FEED THE FUTURE INNOVATION LAB FOR LIVESTOCK SYSTEMS
University of Florida Global Nutrition Symposium
Theme: Nurturing development: Improving human nutrition with animal-source foods
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Improving availability of ASF

Challenges and Opportunities

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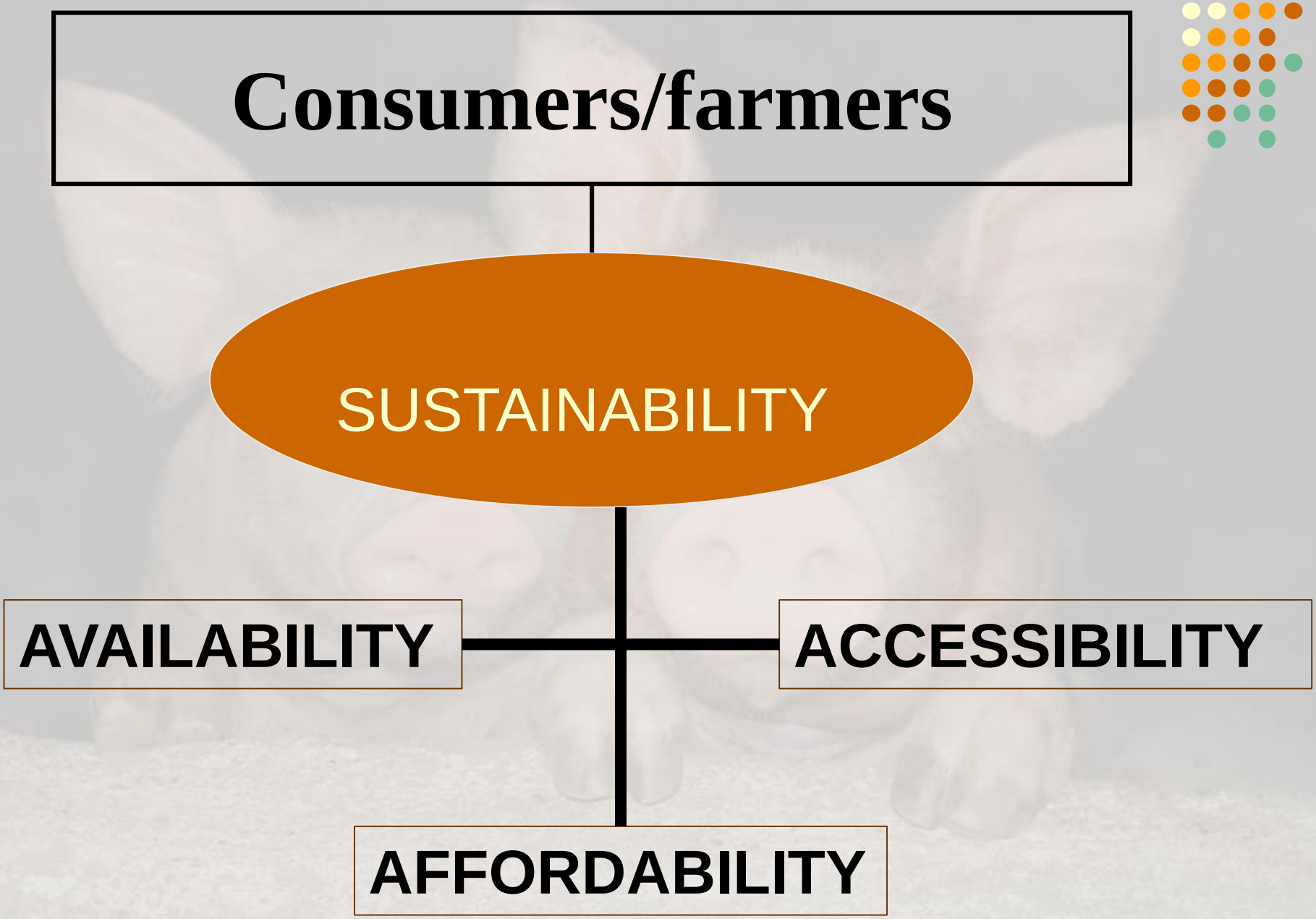
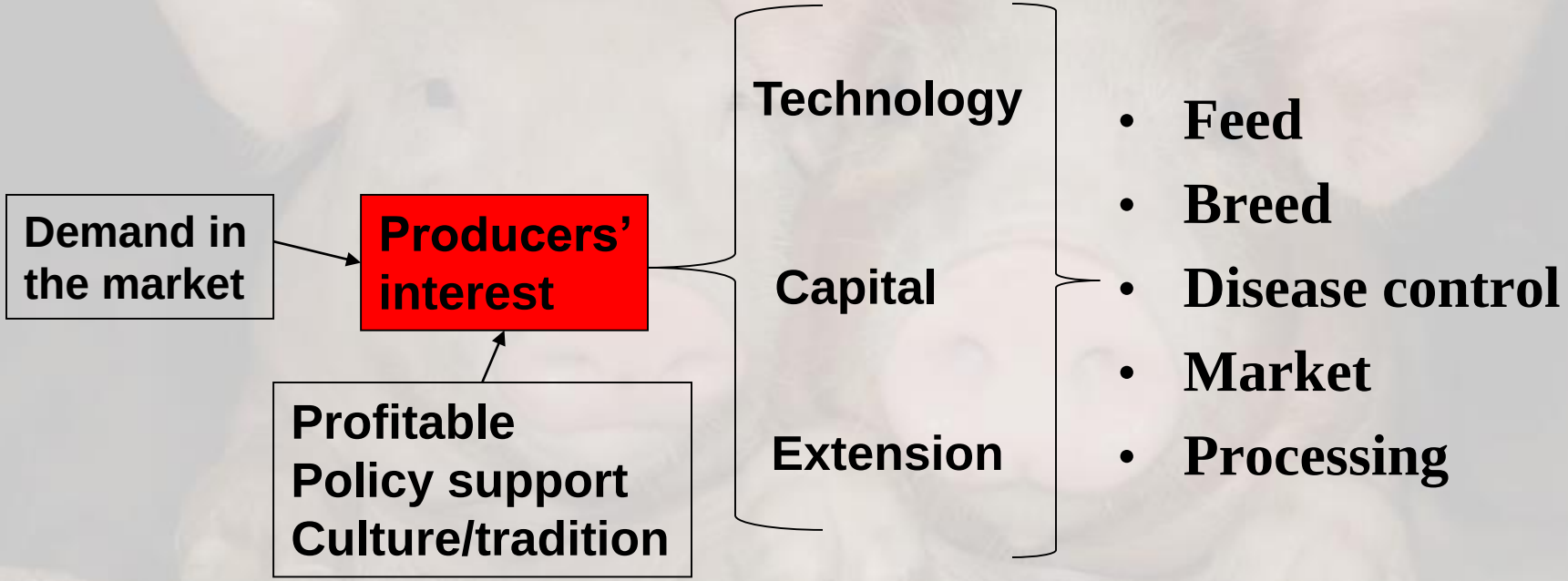
CONTENT

