

EQUIP - Strengthening smallholder livestock systems for the future

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Component 3: Improved efficiency of feed resource use



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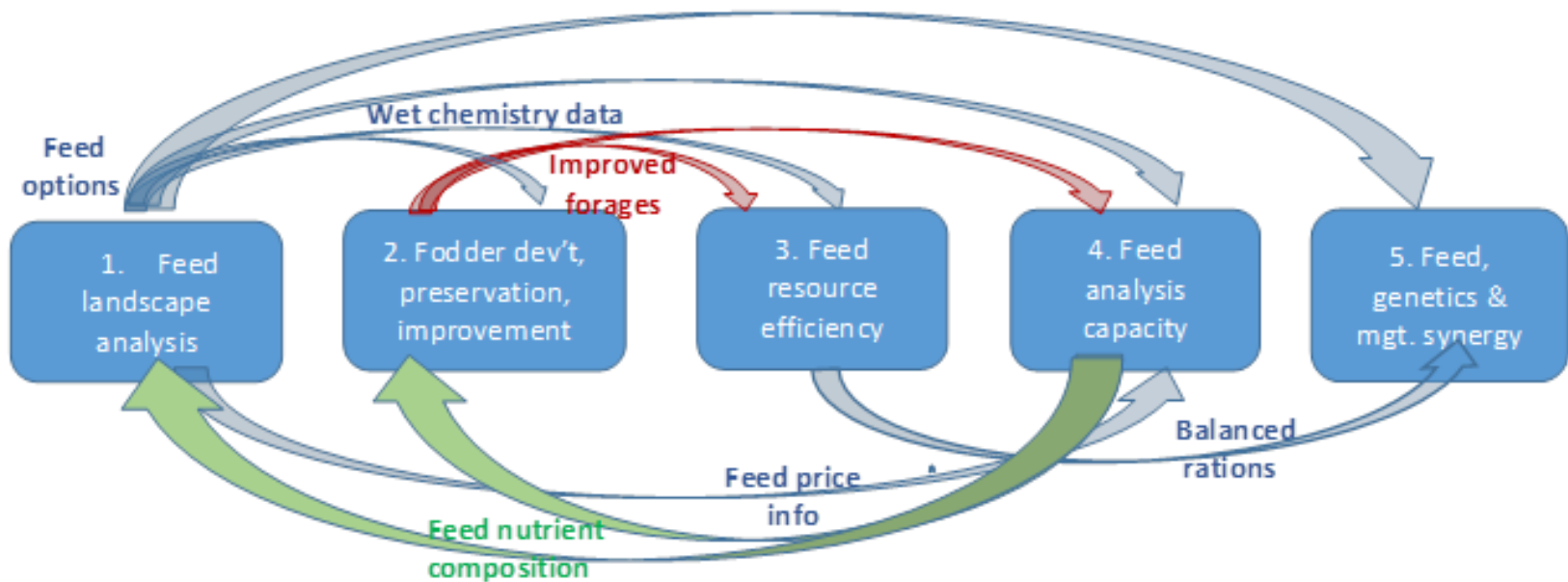
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EQUIP - Big Picture



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Background

Key Challenges:

- **Nutrition** - Often a limiting factor for efficient resource utilization
 - Key nutrients are fed below requirements leading to productivity gaps for milk (4.5 billion L/yr) in ET (FAO, 2012; Herrero et al., 2015)
- **Feed management** - Small holder farmers need information to increase productivity using local feed





Activities

- Estimate nutrient requirements of dairy cattle
- Develop ration formulation software for dairy cattle
 - Increase productivity
 - Raise incomes
- Experiments (lab and field based)
- Train extension agents and producers

