

Management Of Cage Capacity In Raising To Rabbit Performance (Manajemen Kapasitas Kandang untuk Peningkatan Performa Kelinci)

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Abstract

Cage management is an important factor in the success of rabbit breeding business, specially in increasing production and efficiency of cage usage. The purpose of this study was to determine the effect of cage capacity per unit area and on how much capacity it can provide best production performance. Research carried out experiments using a Complete Randomized Design, with treatment of three kinds of cage density (P1 = one rabbit/0,5 m² and P2 = two rabbits/0,5 m², and P3 = rabbits/0,5 m²), each repeated six times. Measured variables were feed consumption, daily gain, and feed conversion. The results showed that the feed consumption, body weight gain and feed conversion of rabbit with cage density of three rabbits of 0.5 m² were not significant with two rabbits/0.5 m² and one rabbit/0,5 m² rabbits on the same cage, this means cage capacity with area 0.5 m² still effective used for three rabbits.

Key words: cage, performance, rabbit

Abstrak

Manajemen kandang merupakan faktor penting dalam kesuksesan bisnis kelinci, terutama dalam peningkatan produksi dan efisiensi penggunaan kandang. Tujuan dari penelitian ini adalah untuk menentukan pengaruh kapasitas kandang dan pada kapasitas berapa yang menghasilkan performa terbaik. Penelitian ini dilakukan secara eksperimen dengan Rancangan Acak Lengkap dengan tiga macam kepadatan kandang (P1 = 1 kelinci/0,5 m², P2 = 2 kelinci/0,5 m², dan P3 = 3 kelinci/0,5 m²), masing-masing perlakuan diulang enam kali. Variabel yang diamati adalah konsumsi ransum, penambahan bobot badan, dan konversi pakan. Hasilnya menunjukkan bahwa konsumsi ransum, penambahan bobot badan, dan konversi pakan untuk setiap perlakuan tidak menunjukkan perbedaan yang nyata, sehingga dapat disimpulkan bahwa pemanfaatan kandang 0,5 m² untuk tiga ekor kelinci masih efektif untuk dipergunakan.

Kata kunci : kandang, performa, kelinci

Introduction

The success of agribusiness farm will greatly depend on the commitment, consistency, communication, interconnections and tanglement and participation of stakeholders, so that the rabbit farm agribusiness development should have strategic meaning and important for future livestock development. That requires good management, for example cage management.

In cage management takes some conditions, such as the density of the cage. Another important factors are the humidity of the air (Rh) and cage construction. The average temperature which required for rabbit's cage is 15-20°C, while its relative humidity (Rh) is 60-90%. In Indonesia, Rabbit can be maintained in all place ranging from coast into the mountains.

The cage system is very important factor because it affects air circulation which affect heat

stress of the rabbit as well (Finzy, 1992). Maertens and De Groote (1984) said that the optimum cage density for meat rabbit is 6 per m², and Marteuns (2004) said that high density on the cage will bring up aggressive nature and this is the problem when their adult sex come.

Prawirodigdo *et. al.* (1985) suggested that the best new zealand white rabbit production performance with 4 week after weaning, will gain weight 40,5 gram per rabbit per day and feed conversion 2,7 with cage density 10 rabbits per 0,7m². Verga *et. al.* (2004) suggested that cage density will not affect production unless to livestock behavior. El-Raffa (2004) suggested that one of success key of production in tropic area was to arrange the livestock comfort. Heat stress on rabbit will cause dead and decrease reproduction (Scarm, 1998).

Cage density affect livestock agresivity, but significantly do not affect growth. Growth is greatly affected by diet's quality and quantity (Verga, et. al. 2004, Rachman, 2004). Feeding the livestock should be sufficient to maintain body function and stimulation of growth (Timothy et. al., 1984), then Yurmiati (1991) suggested that rabbit which had limited diet will significantly grow smaller than rabbit with ad libitum diet.

