

# Effect of Replacing Maize with Processed Bajra and Wheat on the Growth Performance of Broilers

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**Abstract**—Effects of replacing maize with ground bajra and wheat, cooked bajra and wheat and, reconstituted bajra and wheat at different levels were assessed on the growth performance of broilers. Four hundred eighty four, day- old broilers chicks were randomly divided into 11 treatment groups (viz. T<sub>1</sub>, T<sub>2</sub>, T<sub>3</sub>, T<sub>4</sub>, T<sub>5</sub>, T<sub>6</sub>, T<sub>7</sub>, T<sub>8</sub>, T<sub>9</sub>, T<sub>10</sub> & T<sub>11</sub>). Each group had two replications and each replication had 22 chicks. The chicks of treatment group T<sub>1</sub> served as control group and were offered the starter rations from 0-4 weeks of age and finisher rations from 4-6 weeks of age constituted with maize, soybean meal, groundnut cake, sunflower cake, fish meal and mineral mixture as per BIS (2003) specifications. In the dietary regimen of chicks of treatment group T<sub>2</sub> & T<sub>3</sub> maize of control was replaced with ground wheat at 50 and 100% levels, in T<sub>4</sub> & T<sub>5</sub> maize of control was replaced with ground bajra at 50 and 100% levels, in T<sub>6</sub> & T<sub>7</sub> maize of control was replaced with cooked wheat at 50 and 100% levels, in T<sub>8</sub> & T<sub>9</sub> maize of control was replaced with cooked bajra at 50 and 100% levels, in T<sub>10</sub> & T<sub>11</sub> maize of control was replaced with reconstituted bajra at 50 and 100% levels, respectively. The average weight gain per bird was maximum (1584.11g) in T<sub>9</sub> treatment having 100% cooked bajra grain and was minimum (1421.54g) in T<sub>3</sub> treatment having 100% ground wheat. The data clearly indicated that type of grain and techniques of processing enhanced the body weight gains in broiler birds. Thus the result of the investigation revealed wet processing techniques i.e. cooking and reconstitution significantly (P<0.05) improved the body weight gain that those of control diet fed chicks. Feed intake in diets having cooked wheat, cooked and reconstituted bajra was higher than those of ground wheat and bajra, respectively and also to control, except that feed intake in T<sub>10</sub> (50% reconstituted bajra) was less than control diet. Feed intake in treatment diets having cooked bajra at either of the levels was significantly (P < 0.05) higher compared to all other dietary treatments. Feed conversion ratio (FCR) was poor for diets having cooked bajra grains and was best for diets having reconstituted bajra grains. FCR was not significantly affected by grinding and cooking, however, improved FCR value was obtained in treatment group T<sub>10</sub> (50% reconstituted bajra). Feeding of diets having reconstituted bajra lowered the feed intake per kg gain of broilers from 2.28 (maize based control diet) to 2.03 (50% reconstituted bajra). The results of present study inferred that 50% maize grains in the ration of broilers can be effectively replaced with cooked wheat or cooked and reconstituted bajra which improved body weight gain, feed conversion ratio and economize the diet of chicks