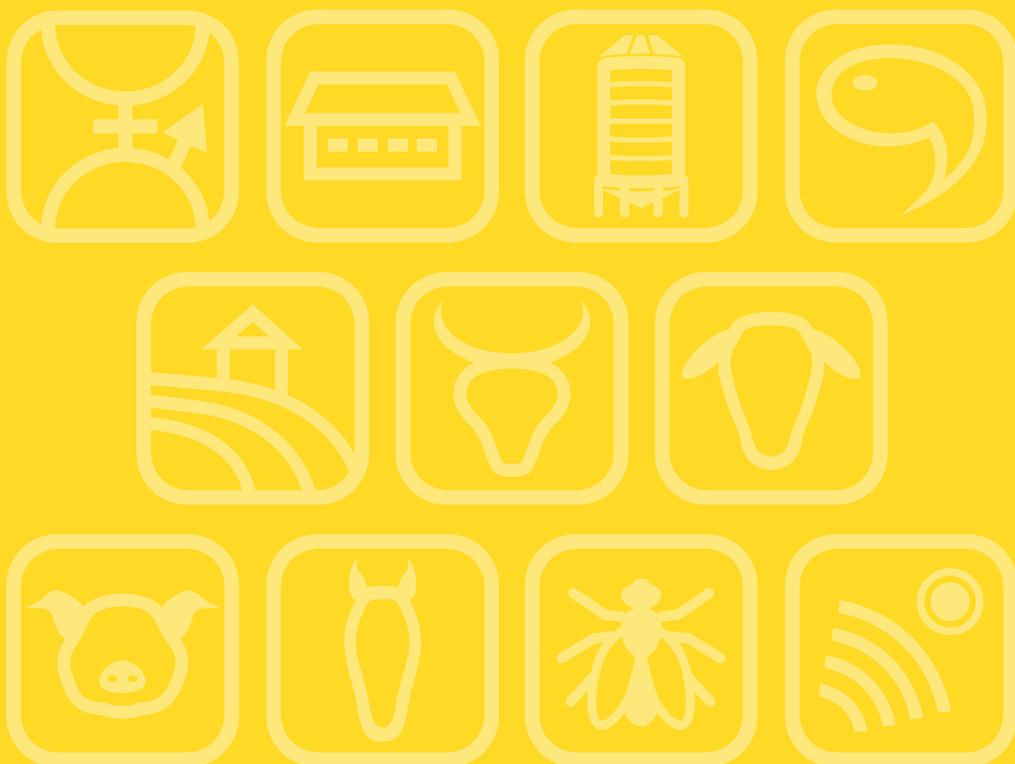


Book of Abstracts of the 73rd Annual Meeting of the European Federation of Animal Science



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Multifunctional Mediterranean AGF systems: constraints and opportunities for sustainable transition

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To revitalise Mediterranean agroforestry (AGF) systems one of the management options is the implementation of regenerative agriculture techniques, since those have been recognised to have the capacity to produce high-quality food, improve profit margins, sustain biodiversity, restore degraded land and soils, and store carbon, with minimal dependence on external inputs. Dynamic and profitable operational practices for these agrosilvopastoral systems focus mainly on rotational livestock management, soil restoration with compost and biochar, keyline, and ectomycorrhizal fungal inoculations, and are being implemented in several Quercus-based silvopastoral farms in 3 different countries (dehesas in Spain, meriagos in Italy, and montados in Portugal) under LIFE Regenerate project (www.liferegenerate.eu). Over 4 years of implementation several barriers have been observed that hinder implementation of more regenerative practices. In order to identify and classify these difficulties and the opportunities that have also been observed, a focus group session was held with the participation of farmers that currently work with regenerative practices in the project. During the session, they were asked to carry out a joint quantitative SWOT analysis. The main difficulties identified were the lack of qualified human resources, poor support in the transition and in the initial investment (especially regarding infrastructure for rotational grazing), the shortage of public policies to promote and facilitate these practices or the ambiguity of the market insertion of products derived from regenerative agriculture. Despite this, farmers are content and determined to make the change because they see that it is economically viable in the long term. The need for action to ensure a stable, productive, and profitable food supply system is more than evident. However, to do so, the policy scene must create opportunities for market change that favour regenerative agriculture and stimulate its transition tailored to the real needs and concerns of farmers.

Grazing behaviour and milk production in dairy cows as an effect of daytime and night-time grazing