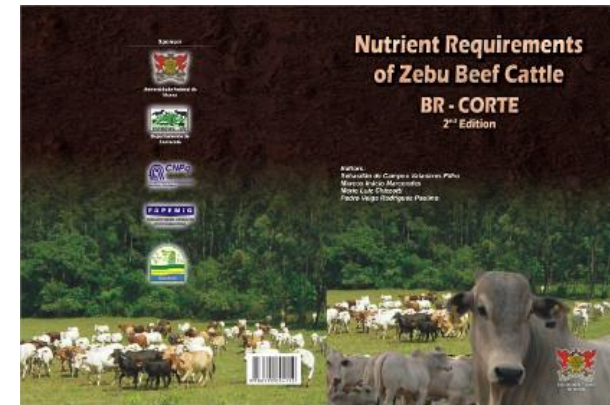
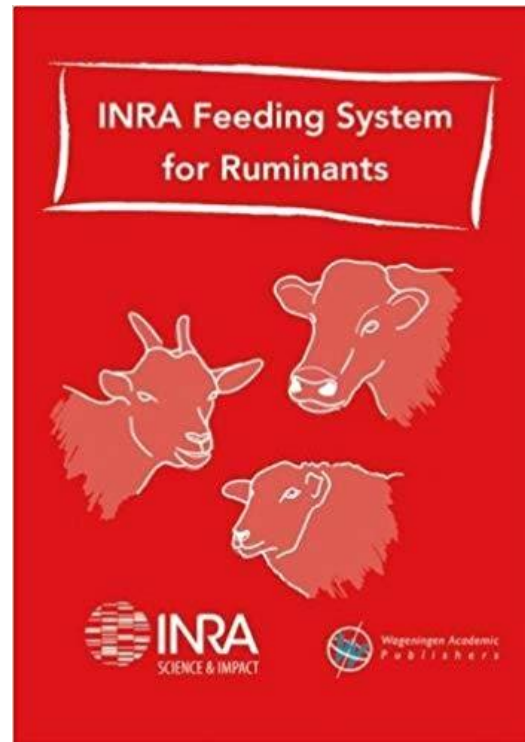
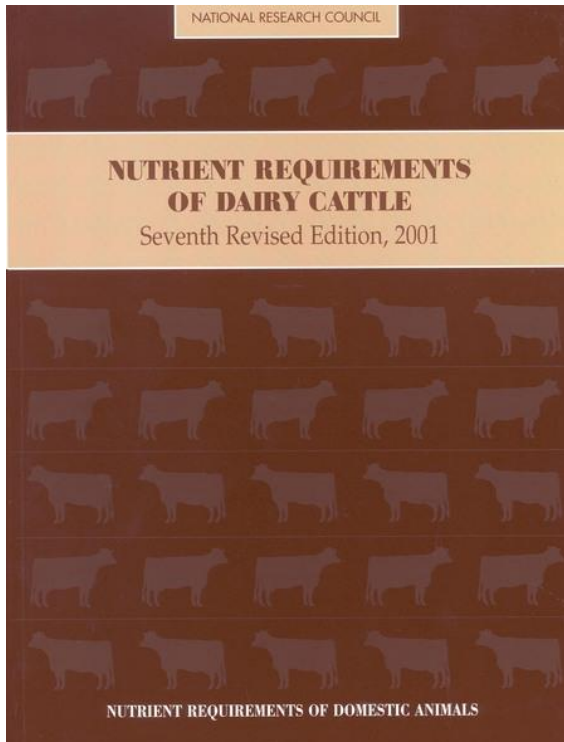




