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Chemical Composition of Soybean Harvested in Different Phases and Its Suitability for Forage Production

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Abstract

Climatic conditions for soybean cultivation in Latvia are not typical, in addition, the sum of sunlight/temperature and precipitation required to produce a soybean crop varies from year to year. There is a risk that the weather will not be able to ripen even early varieties in a region. Studies show that the green part of soybean plants is also used in animal nutrition preparing as hay or silage. The aim of this study was to evaluate chemical composition of different soybean varieties harvested before ripening as a raw material of hay or silage. Test weight, protein, fat, ash, fibre, acid detergent fibre (ADF) and neutral detergent fibre (NDF) of soybean varieties 'Erika', 'Bolgar' and 'Viola' green part were determined at different stages of readiness. The results of the study showed a significant increase in protein (from 9.18% to 12.06%) and fat (from 1.18% to 4.40%) content of dry matter variety 'Bolgar' from September to October. Protein content of the dry soya green mass was not affected by variety at the same developing stage but significantly changed among different stages of readiness. As the plant develops, the sucrose content in the green mass increases, and so does the total sugar content.

Keywords: chemical composition, feed, green mass, protein crop