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In grazing cattle, previous studies have reported increases in body weight gain or in milk, and milk fat and protein yields when the daily grazing strip was allocated at afternoon rather than early in the morning. Those effects were related to changes in herbage chemical composition along the day, better ratio of rumen easily degradable carbohydrates to nitrogen as day progresses, as well as to cattle grazing behaviour as dusk grazing event appears as the most intense of all grazing events of the day. To test whether those changes would occur in high latitudes, with longer period of daylight, we conducted a grazing experiment at the Röbbäcksdalen Research Station, Swedish University of Agricultural Sciences (63°48' N 20°14' E), Umeå, Sweden, during June 1-July 2, 2021 (average daylight 20.5 h). Forty-eight Swedish Red cows in mid-lactation, averaging 634±73 kg of body weight, and with an initial milk yield (MY) of 31.4±8.7 kg/cow/d, were included in the study and randomly assigned to two grazing treatments: Morning-Afternoon (MA) and Evening-Night (EN) grazing. Cows were milked at 06:00 h (AM) and at 16:00 h (PM), and the MA cows were outdoors between AM and PM milkings (approx. 8.5 h/d), and EN cows were outdoors between PM and AM milkings (approx. 13 h/d). Cows were provided a new grazing strip with access to water every day. Herbage allowance, grass-legume ley, was around 30 kg DM/cow/d. Even though the time cows spent outdoors differed between treatments, no difference was observed in grazing duration (302 and 296 min/d for MA and EN cows, respectively). EN cows spent more time eating indoors (P=0.008; 132 vs 150 min/d for MA and AE cows, respectively) and ruminating (P=0.001; 422 vs 477 min/d for MA and EN cows, respectively) compared to MA cows. Feed intake indoors and milk yield were similar between treatments (13.3±2.5 kg DM/cow/day for MA cows and 14.8±2.5 kg DM/cow/day for EN cows). MA cows yielded 27±7.2 kg and the EN cows 26±6.7 per day. Our results suggest that the possible benefits of evening-night grazing might be less pronounced in areas with long days and short nights than those situated in lower latitudes.

The challenge of the new CAP: a Delphi study on extensive livestock farms in dehesa systems

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Extensive livestock farms located in *dehesa* agroforestry systems in the current context of climate change are vulnerable, but through proper management they can become self-sufficient and profitable based on the efficient use of resources and efficiently managing the public resources that they receive as subsidies. The main objective of the regional project MitigaDehex (IB20070) is to analyse extensive dehesa livestock farming systems in Extremadura (SW Spain) as models of sustainable production and agents against climate change. One of the specific objectives is to assess the possible impacts of the post-2023 Common Agricultural Policy (CAP) on these livestock production systems. These impacts may condition in the future, the adaptation of farms with important changes in their current management model. To achieve this objective, a preliminary study has been carried out with the participation of 34 experts with a variety of professional profiles applying a predictive technique: the Delphi method. In this technique, a series of statements related to the effect that the application of the CAP 2023 may have in the future in the area of the dehesa were presented to the participants in a questionnaire distributed online, organised into themes so that they could give their score according to their degree of agreement or disagreement with each one of them. The results show that the positive effects that the experts do not consider will be achieved are fundamentally of a social and economic nature, as the experts consider that there will be no increase in the number of livestock farms, nor will there be a greater number of farms benefiting from the CAP, nor will there be an increase in farmers' incomes. On the other hand, the effects that they do consider will occur are those related to the environment, considering that it will increase the carbon sink capacity of the soil through the promotion of better practices, that there will be an improvement in the management and conservation of soil quality, that there will be a boost to the of traditional agro-silvo-pastoral practices, and that it will improve the use of pastures through better grazing practices such as rotational grazing.

Session 35**Poster 17****DCAB of grass and NSBA in urine of suckler cows**

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Dietary anion-cation balance (DCAB) in grazing systems under German condition tends to decrease from May until September and often are measured DCAB lower than 100 meq per kg dry matter. Lower DCAB in grass feeding system can change the metabolic status of suckler cows and often are results in acidotic metabolism. The hypothesis was that metabolic imbalances could be identified by urine measurement in suckler cows. The farm study was conducted during the grazing seasons 2017 and 2018 and involved 7 suckler cow farms in Germany. Suckler cows grazing during the whole time of the investigation and had no access to other feeding components. Cows had free access to water and free access to minerals (loose). The dry matter of the grass was determined at 60 °C and were then analysed for energy and nutrient content and for the Dietary Cation-Anion Balance (DCAB). Urine was collected in 50 ml-glasses and analysed for net acid-base excretion (NSBA) and the concentration of creatinine and urea. Statistical analysis took place with ANOVA with fixed effects of farms (1-7), month and number of lactations using SPSS Version 25.0 for windows. An alpha of 0.05 was used for all statistical tests. During the grazing periods of years 2017 and 2018 was observed an average DCAB in the grass of 167 meq per kg DM. A very high mean variation could be determined from -42 meq/kg to +439 meq/kg. Reference values in relation to DCAB were described between 150 meq and 400 meq per kg DM. It was found the high chlorine content with reduced potassium level led to this reduction in DCAB at the end of the grazing period. Between the DCAB of grass and NSBA in urine of suckler cows was a correlation according to PEARSON of $r=0.478$ ($P\leq 0.001$) or after SPEARMAN of $r=0.601$ ($P\leq 0.001$) observed. The influence of several feeding components such as chlorine, sulfur, potassium and sodium and dry matter feed intake during the grazing period of suckler cows should be considered in further research. The results obtained show that up a decrease in the DCAB is related to a decrease in NSBA in urine of suckler cows. Monitoring of metabolic disturbances should include analysis of urine, blood, milk and ruminal fluid.