Iowa State University Veterinarian

Volume 17 | Issue 3 Article 4

1955

Semen Collection by Electrical Stimulation

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Herrick, John (1955) "Semen Collection by Electrical Stimulation," *Iowa State University Veterinarian*: Vol. 17: Iss. 3, Article 4.
Available at: http://lib.dr.iastate.edu/iowastate_veterinarian/vol17/iss3/4

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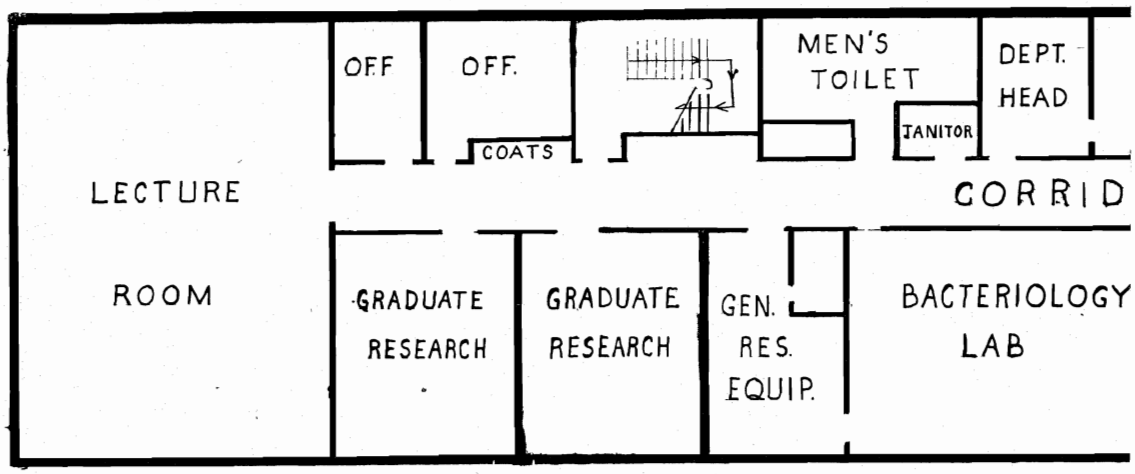


Top Floor Plan

ped for histological research. These two rooms are in the south-west corner. Just north of these two rooms is the old hay loft, which will be converted to a laboratory for anatomical research.

Several improvements are scheduled for the basement of the anatomy building, some of which are currently underway. The students are to have shower facilties available and Dr. Browne's workshop will be converted into much needed locker space. Staff lockers and showers are to occupy the extreme south-west corner of the building.

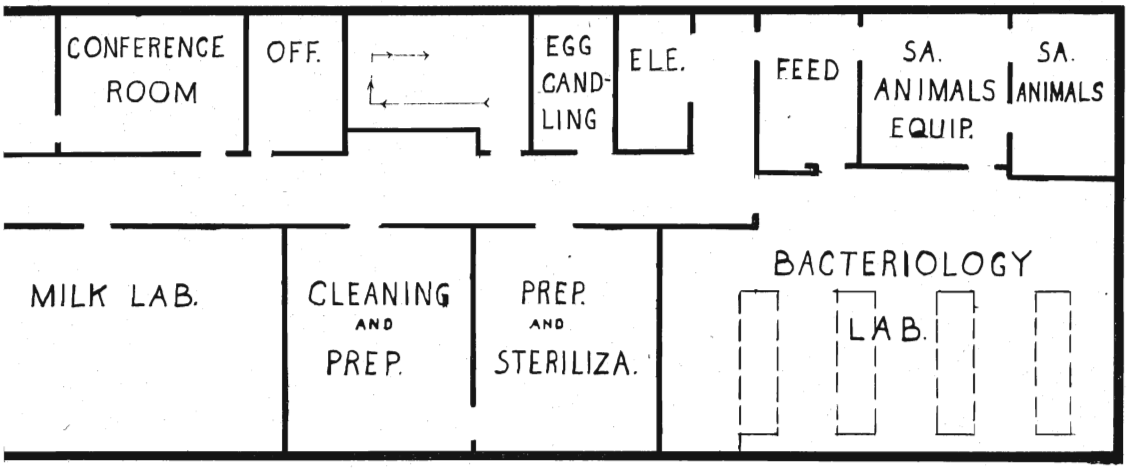
A very unique system has been devised for the preparation and movement of large animals used for dissection. An old two-car basement garage, adjacent to the west of the anatomy building, is currently being converted to serve as a preparation room for large animals. Overhead tracks will then carry these prepared specimens into a walk-in cooler. The cooler will occupy the two south-west corner "dog-rooms". As needed, the prepared specimens may be moved by elevator to the dissecting laboratory. Here an overhead railway has been devised with ten shunts to facilitate the movement of these heavy animals to the desired sites. This will eliminate the necessity of handling these heavy specimens by brute strength, plus eliminating the need of the freshmen wasting one or two laboratory periods per quarter to move the specimens.

