

Abstract

The main objectives of this research project were 1) to improve the F₄ Native × Pietrain × Meishan (RPPM) crossbred pigs for suitable production in the highland region, 2) to test the optimal diet formula for the F₄ (RPPM and crossbred pigs) combination with local feed materials, as well as 3) to test the system for swine production following the guideline for good animal production (RPF-GAP: swine).

In experiment 1, RPPM 1 boars (n=2; located from the Royal Agricultural Station Angkhand, the Royal Project Foundation) and RPPM 3 boars (n=2; located from the Royal Agricultural Station Pang Da) were used in Father line of breeding program. The RPPM 2 dams (n=6; located from the Nong Kaew Royal Project Development Center, the Royal Project Foundation) and RPPM 4 dams (n=9; located from the Royal Agricultural Station Mae Lod, the Royal Project Foundation) were used in Mather line of breeding program. At the Nong Kaew Royal Project Development Center, RPPM 2 dams (n=9) were breed with RPPM 1 boars (n=3) to produce RPPM piglets (RPPM 1-2). At the Royal Agricultural Station Mae Lod, RPPM 4 dams (n=9) were breed with RPPM 3 boars (n=3) to produce RPPM piglets (RPPM 3-4). To test swine production according to RPF-GAP guideline, 27 RPPM piglets were provided for farmers at the Nong Kaew Royal Project Development Center (n=20) and the Royal Agricultural Station Mae Lod (n=7).

In experiment 2, RPPM (RPPM 1-2 and RPPM 3-4) piglets (n=8) from experiment 1 and Native × Meishan × Duroc crossbred piglets (n=8) were used in 2 × 2 factorial design arrangement. There are two main factors: 2 crossbred pigs (RPPM piglets and Native × Meishan × Duroc piglets) and 2 diets (commercial feed and commercial feed concurrent with yeast fermented corn meal). This experiment was divided in two periods: during 10 to 30 kg and 30 to 60 kg of body weight. In experiment 3, fattening pigs (4 RPPM pigs and 4 Native × Meishan × Duroc pigs) from experiment 2 were used to determine carcass quality and pork from 2 types of crossbred pigs was used to produce pork product. These results from 3 experiments were described as follows. In experiment 1, 6 RPPM 2 dams able to produce 50 RPPM 1-2 piglets and 8 RPPM 4 dams able to produce 68 RPPM 3-4 piglets. The average daily gain (ADG) of RPPM piglets that were raised by farmers at the Nong Kaew Royal Project Development Center was ranged 0.33 to 0.43 kg/head/day. At the Royal Agricultural Station Mae Lod, ADG of RPPM piglets was ranged 0.50 to 0.52 kg/head/day. In experiment 2, during 10 to 30 kg of body weight, two crossbred pigs that revived commercial feed concurrent with yeast fermented corn meal had greater total feed intake, FCR, and FCG compared with crossbred pigs receiving only commercial feed. During 30 to 60 kg of body weight, the RPPM pigs had greater ADG but had lower number of days to reach 60 kg of body weight, total feed intake, and FCR. Two crossbred pigs that revived commercial feed

concurrent with yeast fermented corn meal had greater FCG compared with crossbred pigs receiving only commercial feed.

In experiment 3, carcass quality did not differ between breeds. To produce pork products, pork loin from fattening crossbred pigs were smoked and lean meat were used to produce Chinese pork dumplings. Costs of production for smoked pork loin and Chinese pork dumplings were 294.80 and 71.36 baht/kg of product, respectively. The satisfactoral assessment of consumers of smoked pork loin and Chinese pork dumplings was stayed on little to moderate level.

Keywords: Native × Pietrain × Meishan (RPPM), Native × Pietrain × Duroc (crossbred pigs), growth performance

