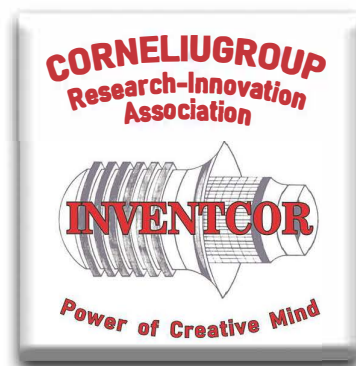


DIPLOMA



GOLD

International Exhibition INVENTCOR
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AWARDED FOR

**The new cultivar 'SOFIA' of eastern galega *Galega orientalis*
Lam.**

MD 00013/2022.05.05

TO

Dr. Victor ȚÎȚEI, Dr. Alexandru TELEUȚĂ

**„Alexandru Ciubotaru” National Botanical Garden (Institute)
Republic of Moldova**

Salon president,
Associate Professor Corneliu BIRTOK BĂNEASĂ

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**THE NEW CULTIVAR ‘SOFIA’ OF EASTERN GALEGA,
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in recognition of high scientific contribution and loyalty to
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**SOIUL „SOFIA” DE GALEGĂ ORIENTALĂ GALEGA
ORIENTULIS LAM.**

a u t o r i

Victor Țiței, Alexandru Teleuță

i n s t i t u Ț i a

**GRĂDINA BOTANICĂ NAȚIONALĂ (INSTITUT)
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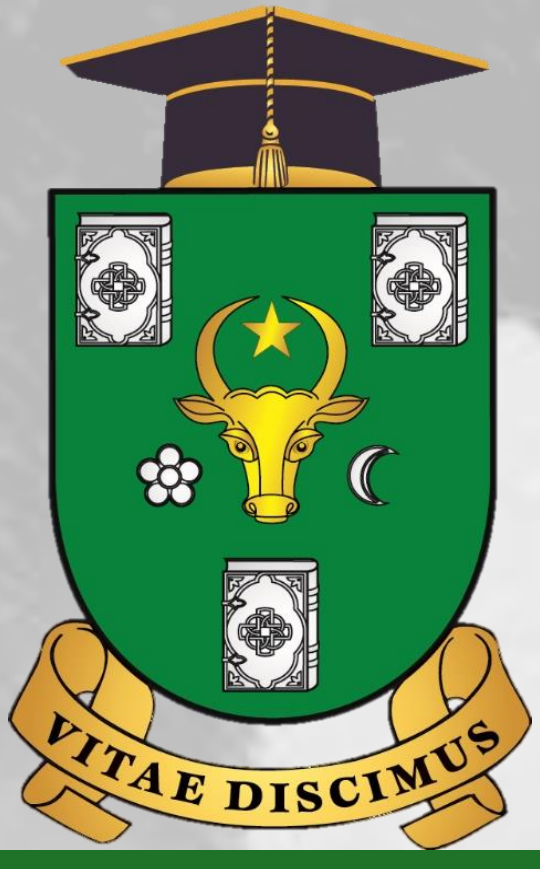
Prof. dr. habil. Narcisa MEDERLE

Președinte salon

Remi RĂDULESCU

Data 10 octombrie 2022





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‘SOFIA’ LOCAL VARIETY OF EASTERN GALEGA *Galega orientalis* Lam.

PATENT: MD v00013/2022.05.05

AUTHORS: Victor ȚÎȚEI, Alexandru TELEUȚĂ

The local variety ‘SOFIA’ has been created by individual breeding of introduced ecotypes of *Galega orientalis* Lam., fam. *Fabaceae*. This cultivar grows 120-145cm tall and has highly frost-tolerant., may be sown in a pure or mixed culture with several species of grasses and legumes, the established plantations are maintained for 15-20 years, symbiotic nitrogen fixation capacity of 100-150 kg/ha/year. The first cut in early- middle May. The productivity of aerial fresh mass (2-3 cuts per season) reaches 78-92 t/ha, dry biomass 15-20 t/ha.

Multi-purpose crops: forage, melliferous, ornamental, energy mass



The local variety ‘SOFIA’ may be used as forage for husbandry animals (natural fodder, haylage, vitaminized flour). The biochemical composition and nutritive value of natural fodder harvested in flowering stage was 23.4% CP, 26.6% CF, 28.8% ADF, 47.7% NDF, 3.6% ADL, 10.5% ash, 10.0 % TSS, 76.1 % DMD, 72.6 % OMD, RFV=128, 12.92 MJ/kg DE, 10.63 MJ/kg ME, 6.2 MJ/kg NEI, and prepared hay respectively 17.0% CP, 35.2% CF, 35.9% ADF, 54.4% NDF, 4.0% ADL, 9.6% ash, 7.6 % TSS, 63.0 % DMD, 57.6 % OMD, RFV=105, 12.03 MJ/kg DE, 9.88 MJ/kg ME, 5.90 MJ/kg NEI. The quality indices of ensiled mass: pH=4.40, organic acids content -0.90-1.01% LA, 2.97-6.50% LA, nutrient content 17.40-18.21% CP, 27.88-39.28% CF, 3.13-3.37% EE, 31.3-31.80% NFE, 10.5% ash, 0.73-1.26 % Ca, 0.23-0.30 % P. The harvested mass and haylage may be used as feedstock in biogas plants with methane potential of 305-350 l/kg.

The local variety ‘SOFIA’ seed plantations ensure a 40-60-day beekeeping season (May-July) with a honey production potential of 400-600kg/ha. The residues after harvesting the seeds may be used for solid biofuel production with specific density 800-870 kg/m³ and 16.8-18.0 MJ/kg DE, CV, also as substrates for bioethanol production with potential 460-500 l/kg.

The local variety ‘SOFIA’ can be used in phytoremediation of degraded lands and the reclamation of marginal and polluted lands.

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