

# SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS.

**One hundred fifth meeting.**

*College of the City of New York, New York City, February 18,  
1920, Vice-President Wallace in the chair.*

51 (1511)

**Pituitary feeding and egg production in the domestic fowl.**

By SUTHERLAND SIMPSON.

*[From the Physiological Laboratory, Medical College, Cornell  
University, Ithaca, N. Y.]*

Clark<sup>1</sup> found, in 1915, that the egg production of chickens (White Leghorns) was markedly increased by feeding dried pituitary (anterior lobe) in amounts representing 20 mg. of the fresh gland to each hen per day. The effect became evident four days after the feeding began and lasted for several days after the last dosage. The experiments were carried out in May, when the laying curve was on the decline, nevertheless the egg production reached 100 per cent. for the experimental pen (35 hens on two consecutive days laid 35 eggs) or double what it had been before the feeding was begun. He lays emphasis on the fact that the glandular material he used was taken from young, growing animals—calves and lambs.

I have repeated the experiments of Clark when the egg production was low and declining—in June and July, 1917, when low and increasing—December and January, 1917-18, when high (about the maximum)—April, 1918—and again in March and April, 1919, and have been unable to observe any increase from pituitary feeding. The adult gland (ox) was used and also that of the growing animal (calf), and the method of preparation adopted

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<sup>1</sup> Clark, L. N., *Jour. Biol. Chem.*, 1915, 22, 485-491.

by Clark was followed as closely as possible. To begin with, the amount given by him was administered, viz, the equivalent of about 20 mg. of fresh pituitary substance (anterior lobe), to each hen individually, in a gelatine capsule, and when no result was obtained the dose was doubled and later trebled. In no case was any distinct effect produced, the egg-laying curves running practically parallel with those of the control pens. Single Comb White Leghorns were employed.

## 52 (1512)

**Some conditions affecting thyroid activity.**

By **W. B. CANNON** and **P. E. SMITH.**

[*From the Physiological Laboratory, Harvard Medical School.*]

1. Gentle massage of the thyroid gland in the cat for two or three minutes will cause an increased rate of the denervated heart amounting in some instances to 33 per cent. over the basal rate. The development of the maximal increase of rate is usually slow, requiring from thirty to sixty minutes and passing off in a similarly slow manner.

2. Massage of another gland, *e.g.*, the submaxillary, does not cause this effect.

3. The augmentation of heart rate caused by thyroid massage occurs in the absence of the adrenal glands.

4. Stimulation of the cervical sympathetic trunk as it leaves the stellate ganglion induces a similar augmentation of the rate of the denervated heart: this does not occur if the thyroid gland has previously been removed.

5. If the cardiac fibers from the stellate ganglia are severed, as well as the vagus nerves, and an afferent nerve such as the sciatic or brachial is stimulated under a degree of anesthesia which will permit reflex retraction of the nictitating membrane and dilation of the pupil, there is a primary increase of rate due to adrenal secretion, followed by the slowly developing increase characteristic of the thyroid effect.

6. If the vagi and the cardiac fibers of the stellate are cut,