

SUBSTITUSI JAGUNG DENGAN GAPLEK ATAU ONGGOK DALAM RANSUM PENGEMUKAN SAPI POTONG MENGGUNAKAN SUMBER PROTEIN BERBEDA

Apriliana Dwi Putridinanti
17/422319/PPT/00993

INTISARI

Penelitian ini bertujuan untuk mengetahui kombinasi gaplek atau onggok serta sumber protein terbaik untuk pakan sapi potong. Penelitian ini dilakukan dalam dua tahap: 1) *In vitro* 2-tahap dan 2) *In vivo* pada sapi Peranakan Ongole jantan. Penelitian ini menggunakan rancangan percobaan acak lengkap pola faktorial 3x6 dengan tiga jenis bahan pakan sumber energi (biji jagung, gaplek, dan onggok) dan enam level pemberian bungkil inti sawit (0, 20, 40, 60, 80, dan 100%). Kombinasi ini dicampur pakan basal berupa jerami padi dengan perbandingan 80:20. Penelitian *in vivo* menggunakan rancangan percobaan acak lengkap pola searah dengan lima perlakuan: yaitu CFS, BS1, KD1, BS2, dan KD2. Perlakuan CFS (*current feeding system*) merupakan pakan sesuai dengan yang diberikan oleh peternak secara *ad libitum*. Perlakuan BS1 dan BS2 merupakan CFS yang diberikan secara *ad libitum* dan disuplementasi dengan konsentrat (50% gaplek, 25% bungkil kopra, dan 25% bungkil inti sawit) sebanyak 1 atau 2% BB/hari. Perlakuan KD1 dan KD2 merupakan CFS yang diberikan secara *ad libitum* dan disuplementasi dengan konsentrat (50% gaplek, 25% bungkil kopra, dan 25% kulit kedelai) sebanyak 1 atau 2% BB/hari. Penggunaan 100% jagung tanpa suplementasi bungkil inti sawit menghasilkan konsentrasi VFA total, asetat, propionat, butirat, NH₃, dan protein mikroba tertinggi (23,24 mMol, 16,66 mMol, 6,25 mMol, 2,59 mMol, 13,01 mg/100mL, dan 5,63 mg/100mL, secara berurutan). Penggunaan gaplek sebanyak 100% tanpa suplementasi bungkil inti sawit menghasilkan nilai tingkat degradasi BK dan BO, serta KcBK dan KcBO total tertinggi (77,80, 80,04, 82,80, dan 84,45%, secara berurutan). Suplementasi gaplek, bungkil kopra dan kulit kedelai sebanyak 1% BB menghasilkan pertambahan bobot badan harian (PBBH) tertinggi dengan konsumsi pakan dan konversi pakan yang rendah (0,82 kg, 6,83 kg BK dan 8,51, secara berurutan). Kombinasi 50% gaplek dengan suplementasi 25% bungkil kopra dan 25% kulit kedelai dapat meningkatkan PBBH dan efisiensi pakan sapi PO.

Kata kunci: Sumber energi, Sumber protein, Kecernaan *in vitro*, Pertambahan bobot badan harian, Sapi PO jantan

SUBSTITUTION OF CORN WITH DRIED CASSAVA OR CASSAVA PULP IN RATIONS FOR FEEDLOT BEEF CATTLE WITH DIFFERENT PROTEIN SOURCES

Apriliana Dwi Putridinanti
17/422319/PPT/00993

ABSTRACT

This study aims was to determine the best combination of dried cassava or cassava pulp and protein sources for beef cattle feed. This study was conducted in two stages: 1) 2-stage *in vitro* and 2) *In vivo* study using Ongole crossbred bulls. By following a completely randomized 3x6 factorial design, three types of energy sources (corn, dried cassava, and cassava pulp) supplemented with six levels of palm kernel cake (0, 20, 40, 60, 80, and 100%) were applied in a *in vitro* study. This combination is mixed with rice straw with a ratio of 80:20 for the final ration. *In vivo* study used a completely randomized design with five treatments: CFS, BS1, KD1, BS2, and KD2. The CFS (current feeding system) treatment is current feed that is provided by farmers on an *ad libitum* basis. The BS1 and BS2 treatments are CFS *ad libitum* supplemented with concentrate (50% cassava, 25% copra meal, and 25% palm kernel cake) as much as 1 or 2% LW/day. The KD1 and KD2 treatments are CFS *ad libitum* supplemented with concentrate (50% cassava, 25% copra meal, and 25% soybean skin) as much as 1 or 2% LW/day. Utilisation of 100% corn without palm kernel cake supplementation produced the highest concentration of total VFA, acetate, propionate, butyrate, NH₃, and microbial protein (23.24 mMol, 16.66 mMol, 6.25 mMol, 2.59 mMol, 13.01 mg/100mL, and 5.63 mg/100mL, respectively). Utilisation of 100% dried cassava without palm kernel cake supplementation resulted in the greatest level of dry matter and organic matter digestibility in the rumen, along with total dry matter and organic matter digestibility (77.80, 80.04, 82.80, and 84.45%, respectively). Supplementation of cassava, copra meal, and soybean hull as much as 1% LW/day resulted in the greatest average daily gain (ADG) with low feed intake and feed conversion (0.82 kg, 6.83 kg DM, and 8.51, respectively). Combination of 50% cassava with supplementation of 25% copra meal and 25% soybean hulls can increase ADG and feed efficiency of Ongole crossbred bulls.

Keywords: Energy source, Protein source, *In vitro* digestibility, Average daily gain, Ongole crossbred bulls.