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Activity 1. Requirements



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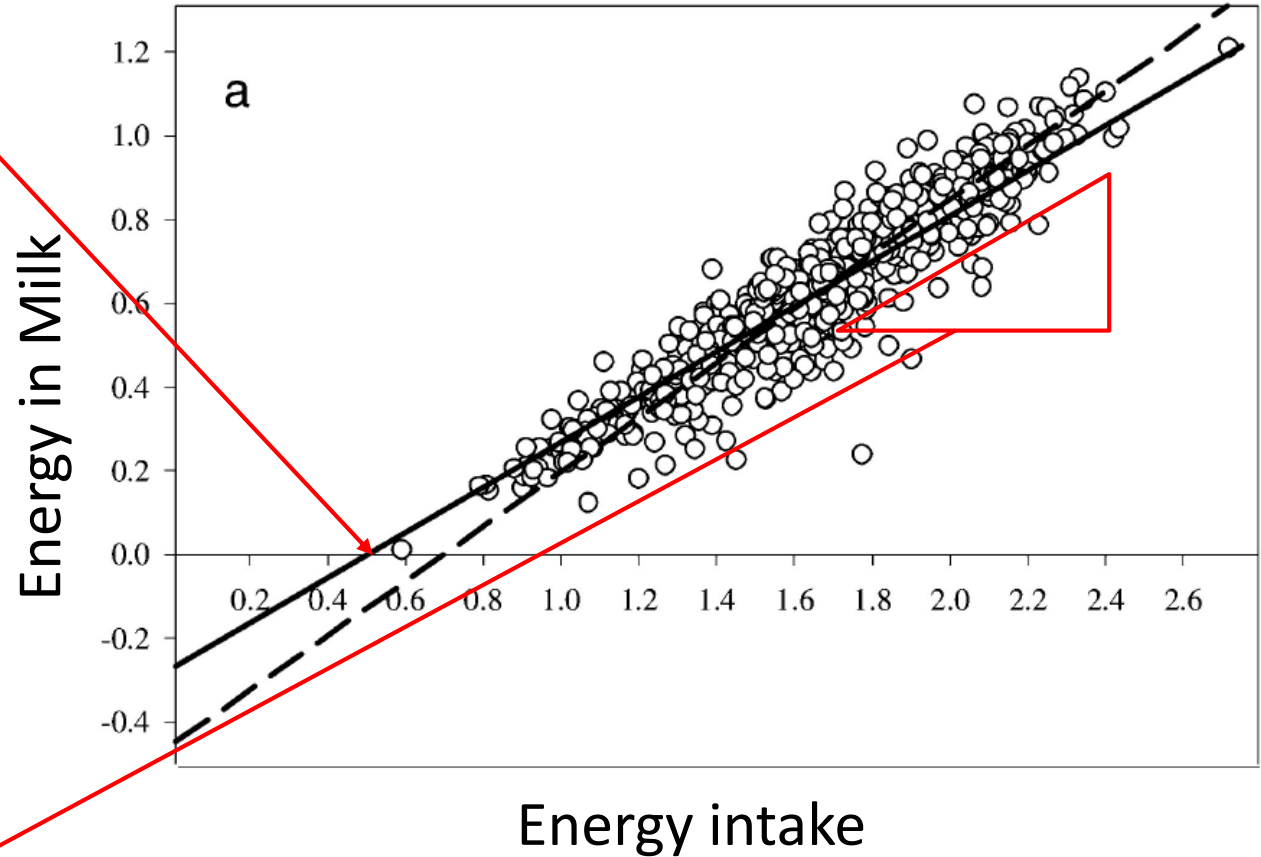
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maintenance
energy
requirement



efficiency of
utilization of the
energy intake for
milk production (kl)



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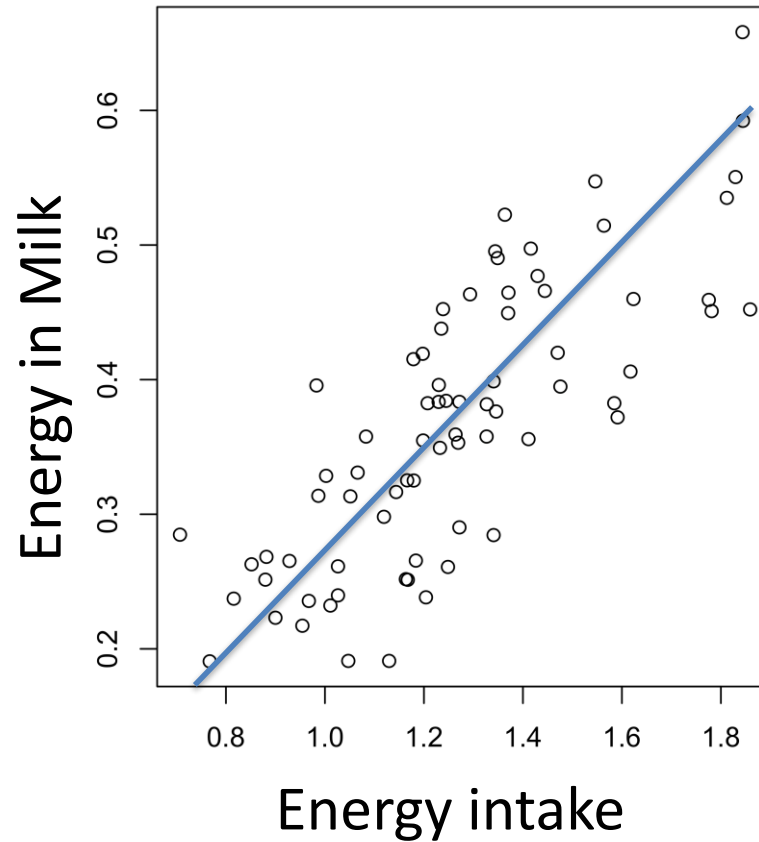
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Preliminary data analysis