The new diagnostic laboratory is to be of brick construction with two wide bands of windows to the north. Corridors and floors will have asphalt tile. Each hall, office and laboratory is to be painted a different color to provide a pleasant atmosphere in which to work. Laboratory tables will be of birch construction with acid proof tops. Stainless steel tables and equipment will be utilized where tissues will be handled. The laboratory is expected to be ready for use by the summer of 1956.

Semen Collection by Electrical Stimulation

Dr. John Herrick, B.S., D.V.M., M.S.

Frequently bulls are encountered that refuse or are unable to serve a female or an artificial vagina. Massage of the internal genitalia has been found to be an unsatisfactory way of obtaining semen. Semen collection by electroejaculation has been demonstrated in rams, boars and bulls. Failure of a young Guernsey bull at the Iowa State College Dairy Farm to serve a female or an artificial vagina



agnostic Laboratory

The Author Shown Holding Rectal Probe. The Right Hand is on the Voltage Control Knob.

prompted the development of a unit to collect semen by electrical stimulus. The instrument was designed by the Instrument Shop at Iowa State College.

The electrical stimulus was 110 volt 60 cycle current reduced by a transformer. A rubber rectal probe was designed 12 inches long, 1½ inches in diameter containing six rings inlaid in the rubber serving as electrodes. The wire from the transformer to probe is 10 feet long.

The rectum is thoroughly cleaned out manually, then a 3 percent saline enema is administered. Voltage is gradually increased and reduced from zero until an erection is obtained. Ejaculation requires greater voltage. There is a great deal of variation in the voltage required between bulls and even between collections of the same bull. In general, an erection is obtained with 5 volts and ejaculation with

* **Semen** *(Continued on page 158)*

tions revealed mild fever (103-104.5°), serous nasal discharges, depression, a cough and mucus and blood in the feces in six animals. Two animals had superficial erosions of the buccal mucosa. No evidence of pneumonia was obtained. A diagnosis of transmissible erosive gastroenteritis was made and no treatment was given.

Day 2 to 21 — During this time most, if not all, of the animals in the herd became affected. The herd was first observed by the writer on *day 11.* New cases appeared at the rate of approximately 30 per week. The course of the disease was mild and generally conformed to the following pattern. The first 2-7 days of illness were characterized by moderate fever (103-104.0°F.) partial anorexia, depression, nasal discharge, cough, leucopenia and passage of mucus and blood with the feces. Erosions of the buccal mucosa occurred in about 10 percent, and approximately 20 percent developed varying degress of stiffness but no laminitis. A few also developed diarrhea during this period. This period was followed by one of 2-10 days in which diarrhea was the only marked clinical sign. Coughing occurred, however, and to a much lesser extent the nasal discharge persisted in some during this period.

Day 34 — The herd appeared to be practically recovered although several animals were not eating normally. The owner and the attending veterinarian estimated the weight loss from this disease to be approximately 75-100 pounds per head. None of the pigs in this lot developed any signs of disease. The stock cattle on the other part of the farm were cared for by a person who had no contact with the steers and did not develop disease.

The disease was reproduced in a calf in the laboratory by the intravenous administration of 5 ml. of defibrinated blood obtained from an animal in this herd at a time when leucopenia was present.

Summary

A description is given of an apparently new disease of cattle that has been tentatively named transmissible erosive gastroenteritis. The disease has been observed in many beef and some dairy herds in Indiana. It bears some resemblance to several other diseases of cattle, and presently the only definitive information available indicates that it is immunologically unrelated to virus diarrhea (New York).

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*** Semen**

(Continued from page 151)

15 to 25 volts. The prepuce is thoroughly cleansed prior to stimulation and semen may be collected in a funnel and tube or a large mouth beaker.

No adverse effects have been noticed on 10 bulls so stimulated. However, it is not a substitute for an artificial vagina if the animal in question will mount.

The intramuscular use of 1.5 Gm. of ACTH as initial dosage, followed by 1.0 Gm. daily where recovery is not apparent after the first dose or in relapses, is suggested in treatment of ketosis in dairy cattle. Satisfactory response was reported in the limited number of cases treated. There is usually improvement in the appetite in 24 hours with normal appetite in 48 hours. Cortisone in similar dosage provides the same therapeutic action and clinical response in ketosis.