



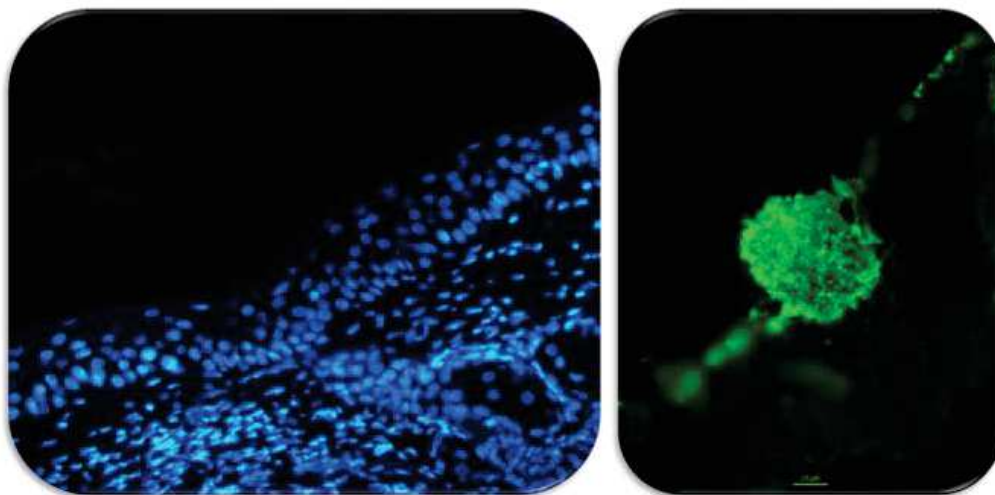
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One Health

L'Animal et l'Homme, une même santé



9. In vitro digestibility and feed unit evaluation of sugar crop by-products in Northern Morocco

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The production of sugar crops (sugar cane and beet) in Northern Morocco generates substantial amounts of by-products, including cane pulp and beet residues, which represent valuable resources for animal feeding. This study evaluates the in vitro true digestibility (IVTD) and feed unit values (UFL and UFV) of sugar crop by-products from Northern Morocco, providing insights into their potential as alternative feed resources for ruminants. Digestibility was assessed using the DAISY II system and the pepsin–cellulase enzymatic method, while feed values were estimated as net energy for lactation (UFL) and net energy for meat production (UFV). Preliminary analyses indicate that sugar crop by-products exhibit high digestibility and energy values comparable to conventional feed resources, suggesting they can effectively complement ruminant diets. This approach provides a comprehensive assessment of the nutritional value of cane and beet by-products, supporting their use in sustainable livestock feeding strategies. By promoting the valorization of locally available feed resources, these by-products contribute to enhanced feed efficiency, reduced feed costs, and sustainable livestock production systems in Northern Morocco.

10. Rapeseed by-products as feed resources for ruminants: Digestibility and forage unit

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In Northern Morocco, goat is the most dominant herd among ruminants. Their diet relies mainly on forest rangelands characterized by seasonal and annual variabilities. Thus, it is necessary to diversify goat diet to meet their nutritional requirements and improve productivity. Rapeseed (*Brassica napus*) crop generates by-products that could be used as alternative feed resources for ruminants. This study aims to evaluate the digestibility and nutritive values (forage units "UF") of rapeseed by-products. Samples of leaves and pods were collected from local farms and analyzed to determine *in vitro* true digestibility (IVTD, DAISY II system) and enzymatic digestibility (pepsin–cellulase method) of dry matter (dCs) and organic matter (dCo). Forage units were also calculated as UFL (net energy for lactation) and UFV (net energy for meat production). According to the results, rapeseed leaves showed an IVTD of 59.1%, dCs of 57.2% and dCo of 52.5%, with estimated forage units of 0.68 UFL/kg DM and 0.60 UFV/kg DM. Rapeseed pods presented similar values with an IVTD of 61.1%, dCs of 58.9% and dCo of 53.8%, and forage units of 0.69 UFL/kg DM and 0.63 UFV/kg DM. These findings highlight that rapeseed by-products present high digestibility and acceptable energy values, which support their potential incorporation in ruminant feeding strategies as sustainable alternatives to conventional feed resources.