

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## INFLUENCE OF TRADITIONAL AND INNOVATIVE FEED ON TECHNOLOGICAL ASPECTS OF MEAT FROM PIG BÍSARA BREED

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In the North of Portugal the production of Bísara pig breed is associated to a sustainable traditional production system. The outdoor swine production systems should be increased due to the lower investment cost, environmental and animal welfare issues. The overall objectives of these experiments were to evaluate the impact of traditional and innovative feed resources in technological meat quality traits. A total of 30 pigs (15 castrated males and 15 females) of the Bísara breed, with 3 months age, were equally divided in number and gender in three batches, placed in a hoop barn with animal outdoor (free access). The animals were controlled in two phases: Phase 1 (98 days', from 20 kg to 80 kg LW: the feeding diet was the same for all animals. They were submitted to a starter concentrate diet for 21 days (1,5 kg/pig/day) and substituted with concentrate growth diet (1,5 kg/pig/day) in addition with corn meal (0,3 to 0,4 kg/pig/day) until the end of this phase. Phase 2 (finishing phase, from 80-120 kg LW, three experimental batches were differentiated in the type of diet: D1 - germinated seeds, commercial concentrate and corn meal; D2 – potatoes, commercial concentrate and corn meal; D3 – commercial concentrate and corn meal. Pigs were slaughtered with 287.4±14.5 days and 120.5±13.12 kg of live weight. Samples were collected from *longissimus lumborum* (LL) and studied according to reference methods. Treatment effects on analytical indicators were assessed by ANOVA using the program IBM- SPSS for Windows (version 22.0). There is no effect of the diet in the meat quality traits studied ( $P>0.05$ ). The average values obtained for all groups were: carcass weight 90.3±10.65 kg, pH 5.54±0.06, moisture 72.0±0.78 %. The water holding capacity and textural parameters are important in terms of juiciness and tenderness. The shear force value was 2.87±0.74 kg/cm<sup>2</sup>, cooking, drip and thawing losses, the percentages were 20.6±2.76, 4.65±1.29 and 7.59±2.77 respectively. The meat color in the CIELAB space: lightness, (L\*); redness, (a\*); yellowness, (b\*) were respectively 48.2±1.94, 6.0±1.47 and 11.8±1.24. The relative myoglobin, oxymyoglobin and metmyoglobin reducing activity (MRA) also with no significant effect ( $P>0.05$ ) on these parameters were 44.7±8.14, 46.9±9.42 and 8.49±4.26. On the whole, from this work the

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diet hardly affected technological meat quality traits. With this result, the use of outdoor system can be combined with this type of diets, depending on availability, which can make this production system more sustainable including the economical issues.

**Keywords:** autochthones breeds, rearing systems, meat quality, animal welfare.

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