Foraging behavior of Creole fattening pigs kept outdoors under tropical conditions on sweet potato \textit{(Ipomoea batatas (L.) Lam)} field

Burel, A, Archimède, H, Mahieu, M, Fanchone, A and Gourdine, JL.

UR143 URZ, 97170 Petit-Bourg, Guadeloupe, France

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1. Why the study was designed: the context

2. How: Material and Method

3. First results: foraging behavior

4. Conclusion
Why the study was designed: the context

- Some farmers ask for pig fed with local resources

- Results on outdoors pigs reared in tropical conditions are poorly described

- Knowledge on tropical resources in INRA-URZ:
  - Local pig breed: the Creole pig better adapted to harsh conditions than exotic breeds
  - Tropical feed resources from the Caribbean: can cover energy requirements but not the whole protein requirements of growing pigs
Why the study was designed: the context

- **Knowledge on tropical feed for pigs in INRA-URZ**

Examples of diet based on tropical resources for energy and protein requirements of Creole pig between 30 and 60 kg with 500 g/d growth rate

- **Fresh: 6 kg of green banana**
- **Fresh: 11 kg sugar cane juice**
- **Fresh: 2.6 kg potatoes**
- **Fresh: 3 kg leaves**

Sources: Régnier C. 2011; Xandé X. 2008; Renaudeau et al. 2013
Questions:

- As labor for the preparation of the pig diet is a limiting factor, to what extent pigs able to make themselves their own diet from a sweet potatoes field?

- What is pig’s behavior in tropical outdoor conditions?

- What is the effect of the climate?
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1. Why the study was designed: the context

2. How: Material and Method
How: Material and Method

- **First experimental study**: outdoor behaviour of pigs

- **Second experimental study**: growing performance in outdoor conditions with diet based on potatoes leaves and tubers

This presentation is focussed on the first study
How: Material and Method

- 6 Creole pigs (31.0 ± 2.4 kg)

- Sweet potatoes area: 1,613 m², with an average free access of 11.20 m²/animal/day during 34 days + 8 days of adaptation

- Based on estimation of the available biomass from random samples, it can be estimated a yield of: 780 kg of leaves (125 kg DM) and 3 T of tubers (1.35 T DM)
Behavior of the pigs: during 12 hours between 6 a.m. and 6 p.m. at day 8 and day 22 after the adaptation stage.
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1. Why the study was designed: the context

2. How: Material and Method

3. First results: foraging behavior
Pigs can provide service such as avoiding the use of herbicides before planting.
Results: physical activity and feeding behaviour from 06:00 to 18:00

During the 12 continuous hours of observations, the average distance traveled by pig was 380 ± 40 m.
Results: physical activity and feeding behaviour from 06:00 to 18:00

% time dedicated to feeding and drinking

- Water: 45%
- Potatoe leaves-stems: 26%
- Other forages: 24%
- Potatoe tubers: 5%
Results: physical activity and feeding behaviour from 06:00 to 18:00

Ambient temperature, °C
4 Conclusion

- The study is a preliminary step but we learn that
  
  - With adequate protein supplement, it seems possible to produce alternative pork meat from outdoor pigs reared on potatoes field.
  
  - Pigs can provide ecological services: for instance prevent the use of herbicides, contribute to the fertilisation of the soil, preparing the soil before plantation
  
- Further studies are needed: the next step:
  
  - An experimental study on growing performance and economic evaluation