

MICHIGAN  
STATE AGRICULTURAL COLLEGE  
EXPERIMENT STATION

DIVISION OF BACTERIOLOGY AND HYGIENE

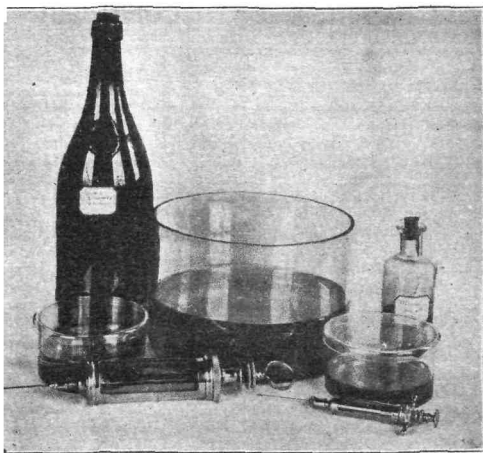


Fig. 1. Showing apparatus and instruments for immunizing pigs against hog cholera. Materials for serum, on the left; and for virus, on the right of large dish of disinfecting solution.

HOG CHOLERA SERUM.

EAST LANSING, MICH.

## HOG CHOLERA SERUM.

*Introduction.*—The Bureau of Animal Industry has recommended for combating hog cholera a serum prepared from the blood of a hog so treated as to produce a great resistance to the disease. The Bacteriological Laboratory of the Michigan Agricultural College, East Lansing, is manufacturing this serum.

*Preparation.*—A pig which has passed through an attack or epidemic of hog cholera and is resistant to the disease or has been treated with serum and virus, or, in other words, has been artificially vaccinated against the disease, is treated with large quantities of blood (virus) from a pig very sick with hog cholera. After a short period, the blood from the pig so treated is drawn, the clot removed, and one-half per cent carbolic acid added. This constitutes the serum used for combating hog cholera.

*Methods of Treatment.*—There are two methods used in treating hogs for the prevention of hog cholera, viz: the "Serum-Simultaneous Method," and the "Serum-Alone Method."

"Serum-Simultaneous Method:" Each pig is injected with the proper doses of "Hog Cholera Serum" and "Hog Cholera Virus." The injections are made "simultaneously" or at the same time before the pig is released. This method is used in herds in which the disease does not exist or where the disease has just started. Pigs treated by this method are immune for six months to one year or perhaps for life. The method is not dangerous as a rule, but it is attended with greater danger than the "Serum-Alone Method." However, the resulting immunity is much longer than in the case of the "Serum-Alone Method" and the additional expense is not to be considered. Pigs that show an elevation of temperature or any other symptoms of hog cholera, or pigs that have been exposed to infection longer than one or two days are treated by this method at some risk. *We do not recommend this method at present.*

"Serum-Alone Method:" Each pig is treated with the proper dose of serum *only*. This method is to be used in herds where the disease already exists and is to be used on seemingly healthy pigs *only*. The earlier in the outbreak it is used, the greater the number of animals that may be treated with prospects for a successful outcome. Pigs already sick will probably not benefit by its use. Many pigs, apparently well, but already infected with the disease germs, can not be saved by the use of serum, although a number of them may be saved. Serum alone may also be used on pigs that it is desired to show at fairs or other public places for a short time where they may be exposed to infection.

*Because of difficulties which we have experienced when using the "Serum-Simultaneous Method" in the field under different conditions than those under which the serum has been tested, we do not recommend it or permit the virus to pass out of our hands for the present.*

There is no danger in the use of the "Serum-Alone Method," and we heartily recommend it where hog cholera exists or in cases where immunity is desired for a short period.

Separate the well from the sick or those to be treated from those not to be treated. If possible, mark in some way all those treated or all those not treated so that the results of the treatment may be accurately

estimated. The pigs to be treated should be separated according to weight in pens or enclosures, all those requiring the same dose of serum being placed together.

