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LAJOS THAISZ - a practical-minded botanist

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ABSTRACT: Practical activities of L. THAISZ, concentrated on grassing and pasture land improvement are given in the paper.

KEYWORDS: History of botany, L. THAISZ, sowing methods

The main practical activity of L. THAISZ, a specialist in botany and sowing methods, was concentrated on grassing. In his period, meadows, pasture lands, gardens, embankments of rivers and railway tracks were grassed exclusively by grass mixture seeds imported from abroad.

He decided to devise grass mixtures from indigenous species. He recommended 21 wild species adapted to adverse climatic conditions of the Carpathian Basin, i.e. to "bitter winter frosts, long lasting summer hots, disadvantageously distributed precipitation". In his opinion, high quality seed for sowing can be obtained by purposeful collecting of these " ordinary " species and by their propagation rather than by long-lasting improvement. These ideas led him to the selection of seeds for grassing and their growing.

To achieve his aims, Lajos Thaisz needed effective help in the field of science as well as in the field of cultivating experiments. In the former field he was assisted by Elmér SZEKACS, the best Hungarian improver at that time, in the latter by János HADIK, who partly undertook the care for his experiments and did technical works on his farm in Tornanádaska.

In the work published in 1927, L. THAISZ gives 33 grass species and 17 species of *Fabaceae* with their characteristics from the view of applied

biology, ecology and utility. In fact he writes about more species, but some of them are mentioned only briefly, e.g. *Tetragonolobus maritimus*. According to the original order he evaluates the following species:

1. *Phalaroides* (*Phalaris*) *arundinacea*
2. *Anthoxanthum odoratum*
3. *Phleum pratense*
4. *Phleum hubbardii* (*nodosum*)
5. *Alopecurus pratensis*
6. *Agrostis stolonifera*
7. *Holcus lanatus*
8. *Trisetum flavescens*
9. *Arrhenatherum elatius*
10. *Cynodon dactylon*
11. *Beckmania eruciformis*
12. *Dactylis glomerata*
13. *Cynosurus cristatus*
14. *Poa pratensis - angustifolia*
15. *Poa trivialis*
16. *Poa palustris*
17. *Poa nemoralis*
18. *Puccinelia limosa*
19. *Festuca ovina*
20. *Festuca rupicola*
21. *Festuca vaginata*
22. *Festuca pseudovina*
23. *Festuca rubra* subsp. *rubra* (*genuina*)
24. *Festuca rubra* subsp. *nigrescens* (*fallax*)
25. *Festuca rubra* subsp. *arenaria*
26. *Festuca trichophylla*
27. *Festuca diffusa* (*planifolia*)
28. *Festuca pratensis*
29. *Festuca arundinacea*
30. *Bromus inermis*
31. *Bromus erectus*
32. *Lolium perenne*
33. *Lolium multiflorum* (*italicum*)

(Because names of some species have been modified, several names by THAISZ are given in brackets).

He regards the species under nos. 5, 8, 9, 12, 14 and 32 as very valuable. Of the species mentioned above he doesn't consider *Arrhenatherum elatius* as an indigenous species ("it wanders all the time", he writes). In his opinion, *Festuca rupicola* is not suitable for grassing, but he recommends protection of its natural populations.

He paid his attention to grassing of pasture-lands, he recommends a work project prepared by himself for pasture improvement. He proposed grass seeds mixtures for grassing of meadows. I would like to present here only two of them:

1. A mixture recommended for mountain meadows with the prevalence of *Agrostis vulgaris* (*tenuis*) :

Lolium perenne	10%	=	5.5 kg
Dactylis glomerata	11%	=	40 kg
Trisetum flavescens	10%	=	1.0 kg
Festuca pratensis	15%	=	8.0 kg
Phleum pratense	9%	=	1.5 kg

Poa pratensis	6%	=	10 kg
Cynosurus cristatus	6%	=	1.5 kg
Trifolium pratense	10%	=	2.0 kg
Trifolium repens	9%	=	1.0 kg
Lotus corniculatus	14%	=	2.0 kg

2. Grass seeds mixture for pastures recommended to twilight conditions:

Lolium perenne	18%	=	10.0 kg
Dactylis glomerata	41%	=	15.0 kg
Poa pratensis	21%	=	4.0 kg
Trifolium repens	10%	=	2.5 kg
Medicago lupulina	10%	=	2.5 kg

He finds the care for pasture-lands important as well. In his work project, an important place is devoted to weed liquidation in pastures (*Xanthium spinosum*, *X. strumarium*, *Marrubium vulgare*, *M. peregrinum*, *Ononis spinosa*, *Eryngium campestre*, *Onopordon*, *Carduus*, *Cirsium*, *Euphorbia seguierana /gerardiana/*, *E. glareosa /pannonica/* and of the common species *E. cyparisias*. He mentions that *Sambucus edulis* and *Datura stramonium* are very frequent on the places rooted up by pigs. (Nowadays two of the species mentioned, *Xanthium* and *Marrubium vulgare*, are very rare.)

Liquidation of thorny bushes is also a part of the project; he recommends to leave the hazel (*Corylus avellana*) and pasture-land woody species (*Malus*, *Pyrus*, *Acer*, *Fraxinus*, *Tilia*, *Ulmus*, *Betula*).

He considers as a very important tree planting on pasture-lands. He prescribes species of the genera *Quercus*, *Ulmus*, *Populus* for planting first of all. He also directs the attention to the possibility of planting such species that bring also supplementary use, but first of all are tall-trunked (apple-tree, pear-tree, plum-tree, cherry-tree, sour cherry-tree, wallnut-tree). He pays extra attention to planting of trees in hollows and on grassy uplands.

He designed mixture for grassing of railway and river embankments, which represent large areas, too. Here he took into the consideration also the function of inner and not innundated side of embankment.

In every case, he doesn't omit the study of processes of grass-plots changes (present expression succession), and their affection in the direction of rising the grass-plot productivity.

In conclusion I should like to emphasize his opinion on garden lawns. In particular, he recommends indigenous and weedy *Lolium perenne* and *Poa angustifolia* for them. He neither prefers dicots that occur in garden lawns (e.g. *Achillea*, *Leontodon*, *Plantago*, *Taraxacum*), nor weedy monocots like *Agropyron repens* and *Cynodon dactylon*.

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