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Breeding Objectives and Practices in Three Cattle Production Systems in Burkina Faso

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Abstract

This study was conducted in South-west Burkina Faso, the traditional habitat of trypanotolerant Baoulé cattle, to identify farmers preferences for cattle breeding traits. A structural questionnaire was administered to 194 heads of households randomly sampled. Own herd ranking method was additionally used to detect the most important criteria for breeding cows' selection; bulls were excluded due to their low numbers in herds. Pearson's chi-square test was employed to test the independence and to compare the categorical variables. Arithmetic and least square means of continuous variables were calculated and compared by Tukey-test or Wilcoxon pairwise test. The importance of criteria of selection of breeding animals by farmers was calculated through index of ranking. According to breed and herd mobility, three production systems were defined: sedentary pure Baoulé, sedentary crossbred and Zebu, and transhumant Zebu and crossbred systems. Cash income, social reasons and good wealth status were the main reasons of keeping cattle in the three production systems while milk for home consumption was reported specifically in transhumant system. Baoulé females were perceived to be significantly older at first mating, first calving and with longer reproduction life time. Breeding bulls were selected among young males in herd. The majority of transhumant farmers reported castration of no selected males contrary to pure Baoulé farmers. The most important common criteria of selection between the production systems were body size for both males and females, growth for male and calf growth for female. In addition to body size, the survey showed that females' mothering ability was preferred by pure Baoulé owners while milk yield and udder state were highly considered by transhumant people. The ranking revealed that a cow is considered best according to its fertility in pure Baoulé system, and according to its milk yield in sedentary crossbred and Zebu and transhumant systems. Bulls were furthermore selected according to docility in pure Baoulé system and dam in crossbred and Zebu systems. These findings

suggest taking into account farmers and their specific characteristics and practices in the design and implementation of successful breeding programs to improve and conserve locale cattle breed in this area.

Keywords: Baoulé, breeding practices, crossbred, traits preference, West Africa, Zebu