action is normally determined by the number of cycles that the animal has passed through will be determined by further experiments with heifers at these borderline stages.

A comparison of our data with those of E. I. Evans[2] makes it appear that our heifers were just at, or just over the borderline of mammary reactivity. This author does not, however, state the ages of the virgin heifers that were used in his experiment.

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Experiments with Hypophyseal Lactogenic Hormone on Normal Ovariectomized and Hypophysectomized Dogs.

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The present report deals with the effects of the lactogenic hormone in normal dogs and in dogs following the removal of ovaries and hypophysis. The hormone used in this investigation was obtained in powder form from an acid-acetone extract of the anterior pituitary.

One mg. of the dry powder was equivalent to 40 mg. of fresh anterior lobe. Gonad-stimulating hormone could not be demonstrated in 100-mg. doses of such powders tested on immature pigeons and rats. No attempt was made in these experiments to free these powders of some slight contamination with growth hormone, although potent isoelectric precipitations at pH 6.4 have yielded growth-free lactogenic hormone. Full details of the method of preparation are submitted separately.

The results are shown in tabular form. It was found that 2 subcutaneous injections representing a total of 20 mg. of crude lactogenic hormone sufficed to cause the secretion of milk in normal parous and non-parous mature bitches.

Lactation was obtained in 3 bitches ovariectomized one day previous to administration of the hormone.

The hormone induced lactation in a single bitch hypophysectomized one week prior to treatment. The mammary glands of this animal were well developed and did not yet show regressive changes

[2] Evans, E. I., PROC. SOC. EXP. BIOL. AND MED., 1932, **30**, 1372.

TABLE I.
Reaction of Dogs to Injection of the Lactogenic Hormone.

Designation of dog	History	Mammaries	Injections	Mg. Powder Injected	Mg. Powder Effective	Result
1	Littered 10 mo. previously	Resting No milk	6	60	60	Lactation
2	Weaned litter 1 wk. previously	Regressing No milk	10	200	20	Returned to full lactation
4	Non-parous. Post-oestrum	Resting No milk	7	140	40	Copious lactation
7	Weaned litter 1 mo. previously	Resting No milk	7	140	80	Lactation
12	Mature bitch Dioestrum	Resting No milk	6	120	40	Copious Lactation
6	Mature bitch ovariectomized 1 day previously (Dioestrum)	Resting No milk	8	160	120	Lactation
5	Parous. Post-oestrum, ovariectomized 1 day previously	Well-developed. No milk	3	60	40	Copious lactation
1	Parous. Dioestrum. Ovariectomized 1 day previously	Resting No milk	8	160	120	Lactation
13	Parous, Hypophysectomized 1 week previously	Well-developed. No milk	6	120	40	Copious Lactation
14	Senile. Hypophysectomized 1 month previously	Atrophic. No milk	10	200	—	No effect on mammaries
15	Immature. Hypophysectomized 2 weeks previously	Infantile No milk	11	310	—	No effect on mammaries

as the result of hypophysectomy. Two other hypophysectomized dogs failed to respond, although several times the amount of the hormone found necessary to induce lactation in normal dogs was injected in these animals. The failure, however, to obtain lactation with the hormone in these 2 dogs may probably be ascribed to lack of mammary development, inasmuch as one of these animals was sexually immature with infantile mammae, while the other was a senile bitch with atrophied mammae and ovaries.

All dogs in which lactation was induced continued secreting milk for about 2 weeks after the last injection. Even a non-parous bitch was stripped of approximately 100 cc. of milk on 3 consecutive days. A mother that had been removed from her litter and had been dry for a week was brought back to full lactation to continue suckling.

The response of completely depancreatized dogs to the lactation hormone has been reported elsewhere.[1] It is interesting to note in this connection that no secretion of milk was observed in 5 depancreatized dogs following injections of the hormone, whereas in a single dog lactation was obtained.

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Availability of the Rabbit for Assay of the Hypophyseal Lactogenic Hormone.*

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Two years ago, while investigating various preparations of the anterior pituitary for their lactogenic effect we employed castrated virgin rabbits, as had Corner[1] before us. While satisfied with the results in the rabbit, we prefer at present to use the virgin guinea pig ovariectomized in oestrus and injected immediately thereafter (Nelson and Pfiffner[2]) or the 4 to 5 weeks old squab (Riddle[3]) as

[1] Chaikoff, I. L., and Lyons, W. R., *Am. J. Physiol.*, in press.

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[1] Corner, G. W., *Am. J. Phys.*, 1930, **95**, 43.

[2] Nelson, W. O., and Pfiffner, J. J., PROC. SOC. EXP. BIOL. AND MED., 1930, **28**, 1.

[3] Riddle, O., Bates, R. W., and Dykeshorn, S. W., *Am. J. Phys.*, 1933, **105**, 191.