

# Report on feed formulation training in northern Ghana, April 2015

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Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three regional projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads the program's monitoring, evaluation and impact assessment. <http://africa-rising.net/>



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## **Contents**

Introduction.....	1
Methodology .....	1
Acquisition and preparation of feed ingredients .....	1
Measurement of ingredients and mixing .....	2
Lessons learned .....	5
Appendices .....	6
Appendix 1: Small ruminant concentrate feed formula.....	6
Appendix 2: Feed formulation process .....	7
Appendix 3: Training Personnel.....	8

# Introduction

Three training workshops were organized from 15 to 25 April, 2015 for farmers in 3 Africa RISING intervention communities in northern Ghana. The trainings which were organized under the feed and health intervention project were aimed at building the capacities of farmers on feed formulation towards improved small ruminant feeding. They were held in Gia (Upper East Region), Tibali (Northern Region) and Guo (Upper West Region) on 15, 21 and 25 April respectively (Table 1).

The trainings also had the secondary objective of decentralizing feed formulation activities by the feed supplementation and health intervention project to the community level in order to ensure farmers pick up useful skills that will ensure sustainability of feed formulation within the communities.

The trainee comprised of; the 30 farmers receiving the feed treatment and 9 who were not part of the project.

**Table 1:** Beneficiary communities and training dates

<b>Communities</b>	<b>Tibali</b>	<b>Gia</b>	<b>Guo</b>
Training date	21 April, 2015	15 April, 2015	25 April, 2015
Males trainees	11	9	5
Females trainees	4	5	5
Total	15	14	10

# Methodology

The training was completely hands-on, with guidance and facilitation by personnel of the Animal Research Institute and Ministry of Food and Agriculture. Trainee farmers participated in all the processes involved in the preparation and mixing of feed ingredients to obtain the final product (See Appendix 2).

The training activities were broadly classified under 3 categories;

1. Acquisition and preparation of feed ingredients,
2. Measurement of ingredients,
3. Mixing and storage of formulated feed.

## Acquisition and preparation of feed ingredients

As much as possible, all ingredients were bought at the community level, while those ingredients that could not be easily obtained were acquired in the nearest towns (cotton seed was bought in Tamale). Farmers were then taken through identification and acquisition of the feed ingredients. The same feed formula used in the on-farm experiments was used (See Appendix 1). Grain mills were identified in the communities to mill some of the ingredients to the desired grain size.

## Measurement of ingredients and mixing

Farmers were put in two groups for the purpose of the training; one group practiced the measurement of desired quantities of the ingredients while the other group mixed the ingredients into a homogenous product. The groups then switched roles for the subsequent batches of formulation. For easy measurement of desired quantities of the ingredients, a container was standardized for the purpose; markings in the container corresponded to the desired weight of ingredient, for formulation of a 100kg bag of feed.

The following tips were emphasized throughout the training:

- Obtaining quality and unspoiled feed ingredients,
- Measuring the correct quantities of ingredients,
- Ensuring that ingredients,
- Mixing ingredients thoroughly to achieve a homogenous product,
- Storing the bagged feed in a clean and dry environment.



Project personnel interacting with farmers

Photo credit: CSIR-ARI/Sadat Salifu



Standardized container for measuring feed ingredients

Photo credit: CSIR-ARI/Sadat Salifu



Measuring feed ingredients

Photo credit: CSIR-ARI/Sadat Salifu



Farmers try their hands at mixing feed

Photo credit: CSIR-ARI/ Mumuni Dokurugu



Farmers of Tibali bagging mixed feed  
Salifu

Photo: CSIR-ARI/Sadat

## Lessons learned

1. Some of the ingredients used in the current formulation may not be readily available at the community level because of the time of the year and costs; substitutes may therefore have to be found at the community level so that formulations can be developed from those.
2. A “booster” training may need to be conducted in subsequent visits to ensure that other farmers who are not necessarily involved in the project but have expressed interest in learning how to formulate the feed can also learn how to formulate feed for their animals.