Livestock will reach the highest level of production performance in accordance with their genetic potential, if its need and consume diet are met (Sutardi, 1980). Parakarsi (1990) suggested that many factors that affect diet consumption, direct effect are body, age, livestock condition, stress temperature, humidity, while undirectly effect are water concentration, anti-nutrients and digestibility.

Feed conversion is ratio between amount of feed consumed with weight gain (Cheeke et al. 1982). Ensminger and Olentine (1978) suggested that giving high quality feeding with good management, will produce feed conversion about 2,80-4,00, while Cheeke et al. (1982) suggested it about 3,50 – 4,00. The purpose of this study was to determine the effect of cage capacity per unit area and on how much capacity it can provide best production performance.

Material and Methods

This research used weaned rex rabbit, age 7-8 weeks, with average weight 600-700 gram. This research used Complete Randomized Block Design with treatment 3 type of density P1 = one rabbit/ 0,5 m² , P2 = two rabbits / 0,5 m²

and P3 = three rabbits / 0,5 m²), and each treatment is repeated six times. The data was analyzed with analysis of variance. To know effect between the treatment used Duncan test. The ration contained protein 16% and digestible energy 2580 kkal. Ration ingredients were grass, yellow corn, coconut cake, soybean meal, onggok, bran, salt, molasess. Measured variable were feed consumption (g), daily gain (g) and feed conversion

Result And Discussion

The result of treatment effect toward feed consumption, daily gain and feed conversion, could be seen on Table 1.

Tabel 1 showed that feed consumption of cage rabbit, one rabbit (63.05 g) with two rabbits (66.58 g) per 0.5 m² gave not significant different result, as well as between treatment of two rabbits with three rabbits per 0.5m². This is because the cage capacity can be used for three the rabbits. This is same with Maertens and De Groote (1984) who suggested that maximum density for rabbits in the cage is 6 tails per m². Then Cheeke (1987) suggested that age, weight, same ransom quality to same rabbit will not give effect toward feed consumption, while treatment between the rabbit which is caged one tail significantly lower than rabbit with cage three rabbit per 0.5 m² (71.93 g), this is because of group competition to consume feed, although the quality relatively the same. This supported with Morris and Maurice (1997) that the more dense the population in the cage, the more aggressive the livestock is, and it will affect feed consumption.

Tabel 1. Average Feed Consumption, Daily Gain and Feed Conversion of Rabbit Based on The Research's Result

Variable	P1	P2	P3
Feed Consumption (g)	63.05 (a)	66.58 (ab)	71.93 (b)
Daily gain (g)	14.09 (a)	15.43 (a)	16.72 (a)
Feed Conversion	4.04 (a)	4.35 (a)	5.44 (a)

Description : P1= One rabbits/0.5 m², P2 = two rabbits/0.5m² and P3 = three rabbits/0.5 m²

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Table 1 showed that weight gain and feed conversion to cage density of one rabbit per 0.5 m² (14.09 g and 4.04), with cage density of two rabbits per 0.5 m² (15.43 and 4.35) and three rabbits per 0.5 m² (16.72 g and 5.44) gave same result. This means cage density until three rabbit per m² still weight gain and feed conversion about, this is click with Cheeke (1987) who

suggested that average weight gain 10-20 g/head/day, and Yurmiati (1991) said that weight gain to rex rabbit is between 18,47 – 21,21 g/head/day. Campbell and Lasley (1985) suggested that feed conversion greatly affected by genetic, daily gain, feed consumption, hormone and platability, and North (1984) said that the more dense population in the cage, the

more worst feed conversion. From the result of the research showed that cage density until three rabbits per 0.5 m², still can be used to maintain rabbit rex without negative effect toward growth and feed conversion.

Conclusion

The results showed that the feed consumption, daily gain and feed conversion of rabbit with cage density of three rabbits of 0.5 m² were not significant with two rabbits /0.5m² and one rabbits /0,5m² rabbits on the same cage, this means cage capacity with area 0.5 m² still effective used for three rabbits.

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