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Use of grazing in a dairy goat farm to design sustainable production systems in France*H. Caillat¹, B. Ranger¹, E. Bruneteau¹, C. Paraud² and R. Delagarde³**¹INRA, UE1373 FERLus, 86600 Lusignan, France, ²ANSES, 60, rue de Pied de Fond, 79000 Niort, France, ³INRA-Agrocampus Ouest, UMR PEGASE, 35590 Saint-Gilles, France; hugues.caillat@lusignan.inra.fr*

France is the first producer of goat milk in European Union with about 550 millions liters collected. Since years 2000, goat farms moved gradually towards intensive farming, significantly increasing their need for purchased inputs. To increase productivity, the grazing has been stopped and the indoor breeding has been developed. Today, feed self-sufficiency of French goat systems are only 55%, increasing economic risks and feeding costs. PATUCHEV is an experimental device of Inra (UE FERLus) set up to assess and propose innovative, low input and sustainable goat farming systems. Before 2012, goats of this flock were bred in sexual season and fed indoors with concentrates and straw. In 2013, the feeding system was changed to grazing on multi-species grasslands and to mix crops for concentrate self-production. During three years before and after the change, feed intake, milk yield and health data were recorded monthly. Gastrointestinal parasitism was controlled every month by measuring strongyle faecal egg excretion on faecal group samples. Since 2013, on a fixed lactation period of 200 days, the annual mean milk production decreased by 16% per goat (682 kg/goat vs 812). Milk fat (35 g/kg) and protein (32 g/kg) concentrations were unaffected. With grazing, concentrate supplementation was 242 kg per goat per year, which is 62% lower than in the previous feeding system (343 g of concentrate/l milk vs 644). The global feed self-sufficiency is now greater than 75%. Gastro-intestinal infection by strongyles appeared in September 2013 but an integrated management enabled to maintain a low infection level. Annual mean flock excretions were 198 and 310 eggs per gram of faeces in 2014 and 2015, respectively. An economic study is in preparation to complete these results and to confirm that good economic results are possible despite the decrease of milk production per goat.