

## EFEK PENAMBAHAN ASAM ORGANIK DALAM PAKAN TERHADAP KUALITAS DAN KUANTITAS DAGING AYAM BROILER

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### Intisari

Di Indonesia, perkembangan usaha ternak ayam broiler semakin meningkat seiring dengan upaya peningkatan kebutuhan protein hewani masyarakat. Berbagai metode telah diterapkan untuk meningkatkan produktivitas broiler antara lain pemberian pakan yang telah diatur kandungan nutrisinya dan penggunaan *antibiotic growth promotor* (AGP) yang saat ini telah dilarang penggunaannya. Salah satu upaya untuk mengganti AGP yaitu pemberian alternatif tambahan pakan berupa asam organik. Oleh karena itu, perlu dilakukan penelitian lebih lanjut tentang pengaruh asam organik terhadap kualitas dan kuantitas daging ayam broiler. Tiga puluh ayam broiler *strain Cobb* dipelihara dari umur 1 sampai 35 hari, diberi pakan dua kali sehari sesuai dengan umur (stater 1-20 hari, finisher 21-35 hari), air minum *ad libitum*, dan dikelompokkan menjadi 3, yaitu P0: kontrol (pakan tanpa asam organik), P1: perlakuan 1 (pakan dengan asam organik 0,3%), dan P2: perlakuan 2 (pakan dengan asam organik 0,5%), masing-masing kandang 10 ekor. Asam organik yang digunakan adalah campuran asam format dan garam sodium. Parameter yang diukur setiap minggu (sampai minggu ke-5) adalah pertambahan berat badan (g/ekor), konsumsi pakan (g/ekor) dan konversi pakan. Persentase lemak abdomen (%), kadar kolesterol daging ayam (mg%), kadar lemak daging ayam (%) diukur dihari ke 35, dan *marbling* daging diukur dengan pemeriksaan histopatologi. Data dianalisis secara statistik dengan metode One Way ANOVA, *marbling* daging dianalisis secara deskriptif. Rata-rata berat badan masing-masing kelompok adalah 2,115.9g/ekor (P0), 2,066.2g/ekor (P1), 2,169.3g/ekor (P2); konsumsi pakan 3.052,2g/ekor (P0), 2.995,8g/ekor (P1), 3.088,9g/ekor (P2); konversi pakan 1,32 (P0), 1,30 (P1) dan 1,28 (P2); kadar kolesterol dada 1,00mg/g (P0), 0,73mg/g (P1), 0,62 (P2); kadar kolesterol paha 0,96mg/g (P0), 1,17mg/g (P1), 1,21 (P2); kadar lemak dada 0,97% (P0), 0,89% (P1), 0,97% (P2); kadar lemak paha 2,35% (P0), 1,43% (P1), 3,08% (P2); dan persentase lemak abdomen 1,67% (P0), 1,66% (P1), 1,00% (P2). Penambahan asam organik 0,5% dalam pakan berpengaruh terhadap kadar kolesterol dan persentase lemak abdomen ayam broiler ( $P < 0,05$ ). Campuran asam format dan sodium format dapat menurunkan kadar kolesterol daging dan persentase lemak abdomen ayam broiler. Metode dalam penelitian ini dapat digunakan sebagai acuan pada penelitian selanjutnya.

Kata kunci: asam organik, broiler, daging, kolesterol, lemak, lemak abdomen, *marbling*

## EFFECTS OF ORGANIC ACID ADDITION IN FEED ON THE QUALITY AND QUANTITY OF BROILER CHICKEN MEAT

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### Abstract

In Indonesia, the development of chicken breeding business increased along with the increasing of demand animal protein in the community. Various methods have been applied to improve the productivity of broilers such as feeding that has been regulated nutritional content and the use of antibiotic growth promoter (AGP) which is currently prohibited its use. One effort to replace AGP is to provide additional alternative feed in the form of organic acids. Therefore, it is necessary to do more research about the effect of organic acid on the quality and quantity of broiler chicken meat. Thirty broiler chickens Cobb strain were kept and fed from 1 to 35 days twice daily (1-20 day stater, 21-35 day finisher), drinking water *ad libitum*, and grouped into 3, ie P0: control (feed without organic acid), P1: treatment 1 (feed with 0.3% organic acid), and P2: treatment 2 (feed with 0.5% organic acid), and added each cage with 10 chickens. Organic acid that used is formic acid and sodium formate mixture. Parameters measured every week were weight gain (g/head), feed intake (g/head), feed conversion. Percentage of abdominal fat (%), chicken cholesterol (mg%), chicken fat (%), and marbling meat by histopathologic examination in day 35. Data were analyzed statistically with One Way ANOVA, marbling meat was analyzed descriptively. Average weight in each 2,115.9g/head (P0), 2,066.2g/head (P1), 2,169.3g/head (P2); feed consumption 3.052,2g/head (P0), 2.995,8g/head (P1), 3.088,9g/head (P2); feed conversion 1,32 (P0), 1.30 (P1) dan 1,28 (P2); breast meat cholesterol level 1,00mg/g (P0), 0,73mg/g (P1), 0,62 (P2); thighs 0,96mg/g (P0), 1,17mg/g (P1), 1,21 (P2); fat content of breast meat 0,97% (P0), 0,89% (P1), 0,97% (P2); thighs 2,35% (P0), 1,43% (P1), 3,08% (P2); and abdominal fat percentage 1,67% (P0), 1,66% (P1), 1,00% (P2) were observed respectively. The addition of 0.5% organic acids in the diet has an effect on cholesterol level and broiler chicken abdominal percentage ( $P < 0.05$ ). Formic acid and sodium formate mixtures can decrease cholesterol levels of meat and broiler chicken abdominal percentage. Methods in this study can be used as a reference in further research.

Keywords: organic acid, broiler, meat, cholesterol, fat, abdominal fat, marbling