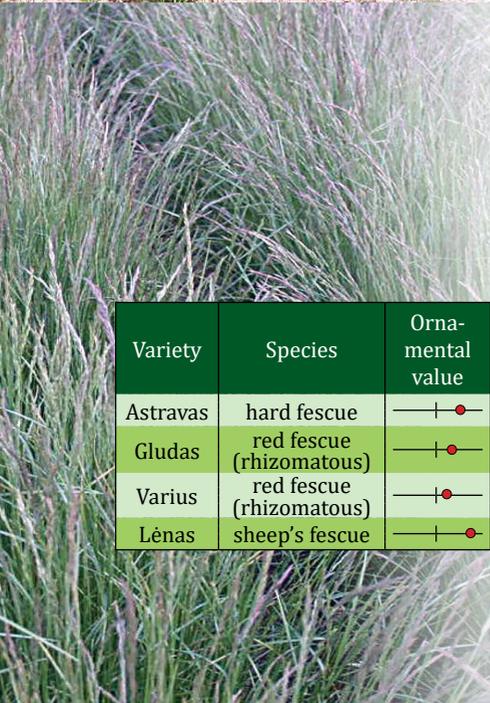


Fescues

Hard fescue (*Festuca trachyphylla* Krajina) is a densely tufted species thriving on dry and light soils. It is sensitive to excess moisture but is tolerant of shade. Leaf colour, especially in the summer time, is of intensive bluish colour. It is suitable for sowing in special purpose swards, ornamental lawns, in bands around flower beds and on roadsides.

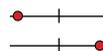
Red fescue (*Festuca rubra* L.) is a rhizomatous, densely tufted plant. It is one of the most suitable species for lawn establishment, undemanding for soil, slightly tolerates shading, when frequently cut, forms a nice lawn, is sown in mixtures with other lawn grasses.

Sheep's fescue (*Festuca ovina* L.) is a densely tufted species. It tolerates infertile and acid soils, grows best on sandy loam soils, is suitable for sowing on rural tourism grounds, can be sown in mixtures.



Variety	Species	Orna-mental value	Turf density	Leaf width	Colour intensity	Weed smothe-ring	Suscepti-bility to diseases
Astravas	hard fescue	— —●	— —●	● —	— —●	— —●	● —
Gludas	red fescue (rhizomatous)	— —●	— —●	● —	— —●	— —●	● —
Varius	red fescue (rhizomatous)	— —●	— —●	● —	— —●	— —●	● —
Lėnas	sheep's fescue	— —●	— —●	● —	— —●	— —●	● —

Low score of character / earliness
High score of character / lateness



Meadow grasses

Smooth-stalked meadow grass (*Poa pratensis* L.) is one of the main components in mixtures for lawns, but it can be sown as a sole species. It loves moisture, therefore needs to be watered during droughty periods.

Variety	Ornamental value	Turf density	Leaf width	Colour intensity	Weed smothering	Susceptibility to diseases
Aluona	— —●—	— —●—	— —●—	— —●—	— —●—	— —●—

Wood meadow grass (*Poa nemoralis* L.) tolerates well shade, therefore can be sown as a sole species for establishment of non-cut or rarely cut specific lawns on wet land in the shade of deciduous trees where no other grasses grow.

Flattened meadow grass (*Poa compressa* L.) is not suited for cutting, because it regrows poorly, its aftermath forms a lot of generative stems. It is suitable for sowing on gravelly and dry soils.