The attendant holds the pig by the hind legs with the snout toward the ground and the inside of thighs or hams exposed to the operator. (See Fig. II).

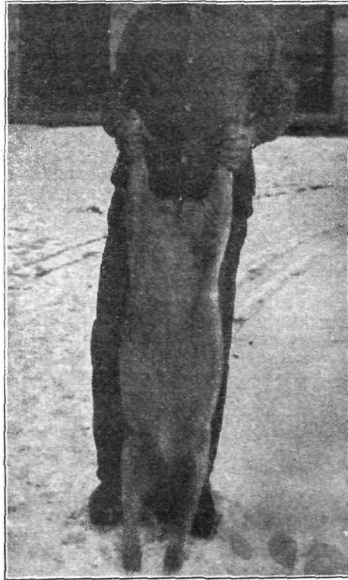


FIGURE 2

Pigs weighing less than 100 lbs. can be easily held in this way. Larger hogs may be thrown on the back with the hind legs spread apart and held securely. Hogs weighing over 200 or 300 lbs. can be treated while standing by inserting the hypodermic needle into the muscles on the inside and back portion of the ham, approaching the hog from the rear. An assistant holds the hog firmly by the tail. A "hogholder" or rope with slip-noose may be placed over the hog's upper jaw, the rope being then snubbed to a fence post. The treatment is not painful to the pigs which usually cease resistance while the injection is taking place.

TABLE OF DOSAGE.

Weight of Pig.	Dose of Serum.	
	Minimum.	Maximum.
Sucking pig .....	10 cc.	15 cc.
30- 50 lbs .....	15 cc.	20 cc.
50- 75 lbs .....	20 cc.	25 cc.
75-125 lbs .....	25 cc.	30 cc.
125-175 lbs .....	30 cc.	35 cc.
175-225 lbs .....	35 cc.	40 cc.
225-275 lbs .....	40 cc.	45 cc.
275-325 lbs .....	45 cc.	50 cc.
325-375 lbs .....	50 cc.	55 cc.
375-425 lbs .....	55 cc.	60 cc.
425-475 lbs .....	60 cc.	65 cc.
475 lbs. and larger.....	65 cc.	70 cc.

*Do not underestimate the weight of pigs for the sake of saving the price of a few cc. of serum.*

*Syringe.*—A suitable syringe should be available for injecting the serum.

*Responsibility of Bacteriological Laboratory.*—The Bacteriological Laboratory does not recommend "Hog Cholera Serum" as a curative or remedial agent for hogs already suffering from hog cholera. The laboratory does recommend the use of "Hog Cholera Serum," prepared according to the method used by the Bureau of Animal Industry, as the only known preventive of hog cholera. Nothing is guaranteed. Michigan farmers must base their decision to use or omit the use of "Hog Cholera Serum" upon its merits as established by field tests. (See contract.)

"Hog Cholera Serum" is a preventive of *hog cholera* only. It can not be expected to prevent hogs from dying or becoming sick from any other infection than that of *hog cholera* or from disorders caused by intestinal or other parasites. "Hog Cholera Serum" cannot replace proper care and feeding of swine or save hogs from dietary troubles other than those caused by the *virus of hog cholera*.

*Contract.*—A contract is required of all using the serum, releasing the laboratory from all responsibility in the matter.

*Cost of Serum.*—A charge of two cents per cubic centimeter is made for the serum. This is below the actual cost of production and testing.

*Orders.*—The amount of serum needed can be easily estimated in cubic centimeters from the table of dosage. Multiply the number of cubic centimeters by .02 and the product will be the cost in dollars and parts of a dollar. *Make orders clear and definite.*

*Shipping.*—The serum will be sent by express only. In order to reduce the labor and trouble for both parties concerned, it will be sent C. O. D.

*More detailed directions and a blank contract will be sent with the serum.*

*Orders and Communications.*—All requesting serum should address their communications to

THE BACTERIOLOGICAL LABORATORY,  
Michigan Agricultural College,  
East Lansing, Mich.