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QUALITY ASSESSMENT OF FORAGES FROM PERMANENT DRY GRASSLANDS ENRICHED IN GRASSES AND LEGUME PLANTS

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Summary

During the years 2012–2015 a study, aiming at the assessment the quality of forages from renovated grasslands in terms of their suitability for fattening of cattle, was conducted. The experiments were established on permanent grasslands in three farms, located in the northeastern and east region of Poland. In 2012, permanent meadows were renovated by overdrilling and by full cultivation. Seed mixtures containing di- and tetraploid species of grasses and legume plants were used. During the study the forage from the sward of improved meadows and forage from old sward (control) were sampled. The content of nutritive components in the forage was determined using NIRS method. Enrichment of meadow sward by using seed mixtures of grasses and legumes, both by over drilling or full cultivation, improved the quality of feeds only on two farms where permanent grasslands are located on soils made from light clay or medium clay. Silage (experiment II) made of meadow sward enriched by seed mixtures of grasses and legumes, independently of the method, was characterized by a significantly lower proportion of crude fiber and ADF fractions, higher concentration of crude ash, crude fat and NEL energy and higher value of RFQ than control silage. Hay from overdrilled meadows (experiment I), unlike feeds from control meadow, had a lower content of crude fiber, ADF and NDF fractions and higher concentration of NEL energy. Also, the quality of this hay expressed by the RFQ index was significantly higher. Hay from meadows renovated by method of full cultivation (experiment I), except lower crude fiber content, ADF and NDF fractions and higher NEL energy concentration, had the highest content of total protein. Improvement of the forage quality on both farms (experiment I and II) resulted first of all from a significant increase of legumes plants in sward, which was confirmed by correlation between the groups of plants in the sward and the content of the basic nutrients.