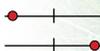
Variety	Winter-hardiness	Earliness	Colour intensity	Seed yield	Resistance to drought	Susceptibility to diseases
Luka DS	— —●—	●— — —	— —●—	— —●—	— —●—	— —●—
Odrė DS	— —●—	— —●—	— —●—	— —●—	— —●—	— —●—

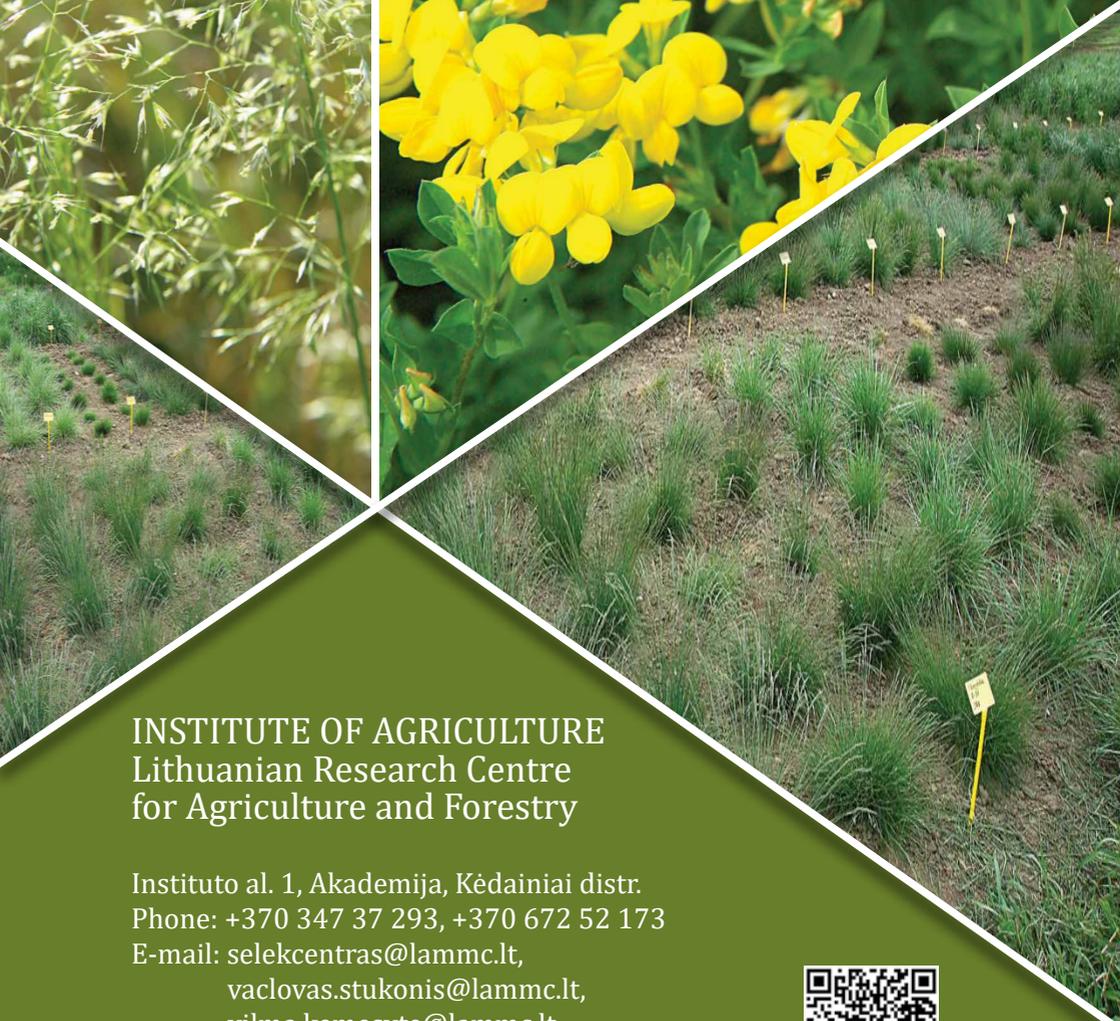
Ryegrass

Perennial ryegrass (*Lolium perenne* L.) emerges very quickly and forms a dense turf. It is non-persistent, therefore in lawn grass mixtures designed for Lithuania's conditions it should make up not more than 15% of the sward.

Variety	Ornamental value	Turf density	Leaf width	Colour intensity	Weed smothering	Susceptibility to diseases
Cirvija	— —●—	— —●—	— —●—	— —●—	— —●—	— —●—

Low score of character / earliness
High score of character / lateness





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