

## THE PERSPECTIVE OF CULTIVATION AND UTILIZATION OF THE HYBRID *Rumex tianschanicus* × *Rumex patientia* IN MOLDOVA

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### Abstract

The hybrid *Rumex tianschanicus* A. Los. × *Rumex patientia* L. created in Ukraine, known as the Sorrel of Uteush or schavnat was cultivated in the experimental land of the Botanical Garden (Institute) ASM. The objective of this research was to evaluate some biological peculiarities, productivity and fodder value, depending on the time of harvest, thermophysical properties of the dry mass of the hybrid *Rumex tianschanicus* × *Rumex patientia* in Moldova's conditions. It has been established that the hybrid in the 3<sup>rd</sup>-4<sup>th</sup> years of vegetation has an accelerated growth and development rate. Branched stalks of this hybrid grow up to 2.5 m tall. In fourth year the hybrid *Rumex tianschanicus* × *Rumex patientia* was harvested in stem growth phase and we obtained 2.7 t/ha nutritive units with 600 kg/ha digestible protein; in the budding phase – 7.7 t/ha nutritive units with 1340 kg/ha digestible protein; at the end of flowering phase – 10.6 t/ha nutritive units with 913 kg/ha digestible protein. The fodder of this hybrid is distinguished by a high content of glutamine (235.2%), valine (22.4 %), proline (20.7%) and histidine (19.0 %), but a lower content of methionine (39.0%), lysine (36.0%), phenylalanine (20.0%) asparagine (37.2%), serine (13.5%) and tyrosine (318.0%) in comparison with alfalfa. For the production of solid biofuel, in seed maturation period hybrid *Rumex tianschanicus* × *Rumex patientia* can be harvested using equipment for harvesting grassy fodder, laid in swath for air-drying, chopped directly in the field or pressing in bales. The density of the briquettes made from biomass is 870 kg/m<sup>3</sup>, ash content - 2.1% The potential of energy production reached 200 GJ/ha. The hybrid *Rumex tianschanicus* × *Rumex patientia* can be used as a multipurpose crop in Moldova's conditions.

**Key words:** hybrid *Rumex tianschanicus* × *Rumex patientia*, agro biological peculiarities, fodder value, biomass calorific value, multipurpose crop