# Appendices

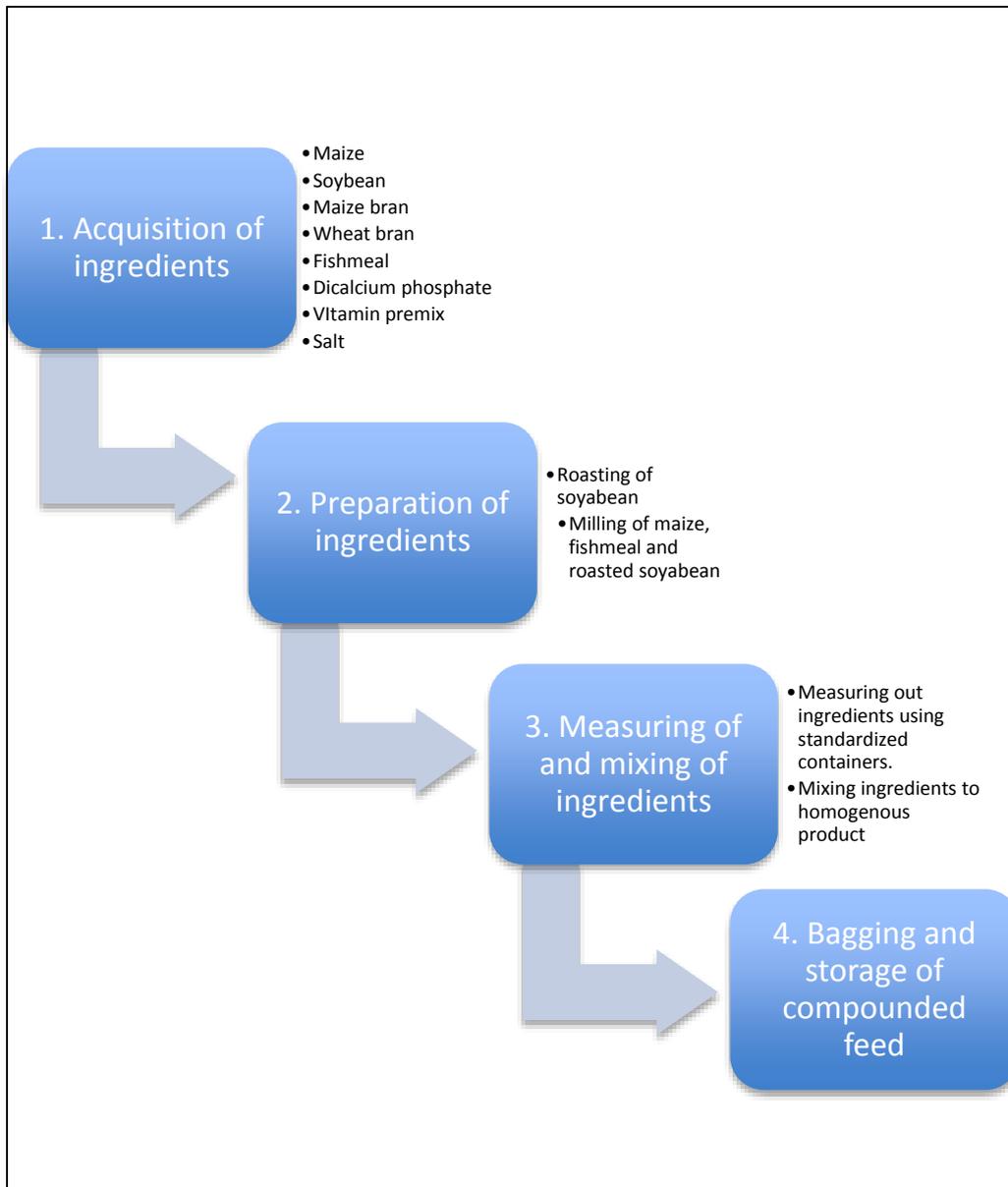
## Appendix 1: Small ruminant concentrate feed formula

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<b>Small ruminant concentrate feed formula</b>	
<b>Feed ingredients</b>	<b>Percent inclusion</b>
Maize	30.0
Maize bran	28.2
Wheat bran	15.0
Cotton seed	15.0
Soybean	5.0
Fishmeal	4.0
Dicalcium phosphate	1.0
Vitamin premix	1.0
Salt	0.8
<b>Total</b>	<b>100</b>

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## Appendix 2: Feed formulation process



### Appendix 3: Training Personnel

<b>Name of resource person</b>	<b>Institution</b>
Sadat Salifu	CSIR-Animal Research Institute
Haruna Yakubu	CSIR-Animal Research Institute
Fuseini Baba	CSIR-Animal Research Institute
Abubakari Osman	MoFA, Wa West District