

Feeding decisions for the newly weaned pigs in east Africa are weight dependent

Natalie Carter¹, Cate Dewey*¹, Delia Grace², Kees de Lange³

Department of Population Medicine, University of Guelph, Canada 2. International Livestock Research Institute, Kenya

3. Department of Animal Biosciences, University of Guelph

cdewey@uoguelph.ca

Background:

Pigs are important livestock for many smallholder farmers in east Africa because they form a source of financial savings, grow quickly, can be marketed at 8-10 months and provide income in times of need such as for school fees, medicine, or when there are food shortages. Traditionally, pigs run free to scavenge food. Commercial diets are considered too expensive for most farmers so confined pigs are fed high fibre, low protein diets resulting in an ADG of 130 gm/day.



Local breed



Cross breed

Objective:

To describe the weaning weights of local and crossbred Ugandan pigs purchased from smallholder farms and to compare the growth rate of the lightest 1/3 of pigs fed forage- or silage-based or commercial diets.

Materials and Methods:

Pigs born within 3 days of one-another and raised on the sow until the start of the study were randomly assigned to diet (commercial, forage-based, silage-based) and pen.

Mean starting bodyweight at the pen-level did not differ between diets ($p > 0.5$); Commercial 6.8 ± 2.12 kg; Forage-based 7.0 ± 3.2 kg and Silage-based 6.7 ± 1.9 kg.

Average daily gain (ADG) for the smallest 1/3 of the pigs by individual starting weight was compared using linear regression after controlling for starting weight, breed type (local versus cross bred), and gender.



Making forage-based diets

Ingredients for forage-based diets



Results:

Although pigs were born within 3 days of one another, at 65 days of age, local breed pigs weighed between 2.8 kg and 10.2 kg. Cross bred pigs ranged in weight between 3.9 and 11.4 kg. Typically there was 2 to 4 kg weight range within a litter. This prompted the researchers to look at growth of the lightest 1/3 of the pigs based on their weight at 65 days. While the smallest pigs grew well on the commercial ration (154 gm/d), they did very poorly on the forage based ration (18 gm/d) and also on the silage-based ration (-8 gm/d). These small pigs kept on forage or silage diets were not able to attain significant growth or body weight even at 140 days of age (10 and 9.2 kg respectively).

Table 1

Diet	Mean BW (kg) 65 days old	Mean BW (kg) 86 days old	Mean ADG 65 - 86 days old	Mean BW (kg) 107 days old	Mean ADG 86 - 107 days old	Mean BW (kg) 127 days old	Mean ADG 107 - 127 days old	Mean BW (kg) 140 days old	Mean ADG 127 - 140 days old
Commercial	4.6	7.9	154	15.0	342	22.8	371	26.3	268
Forage-based	5.1	5.5	18	6.2	30	8.5	111	10.0	115
Silage-based	4.7	4.5	-8	5.1	30	7.4	107	9.2	142

Conclusion:

Feeding commercial diet to those newly weaned pigs with a low body weight is essential to ensure they grow to a sufficient size where they can metabolize local forage- or silage-based diets.

While the commercial ration is thought to be too expensive for smallholder farmers, the small pigs do not consume large quantities of feed. It is cost-effective to use commercial ration to boost their initial post-weaning growth.



Commercial feed

Size differential in pigs of the same age

