

PERUBAHAN BOKIMIWI DAGING

AYAM BROILER KARENA PENGARUH STRES

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INTISARI

Dua puluh tujuh ekor ayam broiler jantan, umur 8 minggu strain Indian River digunakan dalam penelitian ini untuk mengetahui pengaruh "stres" dan pengaruh pemberian waktu istirahat kepada ayam yang telah mengalami "stres" terhadap perubahan biokimiawi daging. Pada kesempatan ini dilihat pengaruh stres dan waktu istirahat setelah stres terhadap kadar glikogen, kadar asam laktat dan pH daging.

Dalam penelitian ini ada tiga kelompok ayam yaitu ayam yang diberi stres selama 1 jam (K_1), ayam diberi istirahat selama 12 jam setelah diberi stres selama 1 jam (K_2) dan ayam kontrol (K_3). Penentuan kadar glikogen, kadar asam laktat dan pH daging dilakukan terhadap bagian karkas yang sama yaitu paha kanan, pada 0 jam dan 4 jam setelah ayam dipotong.

Hasil penelitian menunjukkan bahwa pada 0 jam setelah pemotongan, kadar glikogen daging K_1 , K_2 dan K_3 berturut-turut adalah sebesar 227,3 mg; 367,7 mg dan 486,1 mg per 100 gram daging. Kadar tersebut menurun secara bermakna menjadi 53,9 mg, 53,4 mg dan 46,5 mg per 100 gram daging pada 4 jam setelah pemotongan. Pada 0 jam setelah pemotongan kadar asam laktat daging K_1 , K_2 dan K_3 berturut-turut adalah sebesar 260,9 mg, 336,0 mg dan 401,0 mg per 100 gram daging. Sesudah 4 jam kadar tersebut meningkat secara bermakna menjadi 294,9 mg, 414,0 mg dan 482,1 mg per 100 gram daging. Pada 0 jam setelah pemotongan pH daging K_1 , K_2 dan K_3 berturut-turut adalah sebesar 6,49 ; 6,35 dan 6,31. Sesudah 4 jam, pH tersebut menurun secara bermakna menjadi 6,28 ; 6,03 dan 5,96.

Hasil penelitian juga menunjukkan bahwa pada 0 jam setelah pemotongan, kadar glikogen daging K_1 lebih kecil dibanding dengan K_3 . Kadar glikogen daging K_2 tidak berbeda dengan K_1 , namun cenderung lebih tinggi. Antara kadar glikogen daging K_2 dan K_3 tidak ada perbedaan yang bermakna. Pada 4 jam setelah pemotongan, antara kadar glikogen daging K_1 ; K_2 dan K_3 tidak ada perbedaan yang bermakna. Pada 0 jam maupun 4 jam setelah pemotongan, kadar asam laktat daging K_1 lebih kecil dibanding K_3 . Kadar asam laktat daging K_2 walaupun lebih besar dibanding K_1 tetapi masih lebih kecil dibanding K_3 . Pada 0 jam maupun 4 jam setelah pemotongan, pH daging K_1 lebih tinggi dibanding dengan K_2 dan K_3 . Diantara pH daging K_2 dan K_3 tidak ada perbedaan yang bermakna.

Kesimpulan penelitian ini adalah bahwa "stres" akan menyebabkan penurunan kadar glikogen, penurunan kadar asam laktat dan kenaikan pH daging. Pemberian waktu istirahat untuk ayam yang telah mengalami "stres" dapat menaikkan kadar glikogen daging sehingga menjadi tidak berbeda dengan kadar glikogen daging ayam kontrol. Pelakuan tersebut walaupun dapat meningkatkan kadar asam laktat daging namun masih dibawah kadar asam laktat daging ayam kontrol. Perlakuan istirahat untuk ayam yang telah diberi stres akan menurunkan pH daging, sehingga tidak berbeda dengan pH daging ayam kontrol.

THE INFLUENCE OF STRESS ON THE BIOCHEMICAL CHANGES OF BROILER MEAT

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ABSTRACT

Twenty seven male broiler chickens of Indian River strain aged eight weeks were used in this experiment to determine the influence of stress and a resting period for the stressed chicken on the meat biochemical changes. The variables measured were glycogen content, lactic acid content and pH of the meat.

Chickens were divided into three groups ie. group K_1 , K_2 and K_3 . Group K_1 was given stress treatment for one hour. Group K_2 was given twelve hours resting period following one hour stress treatment. Group K_3 was employed as a control group. The determination of glycogen content, lactic acid content and pH was carried out on the same carcass portion, namely the right leg, at zero hour and four hours post slaughter.

The result showed that on 0 hour post slaughter, the meat glycogen content of K_1 , K_2 and K_3 were 227.3 mg ; 367.7 mg and 486.1 mg per 100 gram of meat respectively. Those glycogen content decreased significantly to 53.9 mg ; 53.4 mg and 46.5 mg per 100 gram of meat on 4 hours post slaughter, respectively. On 0 hour post slaughter the lactic acid content of meat for K_1 , K_2 and K_3 were respectively 260.9 mg ; 336.0 mg and 401.0 mg per 100 gram of meat. Those lactic acid content increased significantly to 294.9 mg ; 414.0 mg and 482.1 mg per 100 gram of meat respectively on 4 hours post slaughter. The pH of meat on 0 hour post slaughter was 6.49 ; 6.35 and 6.31 for K_1 , K_2 and K_3 respectively and then decreased to 6.28 ; 6.05 and 5.96 on 4 hours post slaughter respectively.

The result showed that the meat glycogen content of K_1 at 0 hour post slaughter was less than that of K_3 . The meat glycogen content of K_2 was similar to K_1 . There was also no significant difference in meat glycogen content between K_2 and K_3 . At 4 hours after slaughter, the meat glycogen contents among K_1 , K_2 and K_3 were similar. Both at 0 hour and 4 hours after slaughter, the meat lactic acid content of K_1 was less than that of K_3 . The lactic acid content of K_2 was greater than K_1 , but was lower than K_3 . Both at 0 hour and 4 hours post slaughter the meat pH of K_1 was higher compared with both K_2 and K_3 . There was no difference in the meat pH between K_2 and K_3 .

In conclusion, stress treatment resulted in the decrease of glycogen content and lactic acid content and an increase in the meat pH. Resting period after stress treatment could increase the meat glycogen content to a similar level to that of glycogen content of control meat. Although the resting treatment could increase the meat lactic acid content, it was still lower compared with the lactic acid content of the control meat. Resting treatment decreased the meat pH although it did not show any difference with that of the pH of the control meat.