- Availability and accessibility to ASF
- Composition of livestock farms
- Structure and conditions of livestock producers
- Constraints and Opportunities in livestock production
- Taking home messages


Consumers/farmers
SUSTAINABILITY
AVAILABILITY
ACCESSIBILITY
AFFORDABILITY

How can ASF improve?






- **90% keep 12.7±0.74 (5-23 heads) chickens,**
- **67% keep 2.37±0.24 (1-5 heads) cattle,**
- **46% keep 1.41±0.16 (1-5 heads) pigs,**
- **24% kept 6.41±2.03 (1-40 heads) ducks, and**
- **15% keep 0.50±0.06 (1-3 heads) buffalos.**


Structure of Livestock producers

- Subsistent farmers
- Self-sufficient farmers
- Large farms

Subsistent farmers

- **Produce for own consumption and surplus to local market**
  - ✓ **low input-output as way to mitigate risk (diversification) and**
  - ✓ **use local available resources.**
- **They are declining – exit or pass to self-sufficient.**
  - ✓ **Change to medium or large scale**
  - ✓ **New alternative incomes – work at factories, construction**

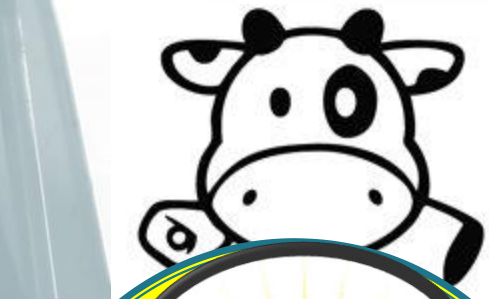
Self-sufficient farmers

- Produce for market – contract farming
- Require updated technologies
- Credit for the expansion of their business.
- Largely dependent on purchased inputs
- Do other farm activities but more focus on unique market commodity

Large farm

- Sound higher bio-security practice
- Geographic concentration of waste
  - ✓ technologies available to reduce environmental impact
  - ✓ expensive to return nutrients back to the soil
- Contract farming or/and own in-out system

These have been almost always identified as the constraints of farmers however no systematic solutions provided?



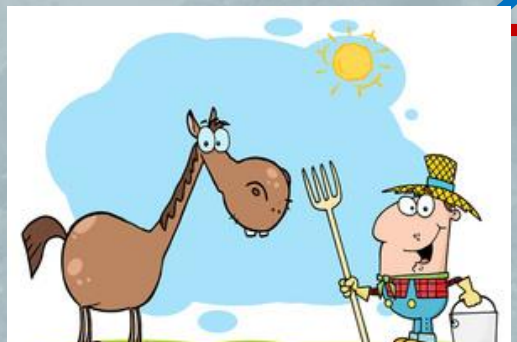
Benefit from livestock production

Poor access to market and information

Limited access to financial capital, agri-insurance and risk reduction tools

Limited access to quality vet services and extension

limited capacity to solve technical barriers



Diseases and solutions

Descriptions	SMF	LF
Vaccination, %		
-Salmonella	16.2	30
-Pasteurella	35.1	30
-CSF	**94.5**	**90**
-FMD	**56.8**	**40**
Aujeszky	27	30
-PRRS	**73**	**90**
Disease outbreaks, %	91.4	60
-Salmonella	26.5	-
-Pasteurella	20.6	-
-CSF	23.5	33.3
-FMD	11.8	-
Aujeszky	8.8	33.3
-PRRS	55.9	83.3
Treatment, %	100	100
-VAHWs	35.3	-
-Private vet	2.9	-
-Treat by themselves	70.6	57.1
-Vet from contract farming	-	71.4