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- Determination of maintenance energy requirement:
 - Use Greenfeed (1st in Africa) at EIAR
 - Measure O_2 , CO_2 , CH_4
 - Calculate heat production



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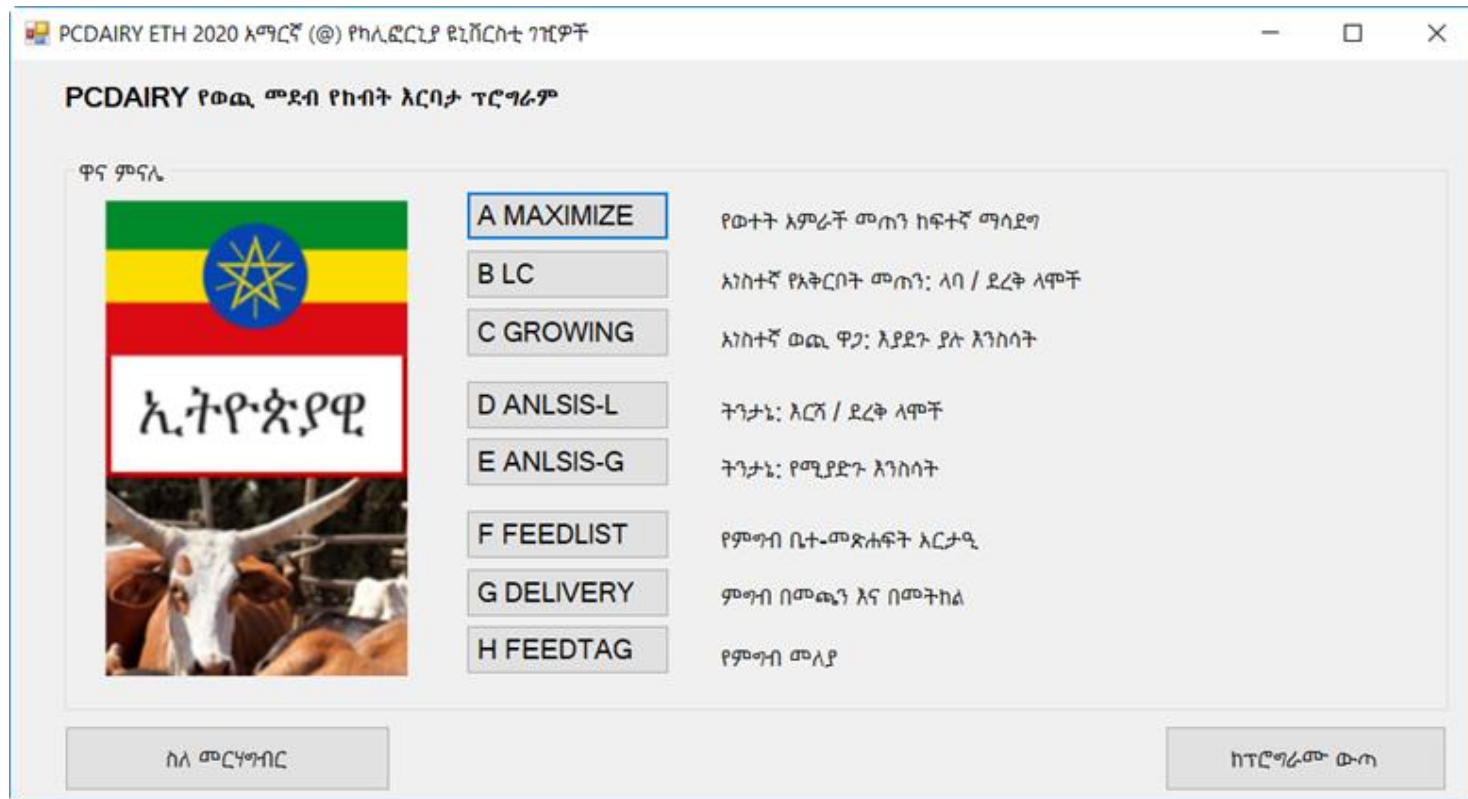
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Activity 2. Ration Formulation Software



