

# PRODUCTIVITY AND ECONOMIC PERFORMANCE OF INDIGENOUS MICRO-ORGANISMS (IMO) PIGGERY SYSTEMS IN UGANDA

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## Introduction

Pig production has increasingly become an important activity providing a source of livelihood to over 56% of urban and peri-urban farmers in Uganda. Despite its importance, piggery sector still faces productivity related challenges including feed scarcity, diseases, and expensive and poor quality commercial feeds. In addition, there are negative environmental effects like foul odor which is a critical constraint under urban and peri-urban settings. The innovative Indigenous Micro-organisms (IMO) technology has been introduced to address some of these. Evidence is however lacking on the economic benefits and pig performance under this IMO system in order to incentivize farmers to adopt the technology. The study was carried out to assess pig productivity and economic performance under IMO and conventional production systems.

## Materials and methods

The on farm trials were conducted in two sub counties in peri-urban district of Mukono. The on -station trial was set up at Makerere University Agricultural Research Institute (MUARIK).

Sixteen pigs were used in the on station trial which had four pens (two for IMO and two for conventional) while the remaining sixteen were used for on-farm trial. Properly formulated commercial feeds were provided. Pigs were weighed at the start of the experiment with an average weight of  $10 \pm 0.5$  kgs. Feed intakes per pen per day were recorded and the total consumption established per week. The results on costs and revenues were calculated and used to assess the economic performance of the two systems using gross margins analysis.

## Results

Results reveal no significant difference in live weight gain of pigs under IMO and conventional pig systems at  $0.33 \pm 0.09$  kg per day per pig for on-station trials. Feed intake is significantly lower under IMO system at  $4.43 \pm 0.21$  per pen per day comprising 4 weaners, compared to  $5.77 \pm 0.23$  under conventional system.

Table 1: Gross margins for IMO and Conventional pig systems

Parameters	IMO system	Conventional system
Revenues		
Sale of pork	724,640	733,600
Sale of head	72,000	72,000
Sale of Trotters	68,000	68,000
Total Revenue	864,640	873,600
Variable Costs		
Feeds	357,429	454,326
IMO product	20,000	-
Maize bran	6,000	-
Labor (Man days in 3months)	120,000	240,000
Cleaning costs (water purchase)	-	138,000
Depreciation on fixed capital (pig sty)	172,287	300,699
Total Variable costs	675,716	1,133,025
Gross margin (TR-TVC)	188,924	(259,425)

Fig 1: Conventional



Fig 2: IMO



## 4. Conclusion and recommendations

This study found empirical evidence that;

- The increased revenues accrue from cost savings on
  - 1) feeding,
  - 2) Labor, and
  - 3) Cleaning.
- The study concludes that IMO technology is feasible for smallholder pig farmers in Uganda. And further recommends that profitability of piggery in Uganda could be accelerated by using IMO technology.

Profit maximization by adopting IMO technology

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