Post-natal evaluation of local baladi capretto meat

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Introduction

- The local Baladi breed is considered a common source of fresh meat in Lebanon; Kids meat, are an expensive delicacy.
- Few studies observed growth parameters, physico-chemical and sensory properties of meat in Baladi Kids.

Objectives

1) Evaluate growth rate, blood components and organ weights of Capretto as compared to their pasture counterparts
2) evaluate the physico-chemical, nutritional and organoleptic value of meat from such goats when slaughtered at different ages reaching 2 months of age.

Materials and Methods

24 male newborn goats

- fed milk free choice (24 d post-natal)
- Control: 9 kids fed pasture grass & milk
- Capretto: 15 kids fed milk AM & PM

All Reared in 70 x 70 x 70 cm3 box

- In Byblos at 100 m alt. (Ag. Station, USEK)

Blood Components Analysis

- jugular blood collected every 6 d & at slaughter
- Na, K, Ca, Fe, glucose and serum proteins analyzed using flame photometry and spectrophotometry.
- Hemoglobin determined calorimetrically by complexion with Drabkin reagent

Body weight, milk consumption &ADG

- BW pre- and post-feeding, twice/wk
- Av. Milk consumed/wk & ADG calculated
- 2 Kids/group slaughtered at 4, 6 &8 wks
- carcass, skull bone, skin, limbs, internal organs & gastrointestinal tract weighed

Meat Phyico-chemincal & Organoleptic

- 300 - 400 g from different parts of carcass
- Total fat by ether extraction, Meat protein by Kjeldhal method & Minerals by carbonization

- Rigor mortis carried for 12 -16 h (4 °C)
  - tenderized grilled kabobs or pan-fried by specialized cooks ,
  - pan-fried, roast or stew by housewives.

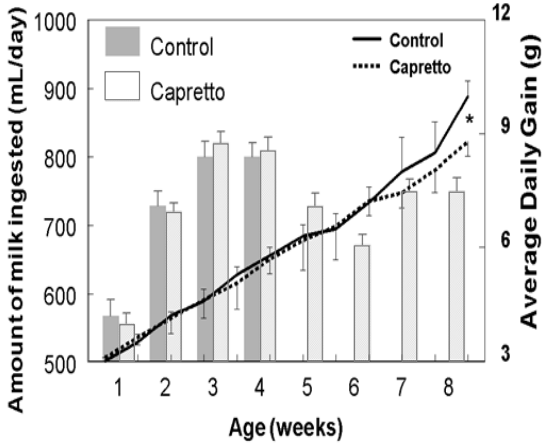
- Organoleptic criteria by regular consumer panel
  - Color: Red=1 - white = 4, taste: acid - nice,
  - odor: not desirable - specific
  - richness: low - high or juiciness: 1 - 5.
  - Tenderness and overall appreciation scored by housewives (higher is best)

Satistical Analysis

Data were analyzed using as CRD using SPSS 10.0, means compared using the LSD, presented LSMeans ± SEM

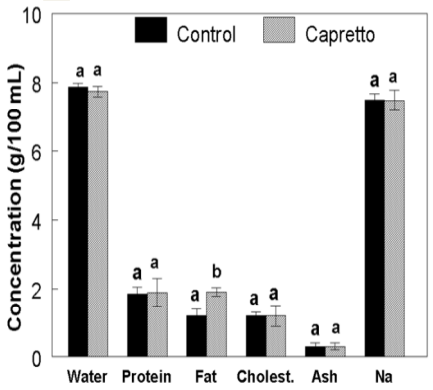
Results

Milk Consumption and weight Gain



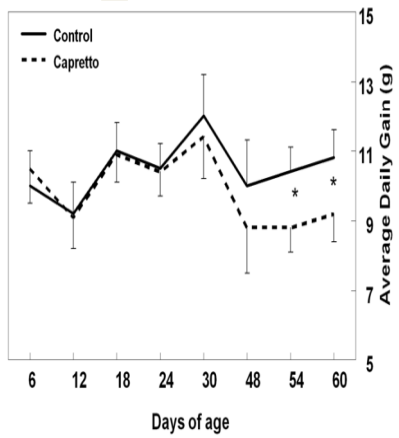
* LSmeans ADG differ between treatments (P < 0.05).

Chemical Composition of Baladi Meat



[a, b] Within variable, LSmeans without a common superscript differ (P < 0.05).

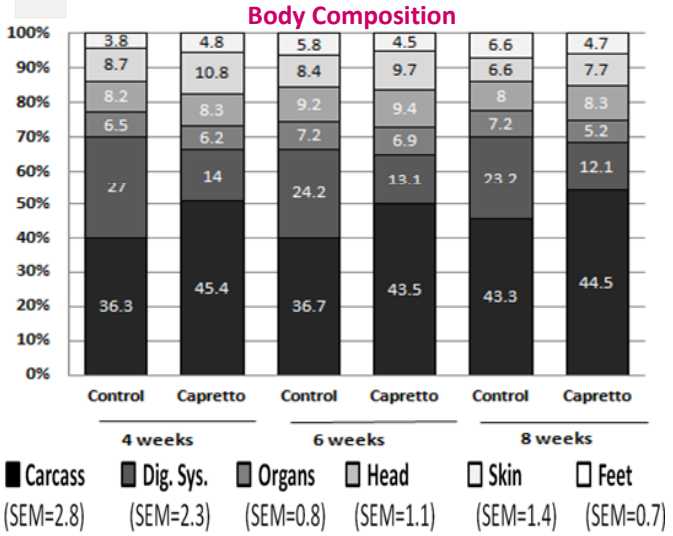
Serum Hemoglobin



* within age group, LSmeans differ (P < 0.05).

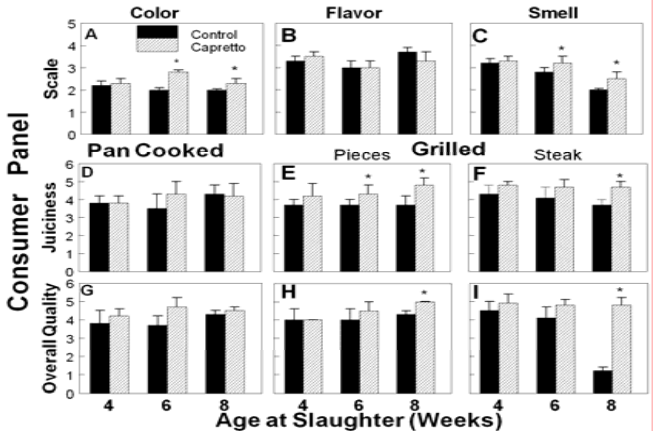
Results ...

Body Composition



*Within variable and age group, LSmeans differ (P < 0.05) between treatments

Organoleptic properties of Meat



No significant difference between treatments (P < 0.10) for the various preparation methods and properties

Implications

Lebanon is recognized for low quality pastures, narrow grazing areas and transhumance rearing of local Baladi goats.

➔ Twin or weak Baladi kids are not incorporated in a traditional rearing system

➔ Possibility of raising these kids up to 8 weeks on milk alone (Capretto), with little physiological side effects.

➔ Same characteristics of a young meat in regards to juiciness, chewiness, color and smell when grilled.

Conclusion

Meat organoleptic characteristics were desirable at weeks 4 and 6 for both kids, whereas only Capretto meat stayed desirable at week 8.

Capretto kids have similar properties to their traditional counterparts, with added desirable properties for a longer growing period, in addition to the increased health benefit of lower fat.