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Main menu of the PC DAIRY ETH 2020 English



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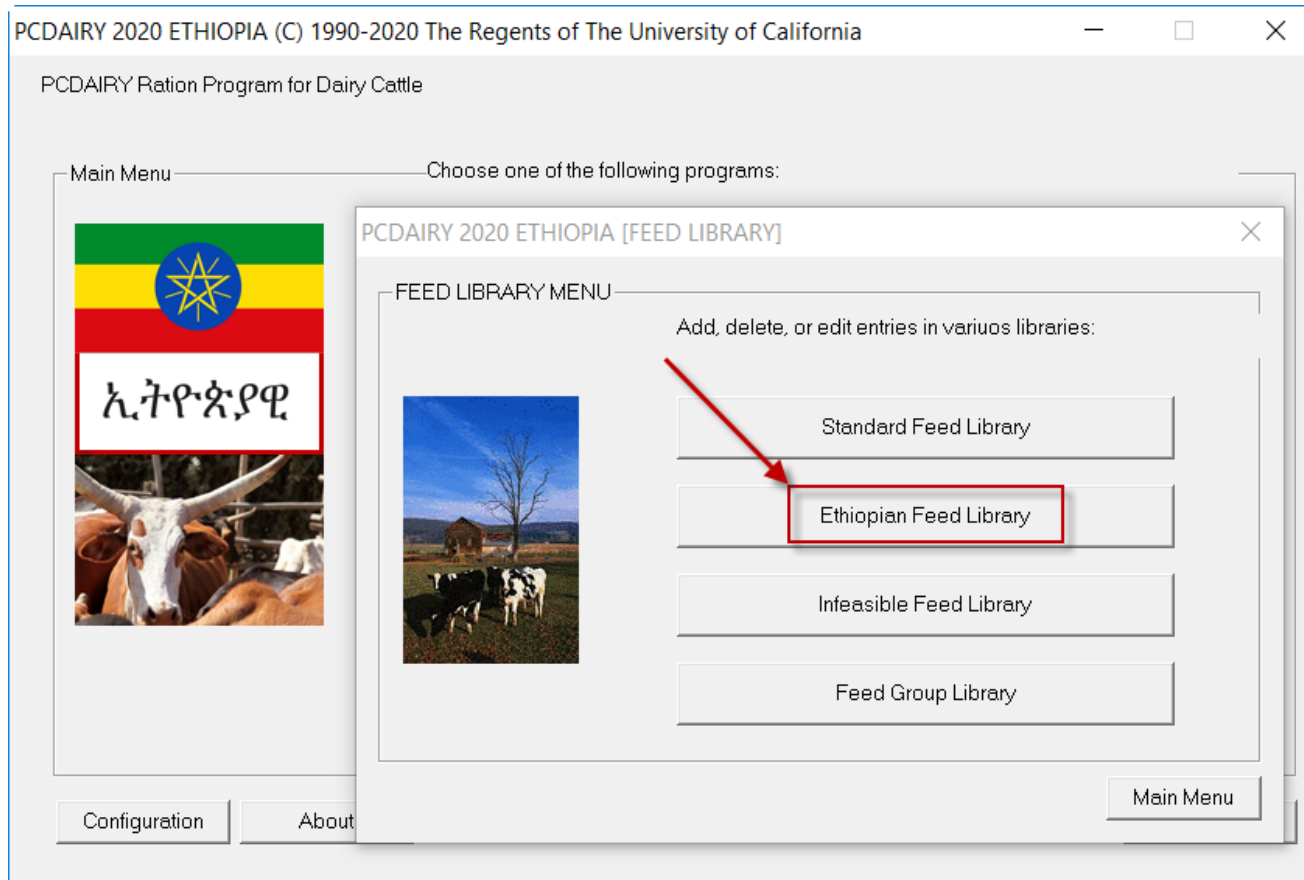
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Nutrient analysis from ACDI/VOCA



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PCDAIRY 2020 ETHIOPIA [FEED LIBRARY]

FEED ANALYSIS:

Feed Number:

Library:

International Feed Number:

Feed Name:

Price: \$ per met ton

DM as fed: %

Type:

MVI:

