

SHORT CONTRIBUTIONS

GROWTH RATE OF YOUNG RABBITS, *ORYCTOLAGUS CUNICULUS* (L.)*

By G. M. DUNNET†

During live-trapping, marking, and releasing of rabbits at "Gungaharra", Canberra, during September–December 1953, several kittens were recaptured a number of times. On each occasion they were weighed to the nearest 10 g, and these data are used to give an expression of age on weight. In all, 31 individuals are concerned, and of these, one was captured four times, five were captured three times, and the others twice.

In similar work in England, Southern (1940)‡ obtained the formula

$$W = 0.200 + 0.00961(x - 21),$$

and

$$x = 0.188 + 104.06 W,$$

where W is the weight in kilograms and x is the age in days. This involved the assumptions that, on the average, when a young rabbit first emerged it was 21 days old and weighed 0.2 kg, and that growth was linear between 0.2 kg and 0.95 kg, which was the range for which the expression held. It is of interest to determine if this formula holds good under the different conditions of climate and pasture in Australia.

The data are given in Table 1, and Mr. G. A. MacIntyre of the Division of Mathematical Statistics, C.S.I.R.O., Canberra, kindly carried out the necessary analyses, the conclusions of which are given here.

The data were grouped in initial weight groups of 100 g, and the weighted mean rate of increase for each is 9.68, 10.57, 8.64, 10.84, and 5.47 for groups 1, 2, 3, 4 and 5, and 6 and 7 respectively. These values show stability except for the last, which has a mean initial weight of 1100 g. This is above the 0.95 kg limit set by Southern (1940). The data generally support the view that growth between 0.2 kg and 0.95 kg is linear. In the calculations given below, only values from initial weights within this range are included.

These data were reclassified by interval and a weighted growth rate of 9.77 g/day was obtained. Using this method in combining Southern's interval classes, his figure becomes 9.85 g/day instead of 9.61. The difference between the slope of 9.77 in the present data and Southern's 9.85 or 9.61 is quite insignificant.

* Manuscript received June 25, 1956.

† Wildlife Survey Section, C.S.I.R.O., Western Australian Regional Laboratory, University Grounds, Nedlands, W.A.

‡ SOUTHERN, H. N. (1940).—The ecology and population dynamics of the wild rabbit (*Oryctolagus cuniculus*). *Ann. Appl. Biol.* **27**: 509–14.

Assuming that the weight of 0.2 kg corresponds to 21 days of age (Southern 1940) the equation defining age in terms of weight, subject of course to variations due to nutrition, is

$$W = 0.200 + 0.00977(x - 21),$$

$$x = 0.529 + 102.35 W.$$

TABLE I
CLASSIFICATION OF YOUNG RABBITS, *O. CUNICULUS*, BY WEIGHT

Initial Wt. Group	Initial Wt. (g)	Sub-sequent Wt. (g)	Interval (days)	Rate (g/day)	Initial Wt. Group	Initial Wt. (g)	Sub-sequent Wt. (g)	Interval (days)	Rate (g/day)
1	285	710	35	12.14	3	540	980	44	10.00
	330	720	36	10.83		540	1120	64	9.06
	340	430	5	18.00		570	690	13	9.23
	390	470	14	5.71		530	750	31	7.10
	340	700	49	7.35		530	600	14	5.00
2						510	635	14	8.93
	400	1130	73	10.00	4	690	950	17	15.29
	450	540	20	4.50		600	1020	36	11.67
	490	950	37	12.43	5	720	850	14	9.29
	480	570	7	12.85		710	850	14	10.00
	490	600	20	5.50		790	870	14	5.71
	440	570	5	26.00	6	950	1000	14	3.75
	430	720	30	9.67		940	1280	49	6.94
	480	1230	49	15.31	7	1010	1385	44	8.52
	400	835	49	8.88		1000	1105	18	5.83
	430	860	44	9.77		1130	1370	49	4.90
	430	870	44	10.00		1120	1320	17	11.76
	400	690	31	9.35		1160	1200	14	2.86
	455	680	14	16.07		1200	1250	14	3.57
						1260	1340	14	5.71
						1320	1190	14	9.28