

Introduction

For years all types of hemp (*Cannabis Sativa L.*) production have been illegal in most of the United States for fear of the level of THC that could be stored or the visual similarity to marijuana. It was long believed that if producers were to grow industrial hemp, marijuana could easily be established within the industrial hemp (Cherney and Small, 2016). The fiber is often high quality with a high strength to weight ratio, while seeds and oil are used to supply niche markets worldwide. Hempseed meal is a byproduct of hemp oil production and is relatively high in fiber, fat, and protein making it a potential feedstuff for ruminants. However, the impact of this new byproduct could have on meat characteristics is unknown.

Methods

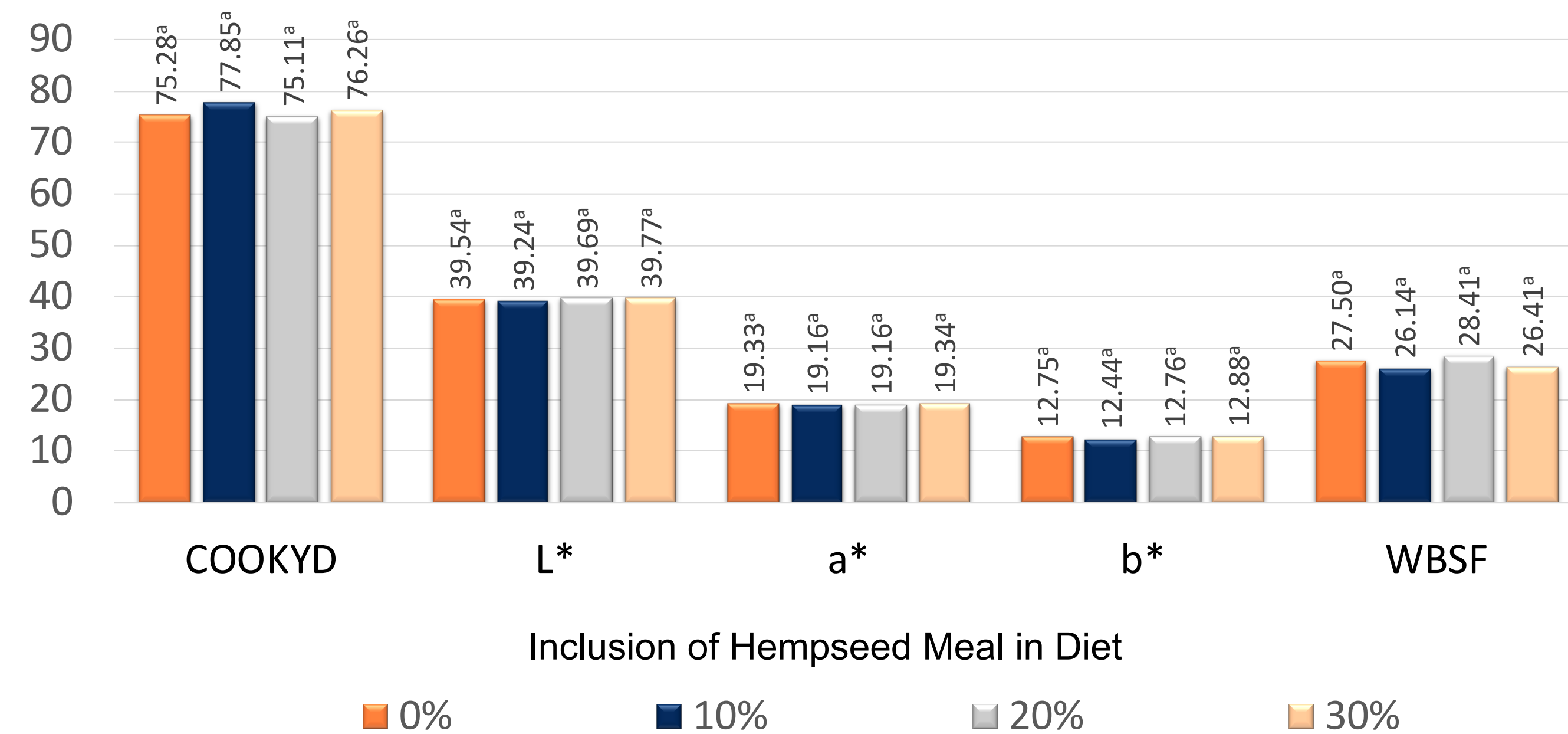
- Forty Boer crossbred castrated male goats were randomly allocated to one of four diets (N=10; 0%, 10%, 20% or 30%).
- Goats were provided 2 kg of diet daily that contained varying levels of HSM in addition to ad-libitum access to water.
- Following a 60-day feeding period goats were harvested at the Lambert-Powell Meats Laboratory located at Auburn University.
- After chilling for 12 h at 0° C, carcass measurements were collected prior to carcass fabrication.
- Goat carcasses were fabricated into wholesale cuts of the shoulder, rack, loin and leg.
- Paired loins and legs were sliced into 2.54-cm-thick chops and vacuum packaged.
- Chops were cooked at 176°C until an internal temperature of 71.1° C was achieved then data analysis was conducted on cook yield.
- Cooked using a Vulcan (Model: #VC4EC) convection oven.
- Internal temperature monitored with digital thermometer in the geometric center of the chop or slice.
- Instrumental fresh color (L*, a* and b*) was observed by utilizing (N=3) chops from each carcass.
- Instrumental tenderness (Warner-Bratzler Shear Force) was obtained from cooked samples with (N=10) from each carcass.