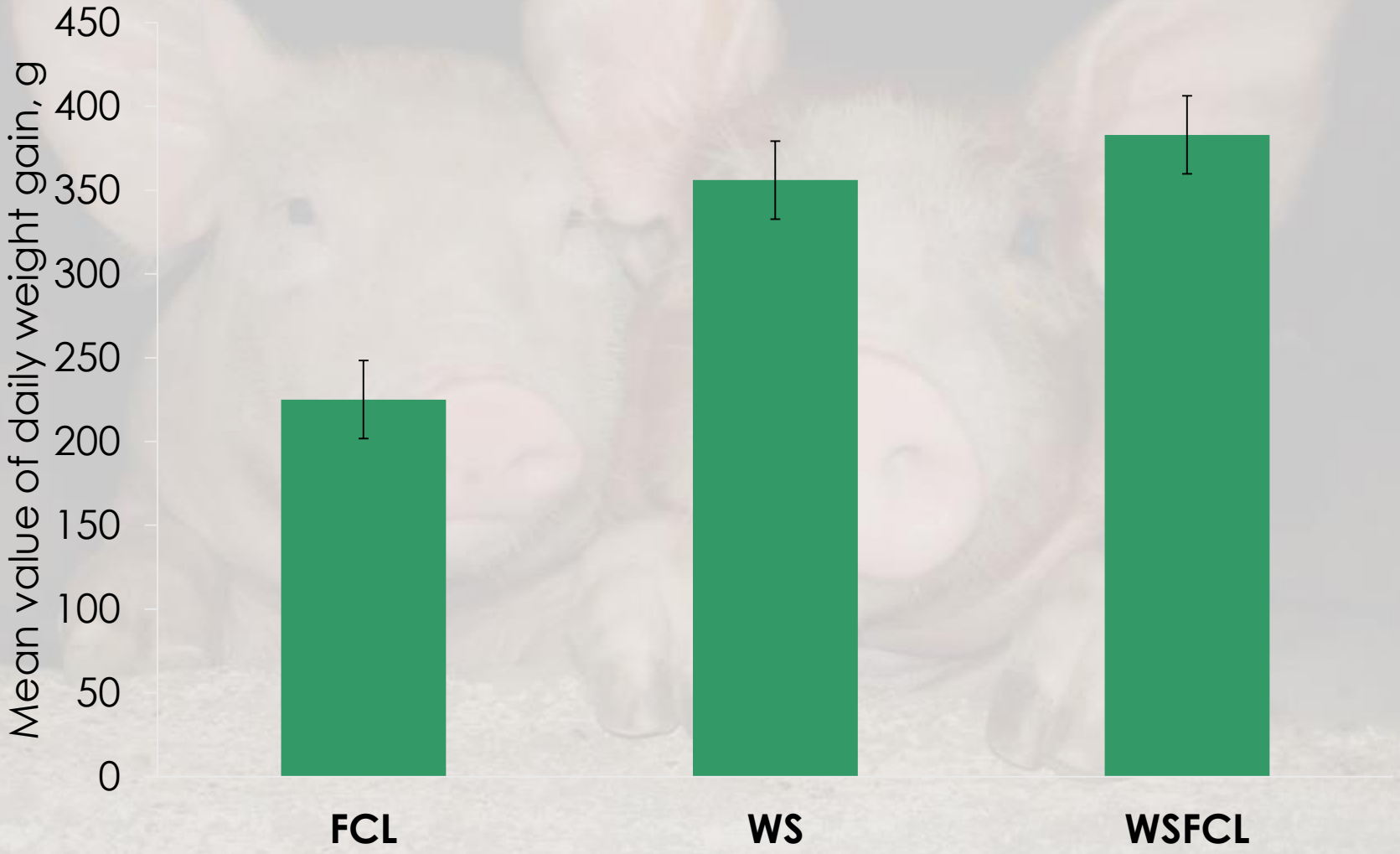
Rice straw

- 55% is removed for animal feed
- 45% is left in the field.
  - incorporate into the soil
  - Burning

