



<b>Project Title:</b>	Formulation and Testing of Feed Rations for Improved Indigenous Chicken Breeds under Intensive/Semi-intensive Production Systems in Eastern Kenya		
<b>Annual Report</b>	<b>Period Covered:</b> October 2020 to September 2021		
<b>KCSAP livestock Applied</b>	<b>Value chain</b>	<b>Duration:</b>	<b>Start Date:</b>
	Indigenous Chicken	24 months	October 2020
<b>Lead Institution:</b>	Kenya Agricultural and Livestock Research Organization (KALRO) Food Crops Research Centre – Muguga		
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<b>Collaborators and their contacts:</b> 1. Geoffrey Njuguna Ngae – KALRO, Food Crops Research Centre – Muguga 2. Salome Nyaga - Livestock Office, County Government of Tharaka Nithi 3. Moses Lang’at - KALRO, Food Crops Research Centre – Muguga 4. Marimanti and Chiakariga Wards Livestock Officers, Tharaka South sub-county			
<b>Background</b> Poor nutrition contributes to low growth rate and egg production in Indigenous Chickens (IC) in Kenya. There is a need to formulate, test and recommend low cost and high quality feed rations, containing climate smart ingredients, for improved indigenous chicken under intensive/semi-intensive production systems in Tharaka South sub-county, Tharaka Nithi County. The formulated rations will be evaluated on-station using KALRO improved indigenous chicken. By the end of the project period, at least four feed rations (two for growing birds and two for laying birds) for improved IC breeds will be selected and recommended for dissemination. Routine use of the feed rations will lead to increased IC production and household incomes.			
<b>Objectives</b> 1. To characterize indigenous chicken (IC) production and identify challenges facing farmers in IC farming in Tharaka South sub-county, Tharaka Nithi County. 2. To formulate and evaluate feed rations for growing and laying birds of improved indigenous chicken breeds under intensive/semi-intensive production systems. 3. To select and recommend feed rations for growing and laying birds of improved indigenous chicken breeds under intensive/semi-intensive production systems.			
<b>Expected Outputs</b> 1. Indigenous chicken (IC) production characterized, challenges facing farmers in IC production identified in Tharaka South sub-county, Tharaka Nithi County. 2. Feed rations formulated for improved Indigenous chicken breeds 3. Feed rations evaluated and recommended for improved Indigenous chicken breeds			

## **I Achievements**

**Objective 1:** To characterize indigenous chicken (IC) production and identify challenges facing farmers in IC farming in Tharaka South sub-county, Tharaka Nithi County.

**Activity 1:** Characterization of indigenous chicken production, and identification of challenges facing farmers in IC production in Tharaka South sub-county, Tharaka Nithi County.

**Sub-activity 1.1:** Hold planning meeting for all investigators and relevant collaborators

**Achievement 1.1:** Planning meeting for all investigators and relevant collaborators held as planned.

**Sub-activity 1.2: Conduct Focus Group Discussions and Collect samples of various feeds/ingredients**

**Achievement 1.2:**

Focus Group Discussions conducted and samples of various feeds/ingredients collected. Data entry commenced immediately while chemical analysis of the ingredients/feed samples was planned for the following quarter.

**Sub-activity 1.3: Internal M&E**

**Achievement 1.3:** Done

**Sub-activity 1.4: Reporting**

**Achievement 1.4:** The first draft of the report on Output I was ready by 15 March 2021.

**Objective 2.** To formulate and evaluate feed rations for growing and laying birds of improved indigenous chicken breeds under intensive/semi-intensive production systems.

**Activity 2:** Formulation of feed rations for improved indigenous chicken breeds

**Sub-activity 2.1:** Second planning meeting

**Achievement 2.1:** The meeting was successfully held on 27 May 2021 at the Methodist Church in Kenya (MCK) Guest House, Marimanti, Tharaka South sub-county.

**Sub-activity 2.2:** Determination of the quality of various ingredients to use in ration formulation.

**Achievement 2.2:** Some 45 samples of various feed ingredients (wheat bran, maize germ, fish meal, shrimp meal, sunflower seed cake, soya bean meal) were acquired from Tharaka Nithi county (and Kiambu county for comparison) and analyzed.

**Sub-activity 2.3:** Formulation of chicken feed rations

**Achievement 2.3:** Five rations for growing birds and five rations for laying birds were re-formulated.

**Sub-activity 2.4:** Internal M&E

**Achievement 2.4:** Done.

**II Other achievements** (e.g. patents, publication such as journal papers, technical reports, presentation in workshops and conferences etc.). List them with proper citations

- KCSAP Applied IC Feeds Project Technical report, using Q1 funds, dated 13<sup>th</sup> January 2021
- KCSAP Applied IC Feeds Project Technical report, using Q2 funds, dated 9<sup>th</sup> September, 2021

### III Constraints and how they were overcome

1. The COVID-19 pandemic affected movement slowing field work. Hence, some field activities were delegated to extension officers in Tharaka Nithi County.
2. Procurement procedures hampered fast acquisition of goods and services. This was partially mitigated by initiating procurement early.

### IV Summary of funds received, accounted for and balance

Project Amount (KES)	Amount Received (KES)	Amount accounted for (KES)	Balance (KES)
3,499,800.00	918,300.00	918,300.00	2,581,500.00

### V Way Forward

Output 3: Feed rations for improved IC breeds evaluated on-station.

Output 3 OVI: At least **ten** feed rations (five for growing birds and five for laying birds) for improved IC breeds evaluated on-station

Activity 3: Testing of formulated feed rations for improved indigenous chicken breeds.

Sub-activity 3.1: Third planning meeting

Sub-activity 3.2: Conduct an on-station feeding trial to evaluate five formulated feed rations for growing birds and recommend at least two rations for dissemination.

Sub-activity 3.3: Conduct an on-station feeding trial to evaluate five formulated feed rations for laying birds and recommend at least two rations for dissemination.

Sub-activity 3.4: Internal M&E

Sub-activity 3.5: Final Reporting

### VI References

Feedipedia (2021). On-line encyclopedia of animal feeds at [www.feedipedia.org](http://www.feedipedia.org) (last accessed on 8<sup>th</sup> September 2021).

Kenya Bureau of Standards [KEBS] (2014). Compounded poultry feeds – Specification. Kenya Standard KS 61:2009 (ICS 65.120).

Okalebo, J.R., Gathua, K.W. and Woome, P.L. (2002). Soluble plant phenolic compounds. Laboratory methods of soil and plant analysis: A working manual (2<sup>nd</sup> Edition). TSBF-CIAT and SACRED Africa, Nairobi, Kenya.