Objectives

The objective of the current study was to evaluate the impact of HSM on fresh and cooked characteristics of Spanish cross meat goat retail cuts.

Graphs/Tables

Figure 1. Hemp Cake Influence on Fresh and Cooked Characteristics on Goat Leg Slices



COOKYD, Percentage of meat weight remaining after cooking.

L*, Lightness.

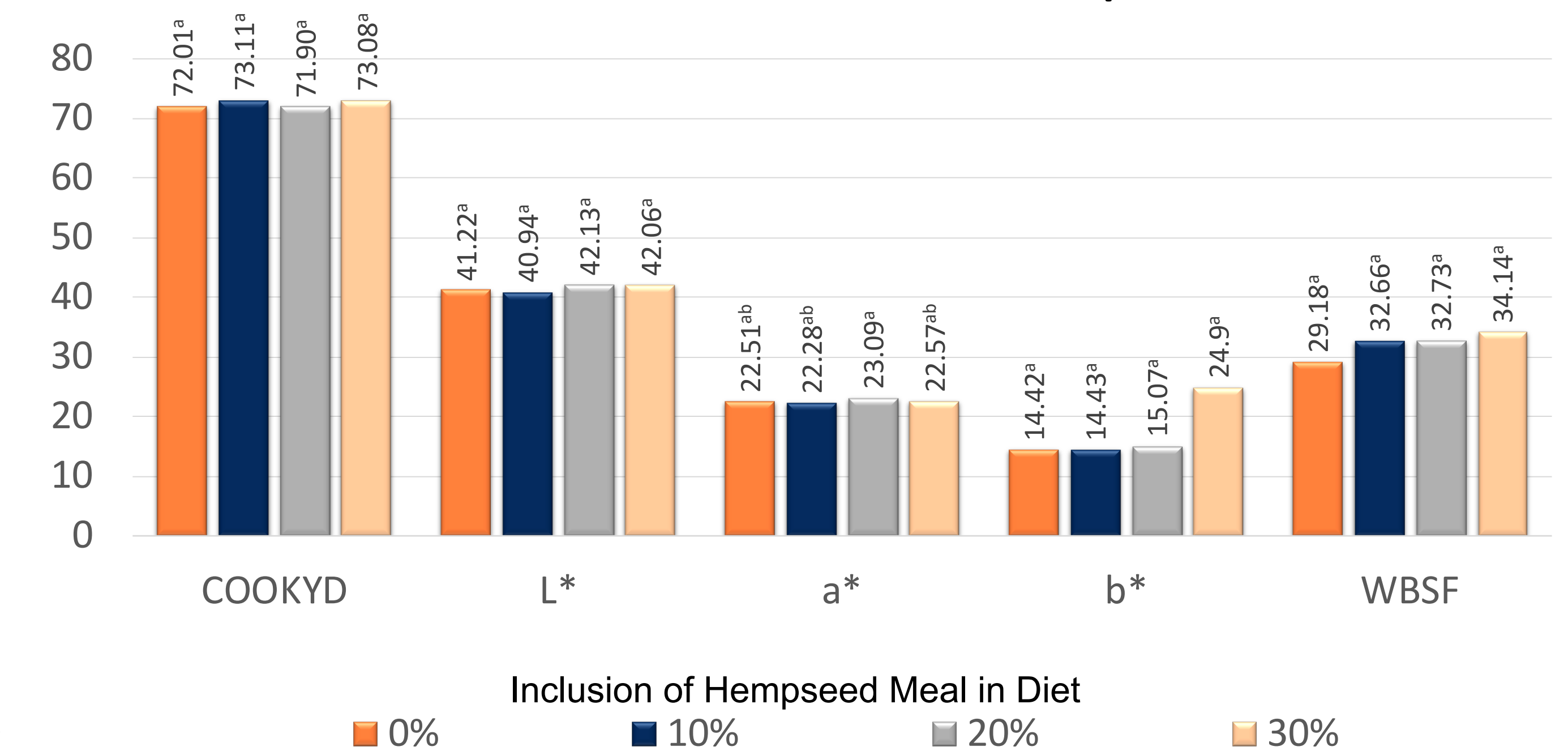
a*, Yellowness.

b*, Redness.

WBSF, Warner-Bratzler Shear Force measured in newtons.

^{a,b,c}Mean values and standard deviations in the same row with different superscripts are significantly different (p < 0.05).

Figure 2. Hemp Cake Influence on Fresh and Cooked Characteristics on Goat Loin Chops



Conclusions & Results

The use of hempseed meal did not alter cooking yield in either the goat loin or leg chops (P > 0.05) regardless of inclusion percentage within the diet. Furthermore, Warner-Bratzler shear force (WBSF) did not differ (P > 0.05) with increasing inclusion rates of HSM for either the loin or leg chops. Instrumental color for lightness (L*) or yellowness (b*) did not differ (P > 0.05) across diet treatments for either the loin or leg chops. These findings suggest that the inclusion of HSM within the diet of Boer cross goats did not alter fresh or cooked meat characteristics in either the loin or leg chops.

References/Acknowledgment

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