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Book of Abstracts

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1.06	Effects of the application of nitrogen on the fatty acid profile of grass in coastal zone meadows in Cantabria (Spain) used for pasture <i>Salcedo G.</i>	13
1.07	Nutritive value of meadows in the Northeast of Portugal <i>Fernández-Núñez E., Pires J. M., Fernandes A., Pires J., Aguiar C., Galvão L. and Moreira N.</i>	13
1.08	Influence of organic fertilization on nitrogen content in lucerne under water deficiency stress <i>Vasileva V.</i>	13
1.09	Irrigated meadows and virtual water: the case study of Greece <i>Christodoulou A. and Kourantidou M.</i>	14
1.10	Influence of hay or silage on cow-milk fatty acid composition <i>Wyss U. and Collomb M.</i>	14
1.11	Management of young cattle on alpine pastures using a GPS-based livestock tracking system <i>Thurner S., Neumaier G. and Wendl G.</i>	15
1.12	Persistency of <i>Festulolium loliaceum</i> strains in comparison with other species depending on the method of utilization <i>Kulik M.</i>	15
1.13	Effects of biogas digestates on the above and below ground biomass of <i>Lolium perenne</i> L. <i>Benzenberg M., Fricke T. and Wachendorf M.</i>	20
1.14	The effect of soil type and age on yield in grass fields on dairy farms <i>Sveinsson Th.</i>	16
1.15	Seasonal changes in nutritive value of the understory vegetation of an open coppice oak forest during the grazing period <i>Parissi Z.M., Abraham E.M., Kyriazopoulos A. and Abas Z.</i>	17
1.16	Cover of species and leaf area index of a regional mixture after the application of soil amendments <i>Janků L., Lošák M., Straková M. and Straka J.</i>	17
1.17	Influence of liquid nitrogen fertilizer injection (CULTAN) on production potential of grass-clover mixtures <i>Komárek P., Kohoutek A., Nerušil P. and Odstrčilová V.</i>	18
1.18	Shrub invasion management by cattle grazing in the French Massif Central <i>Orth D.</i>	18
1.19	The influence of nitrogen fertilizer application on the occurrence of couch grass <i>Štýbnarová M., Svozilová M., Karabcová H. and Otrhálková P.</i>	19
1.20	<i>Phedimus stoloniferus</i> : a problematic alien species detected in Swiss grasslands <i>Huguenin-Elie O., Zollinger A., Stutz C., Gago R. and Lüscher A.</i>	19
1.21	Forage as a primary source of mycotoxins <i>Nedělník J., Skládanka J., Doležal P., Moravcová H., Zeman L. and Křížová Š.</i>	20

1.06 Effects of the application of nitrogen on the fatty acid profile of grass in coastal zone meadows in Cantabria (Spain) used for pasture

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The aim of this study is to analyse the fatty acids (FAs) of meadow grass used for grazing cattle from April to October and fertilized with 0, 12 and 24 kg N ha⁻¹ month⁻¹ during 2007 and 2008. The experiment was carried out a site at 43°24'N and 3°45'W, soil type 'Gleisol eútrico/Regesol spoli-autopico,' at 44 m above sea level. The application of N increased the concentration of all FAs ($P < 0.001$). The N content of the grass was positively correlated with C16:0, C18:0, C18:1, C18:2 and C18:3. The highest concentration of FAs was found in grass harvested in April and October, coinciding with the higher leaf/stem ratio. The largest responses were obtained under fertilization with 12 kg N ha⁻¹ month.

1.07 Nutritive value of meadows in the Northeast of Portugal

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Meadows continue to be the most important source of pasture and hay for beef cattle production in the hill and upland areas in the NE region of Portugal. The aim of this study was to evaluate CP contents and IVOMD values during the year, in three harvests (spring, hay cut and autumn) under the effect of three rates of N fertilisation in seven mountain meadows. The results showed that the highest CP and IVOMD occurred in the beginning of spring when meadows are in active vegetative growth. Effects of N fertilisation on CP and IVOMD occurred only in oligotrophic meadows, but in an irregular way, and mainly on IVOMD.

1.08 Influence of organic fertilization on nitrogen content in lucerne under water deficiency stress

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A study of nitrogen changes in yield in total plant biomass of lucerne in relation to mineral and manure fertilization under water-deficit conditions was carried out at the Institute of Forage Crops, Pleven, Bulgaria. Ammonium nitrate and well-matured cattle manure as a source of mineral and organic nitrogen were used. The plants were grown for seed production under optimum moisture conditions (75-80% of Field Capacity [FC]), and water deficiency (37-40% of FC). Nitrogen in the yield of dry aboveground mass under optimum water supply increased