Group: , , ,

NUTRIENT ANALYSIS: % DRY MATTER BASIS

NEL Mcal/kg

NEM Mcal/kg

NEG Mcal/kg

TDN %

CP %

UIP %

DIP %

CF %

ECF %

ADF %

NDF %

FAT %

ASH %

NPN %

VITA kIU/kg

VITD kIU/kg

VITE IU/kg

CA %

CL %

K %

MG %

NA %

P %

S %

CO ppm

CU ppm

FE ppm

I ppm

MN ppm

SE ppm

ZN ppm

NUT1 %

NUT2 %

NUT3 %

NUT4 %

NUT5 %

Enter feed number

Cancel

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Animal menu of the PC DAIRY ETH 2020 Amharic

PCDAIRY ETH 2020 አማርኛ (@) የካሊፎርኒያ ዩኒቨርሲቲ ገዢዎች

PCDAIRY የወጪ መደብ የክብት እርባታ ፕሮግራም

ዋና ምናሌ


ኢትዮጵያዊ

ሰለ መርሃብር

A MAXIMIZE
B LC
C GROWING
D ANLSIS-L
E ANLSIS-G
F FEEDLIST
G DELIVERY
H FEEDTAG

የኦገስት መረጃ

የርዕስ መስመር 1: በላማዊ ስልጽ
የርእስ መስመር 2: ኢትዮጵያ

የፋይበር ቅመራ መሰረት: 2) ADF
እና ፕሮቴን መሠረት: 2) CA, P, CL, K, MG, NA, S

የላም ክብደት: 635 ኪግ
ምርት ጥምዝ ከፍተኛ: 1) 36 ኪ.ግ. = (80 ምዕድ)

የወተት ቅባት: 3.5
Milk blend price: 26.46 ብር / 100 ኪ.ግ.
ዕለታዊ የሰውነት ክብደት ለውጥ: 0 ኪግ
NEL ወደ ተግባር ተክሏል: 10 %
ጀማሪ ታላቢ ላሞች: 10 %
ለሁለተኛ ግዜ ታላቢ ላሞች: 30 %
አማካይ DIM ለቡድን: 2) 1-20

በዚህ ቡድን ላሞች የተመረተ ወተትን አማካይ የ ወተት ቅባት መጠን ያስገቡ (አማካይ መጠን ከ 3.0 ወደ 5.5 በመቶ መሆን አለበት).

F1 for Help message for this input

Tool Tip for all input fields

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Activity 3. Lab and Field Experiments

- Software adjusted based on new data
- 3 diet formulated based on energy supply (85, 100, 115% requirement)
- Similar as above with minerals
- Production measurements at Hawassa and EIAR using indigenous and improved breeds)

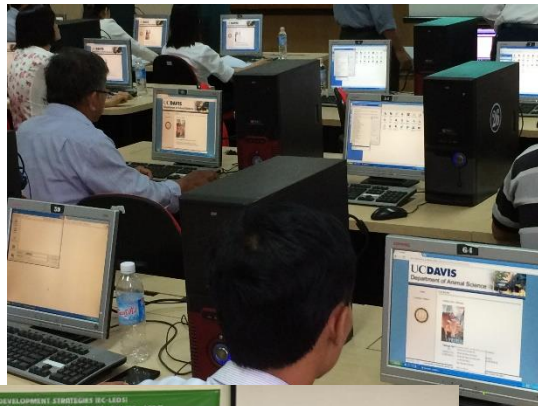
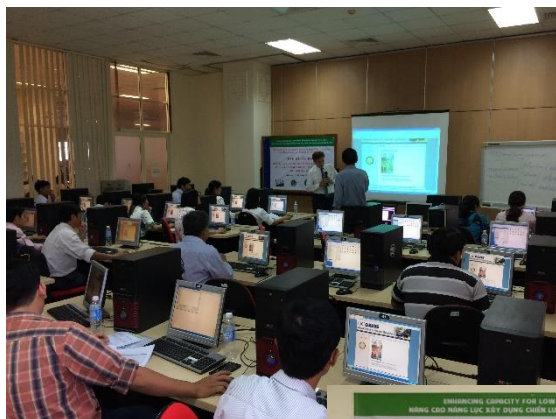




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Activity 4. Training



- 60 agents in 2015
- 70 agents in 2016
- 100 agents in 2017



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