

# Feed resources and feeding management in Vietnam

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in demand and resource driven production systems in Son La Province, Vietnam

Assessment of the input in pig production with special focus on feed resources and feeding management in resource and demand driven production systems in Son La, Northern Vietnam...

## Introduction

Compared to the better-off lowland and delta areas of Vietnam, the situation of farmers in Vietnam's mountainous areas is hampered because of poorly developed infrastructure, poor resources and unsteadily short and long-term availability of resources. The mountainous area is again separated in the mountain valleys and areas near towns, which are high population density, high land pressure, but have a better-developed infrastructure; and in the hillsides, hilltops with low population density, lower land pressure, but poor developed infrastructure.

Proportion of local pigs in the total pig population in Vietnam is gradually decreasing due to replacement by exotic and crossbred pigs. However, Ban breed is still kept on hillsides, and in villages far from town and in resource driven production system, which is adjusted to the utilization of the available resources. Mong Cai breed is also kept in the mountain valleys and areas near town and in demand driven production systems, which resources are made available or are reserved for the desired pig production levels.

A survey on feed resources and feeding management in pig production at different intensity levels was conducted. Data were recorded in Son La province, in a region near town, characterised by demand driven production systems (2 villages); and in two regions farer away from town, characterised by resource driven production systems (2 villages).

The objectives of the study were to describe the current feeding management and feed resources used in different pig keeping systems in order to measurement, analysis of constraints and potentials of feeding systems in the pig production systems in different regions. In the selected villages, 10 households were selected, respectively.

Data collection was conducted from March to May, 2003. Data were collected by the household interviews using a structured questionnaire, by communication tools (seasonal calendar), by quantifying/measuring feeding rations at time of interview, by measuring pigs, and by key-person interviews.

The results show pig production in Ban Bo and Ban Buon shows characteristics of demand driven production systems: resources are made available or are reserved for the desired production level. In Ban Keo, available farm-produced feed resources are used for pigs without further investment to reach a certain production level. These characteristics showed in pig production revealed the transition between the demand and the resource driven production system in Na Huong.

Feed resources used for pigs are higher diversity in demand driven and transition production systems and lower diversity in resource driven production system. The shortage of feed in demand driven was not much serious but more serious in transition system, and very serious in resource driven production systems: Maize and rice bran were fed for pigs throughout the year in households in demand driven. In transition system, maize and rice bran are fed during a shorter

period of the year. In resource driven system, maize is fed to pigs only a very short time of the year and rice bran is used during the time after rice harvesting. Cassava is a replacement feed in systems, when other feedstuffs are in shortage or not available.

All of investigated households in demand driven bought feed for pigs during the time of feed shortage. Lower percentage of households bought feed in transition system and almost no households bought feed in resource driven system. The total amount of feedstuffs used for pigs per year in Ban Bo was highest with partly purchased but yielded highest extraction from pig production (630kg weight of pigs/year), followed by Ban Buon with lower weight extraction (340kg/hh/year); a medium amount of total feed was used in Na Huong and with the medium weight extraction (220kg/hh/year) and the lowest amount of feed was used in Ban Keo with very low weight extraction (98kg/year). Feed shortage occurred mainly from March to July (before harvest) and shortage of vegetables occurred in winter. Feed was abundant after harvest (September to November). In the time of feed shortage, farmers in demand driven bought more feed, in transition system, some farmers bought more feed and the others replaced high quality feed by poor quality feed; but in resource driven, farmers replaced better feed quality by poor feed quality.

Empty and pregnant sows were shown to be fed over their nutrient requirements and especially in the time of feed abundance in demand driven system. In transition system, empty and pregnant sows were received nutrient values according to requirement. Empty and pregnant sows in resource driven system were fed sufficient amounts of protein and energy per day in the time of feed abundance but insufficient in the time of feed shortage.

Lactating sows were fed crude protein according to their requirements in the time of feed abundance, but lightly lower protein requirement in time of feed shortage in demand driven production system. In transition and resources driven systems, lactating sows were fed below their protein requirements in time of feed abundance and feed shortage, with a more severe shortage of protein in the time of feed shortage. Regarding to energy, lactating sows in demand driven system were fed according to their requirement in both seasons. Lactating sows transition and resources driven systems were fed sufficient ME in time of feed abundance but insufficient in time of feed shortage.

All fattening pigs of different genotypes and in investigated villages are fed below their protein requirements in both seasons. Fattening pigs in Ban Bo were fed sufficient energy in both season but fattening pigs in other villages were fed too low energy than their requirement.

Ban Bo and Ban Buon expensed higher total costs as well as feeding cost/year. Farmers in Na Huong expensed lower total costs and feeding costs. Total costs and feeding costs in Ban Keo was very low. Despite the high expenses, investigated farmers in Ban Bo received the highest benefit from pig production per year, followed by farmers in Ban Buon, farmers in Na Huong received lower benefit, while Ban Keo achieved very low benefit in one year. Feeding efficiency in Ban Bo, Ban Buon and Na Huong was better because of high investment in feeding but caused lower input-output ratio as compared to Ban Keo.



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