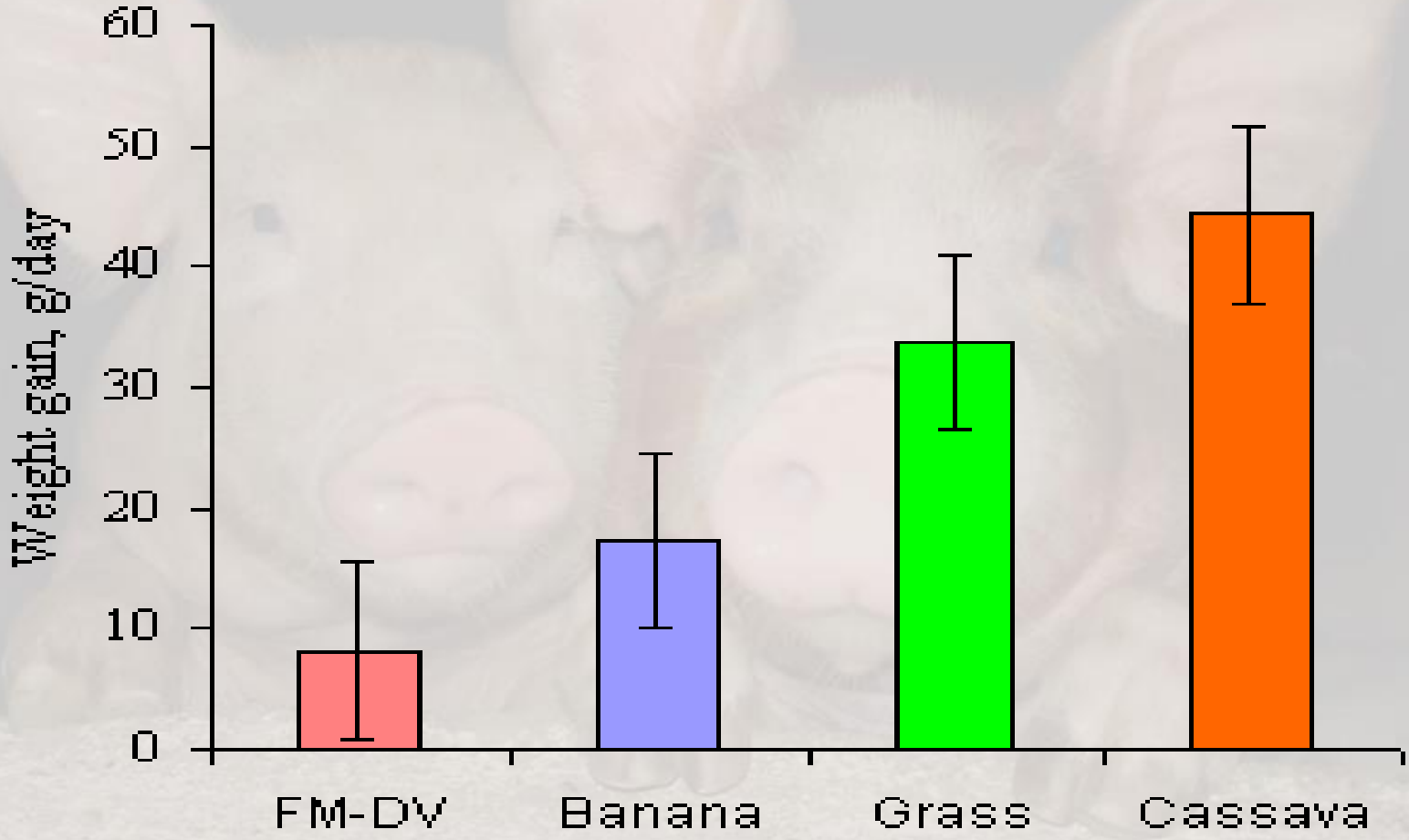
Rice straw urea treatment

Rice straw plus supplements

Mean values of daily weight gain



Growth rates of goats



Mean values of daily weight gain

Performance of yellow cattle fed cassava pulp

Composition	kg/day
Cassava pulp	13
Urea	0.078
Brewers grains	4.46
Rice straw	1.44
Minerals	0.039
Total DM	5.3

0.9 kg DWG/day

Day 1

Day 39

Day 90

Crickets farming

N0	Name	%Dry matter	%Moister	%Crude Protein	%Crude Ash	%Crude fiber
1	Whole cricket meal	94.8	5.23	65.2	4.06	11.8
2	Leg cricket meal	96.8	3.21	67.5	5.24	13.2

Technologies and adoption

Devendra and Leng 2011 reviewed 12 projects mostly from 1990s

- **92% consider successful but "SCALING UP" is the matter.**

– **Technologies are available but they are not beyond project lifetime.**

Why could these introduced technologies be wider adopted?

Messages to take home

- Does cash income and/or nutrition drive ASF from smallholders point of view?
- What are key starting points when smallholder farmers are the target?
- What should be the effective and efficient ways to promote livestock production?
- How best can knowledge generated be shared and used by farmers?

Thanks