On-farm evaluation of broilers for their adaptability and productivity at smallholder level in Bahir Dar city, Ethiopia

ABSTRACT: Broiler introduction and adaptation trial was done at Bahir Dar city in the year 2011/2012. The major objective of the trial was to introduce broiler breeds into the region and evaluate their performance at smallholder level. A total of 1100 day old chicks of Hubbard Classical breed were purchased from Debre Zeit Agricultural Research Center and transported to Bahir Dar. Each participant received, on average, 109 day old chicks and 400kg started and finisher feed. Brooding was done using electrical brooder. Finished broilers were sold live and in processed form after six weeks of age. The average weight old day old chicks was 45.5g. The average weight of birds at end of 1st, 2nd, 3rd, 4th, 5th and 6th weeks were 136g, 364g, 711g, 1174g, 1665g and 2092g, respectively. The average final weight was 2092g (ranged 1957g - 2216g). The average cumulative mortality was 4.8% (Ranged 1.9%-6.5%). The average daily feed intake and cumulative feed intake of each bird during the entire period was 99g and 4052g, respectively. The average FCR was 1.84. The partial budget analysis result indicated that broiler production was profitable with a net benefit of 10.75 Ethiopian Birr/head and 19.3 Ethiopian Birr/kg, respectively. The result showed that participants who sold processed broiler
meat fetched 8.6 Eth Birr/kg more than those participants who sold live birds. The survey result indicated that all participants were highly satisfied by the breed. According to the producers, the breed has paramount merit than other chicken breeds like; very fast growth, high meat production and short rearing period. The higher final body weight, the lower mortality, higher profitability and higher market demand revealed that broilers could be reared at small holder level in big cities like Bahir Dar. The result of the trial showed that actions should be taken to solve the prevailing constraint including; lack of day old chicks and quality feed. One of the main lessons we learned from this trial was that we need to improve access of inputs to small holder producers so as to make broiler production sustainable in the region.

Keywords: Broilers, Hubbard Classical, Small Holder Producers

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**ABSTRACT:** The objective of this study was to investigate the efficacy of used controlled internal drug release devices (CIDR) and different doses of PMSG on estrus synchronization in Ghezel ewes. This investigation was conducted in 77 fat-tailed Ghezel ewes during the breeding season. All animals were divided randomly into four groups then a single intramuscular (IM) injection of PMSG (group 1, 350 IU, n=20; group 2, 450 IU, n=20; group 3, 550 IU, n=20), group 4 (n=17) was made apart from 1 ml normal saline solution which was used as control group at time of CIDR removal. Estrus responses were similar in all groups (group 1, 100%; group 2, 90%; group 3, 95%; control group, 82.35%).
There were no significant differences (P>0.05) between the treatment groups and the control group regarding the onset of estrus or estrus response. Pregnancy rates were 85%, 90%, 95% and 64.7% in groups 1, 2, 3 and the control group, respectively. Pregnancy rates were higher in groups 1, 2 and 3 than in control group (P<0.05). Lambing rates were obtained as 80%, 90%, 90% and 58.8% in groups 1, 2, 3 and in control group, respectively. Differences between the treated and the control animals in the Lambing rates were significant (P<0.05). Using PMSG at CIDR withdrawal increased twinning rate from 10% in control group to 33.3% in group 3, 550 IU. There were significant differences (P<0.05) between the treatment groups and the control group regarding the gestation period and the birth weight. Differences between the treated and the control animals in the Plasma P4 levels at day estrus after PMSG treatment and 30th day of pregnancy were significant (P<0.05). Plasma P4 levels at 30th day of pregnancy was 0.94ng/ml, 1.1ng/ml, 1.24ng/ml and 0.82ng/ml in groups 1, 2, 3 and the control group, respectively.

**Keywords:** Estrus synchronization, Ghezel Ewe, CIDR (controlled internal drug release devices), PMSG (pregnant mare serum gonadotropin), P4 (Progesterone)
system in the Sidama zone of Southern Nations, Nationalities and People's Region (SNNPR) of Ethiopia. A total of 135 sample household heads which represents about 10 percent of the household heads in the two study districts (Shebedino and Dale) were included in the study. According to the order of importance, natural grazing/scavenging, crop residue and purchased feeds from market/other farmers were the major ($X^2=1078.103$, $p<0.001$, $n=553$) feed resources used to fed different livestock species/classes in the area. Due to the economic importance difference among species/classes, the provision priorities of each particular feed resource were also significantly different. Especially the provision disparity was more ($X^2=302.96$, $p<0.001$) pronounced for crop residue for which male cattle (oxen and young bulls) get top priority than natural pasture ($X^2=157.48$, $p<0.001$) or which other species/classes are highly dependent and purchased feed ($X^2=62.29$, $p<0.001$) by which the scavenging poultry production is subsidized. In feed production, conservation and treatment aspects, growing of improved forages is not common practice in the area and majority about 57.0% ($n=77$) of farmers have not grown improved forages ($X^2=4.28$, $p<0.001$), considerable 63.7% ($n=86$) and limited 25.9% ($n=35$) of farmers have also practiced feed conservation (mainly maize Stover and elephant grass) ($X^2=15.96$, $p<0.001$) and crop residue treatment (mostly add and mix salt) ($X^2=33.34$, $p<0.001$), respectively. Grazing land is a scarce resource in the livestock production sub-system of the area and only about 34.1% ($n=46$) of the farmers in the study area posses private grazing land with an average holding of 0.073±0.014 ha. Land shortage, feed shortage and population pressure were identified as major ($X^2=132.09$, $p<0.001$) problems in related with feed availability in the area. The extent of land shortage...
X2=10.595, p<0.01) and population pressure (X2=14.016, p<0.001) problems were different between farmers at the two study districts.

Keywords: Crop residue, Feed resource, Natural pasture, Priority, Sidama zone, SNNPRS.

The effects of supplementation rations on milk yield, body condition score and calves weight of Fuja cows

ABSTRACT: This study was conducted in Western Sudan to evaluate the effects of supplementation on productive performance of Fuja dairy cows (local breed) and their calves. Forty lactating Fuja cows and their calves were selected on the basis of approximate similarity in age and live weight. The cows and their calves were randomly assigned into four groups (each group consisting of 10 cows). The diets were also randomly assigned to each of the four groups of the animals. The rations were fed after grazing at the rate of 2 kg per cow per day, during adaptation period of two weeks followed by the experimental period. Data collection of body condition score (BCS), milk yield and body measurements were carried out monthly for each new born calf to assess change in body weight (BWT), body height (BH), body length (BL) and heart girth (HG). The results of the study indicated that milk yield was improved by supplementation, body condition score and parity number had significant (P<0.05) effect on lactation curve. Body measurements were also affected by the sex of the calf. Strategic supplementary feeding of Fuja dairy cows increased milk yield. The treatment also reduced cows body condition loss (P<0.05).
and caused no cows mortality. Therefore from the study result, it was possible to concluded that supplementation with molasses are essential for improving Fuja dairy cows and their calves’ performance in range land of Western Sudan.

**Keywords:** Supplementation, Cows, Calves, Milk Yield, Body Measurements, Body Condition, Sudan