

usually the most profitable plan to clean the troughs and feeding-ground thoroughly, and turn the feed over to the stock hogs, rather than to save it for the animals that are being fattened. The motto of the successful hog-raiser should be, "Enough, but no waste."

New York State.

LAWRENCE IRWELL.

Hog-cholera Immunization.

Editor "The Farmer's Advocate":

During the past year a number of Missouri State herds have been inoculated with the "hyperimmunized serum," with good results. The serum is made by immunizing a hog against cholera. This is done by taking a well hog, or, preferably, one that has naturally passed through the disease, and feeding it increasing amounts of infected cholera entrails, etc., or injecting it with gradually-increasing doses of infected blood from pigs dying with cholera, or doing both the above. In the course of a couple of months he becomes thoroughly immune to cholera, and his blood is then drawn from the tail, which blood is then mixed with carbolic acid to the extent of 5 per cent. It is now the "hyperimmunized serum" used in the inoculation of pigs for the prevention of cholera. The pig is bled from the end of the tail at intervals of a week to ten days, until the tail is all chopped off, and then the pig is killed and the remaining blood taken. All this blood is also mixed with carbolic acid to the extent of making the serum 5 per cent. acid, and it is then ready to be used in the inoculation of pigs. Each hog will furnish about 300 to 400 doses. By a dose is meant 20 cubic centimetres, sufficient for a pig weighing less than 100 pounds. For each additional 75 or 100 pounds, an extra 20 cubic centimetres is used; that is, about 40 cubic centimetres of the serum for a hog weighing 200 pounds, and so on.

Within the last eight months, over fifty herds were vaccinated in Missouri against cholera, and, with the exception of one herd, every owner was highly pleased with the results accomplished. This one herd was vaccinated with a rush-order serum, which had not been tested at the Station, because of the urgency of the call. The herds inoculated were, for the most part, all pure-bred, and furnish excellent proof of the possibilities of the serum.

Experience teaches us that the loss of well hogs, inoculated, even though exposed to the disease and unlimited infection, after inoculation is very slight. Fifty-nine well pigs, running in infected pens, Columbia, Mo., were inoculated with the "hyperimmunized serum," and of that number but three succumbed to the disease. Nearly all the check or untreated pigs died. In other words, in this particular instance a loss of but five per cent. was experienced, or a saving of about 95 per cent., which speaks well for the potency of the serum. Inoculation of sick hogs, already down badly with the cholera, has not been attended with such successful results, although, in most cases, where the disease has not gone too far, some benefit is noticed in that death is delayed. This leads us to the inevitable conclusion, therefore, that the serum is a preventive rather than a cure. This is, however, worth millions to the swine-growers of the United States. That the treatment has the faith and backing of the owners of the herds in which tried, is certainly a sensible criterion of what it will do. If hog cholera breaks out in a herd, and the pigs not showing signs of disease are inoculated immediately, one may expect to save from 60 to 90 per cent. of the inoculated pigs. Some of our experiments upon pure-bred herds of the State have shown a saving of 93 to 94 per cent. However, this is a greater saving than we ordinarily expect.

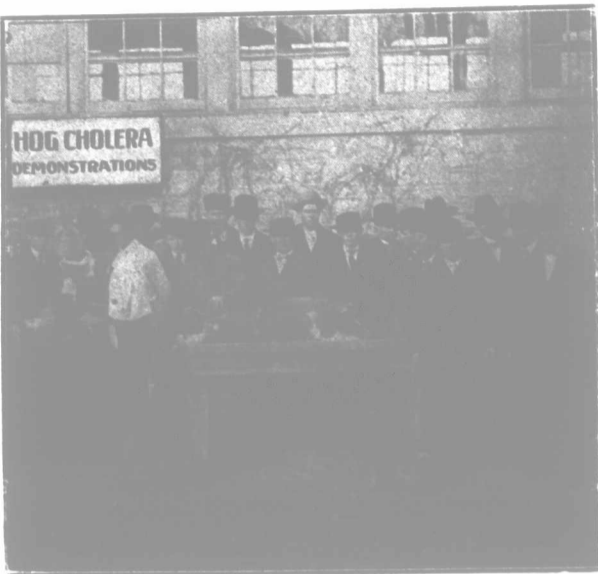
The process of treating is comparatively simple. The herd to be protected is entered, and the pigs caught, one at a time, and vaccinated or inoculated by the injection of "immunizing serum" into the pig at the rate of 20 cubic centimetres to each pig under a hundred pounds in weight, and 20 cubic centimetres for each hundred pounds additional weight. But one inoculation is necessary.

Under present conditions, the Veterinary Department of the Station is almost out of available funds, and, of course, it is obvious that it cannot, under these conditions, push the work as it should be pushed. If the Department is provided with the proper facilities for the manufacture and distribution of serum, the loss will be so reduced as to lose its momentous economic importance. An outbreak, then, occurring in any part of the State, can be limited to the farm on which it occurs, the spread to neighboring herds effectively prevented, and that practically at the loss only of those animals which are down with or showing signs of the disease at the time when it is recognized. This "Immunizing Serum," then, will, when produced under State supervision and control, be used as a quarantine measure, and not be sent out promiscuously for free distribution. This means that an outbreak of hog cholera will be treated, quarantined, and dealt with just like foot and mouth disease, glanders,

scabies, or any other dangerously infectious disease. The farmer having the cholera on his place will notify the authorities, and they will take charge of the outbreak, sending a skilled veterinarian, who, by adopting a strict quarantine, and, by judicious use of the "Preventive Immunizing Serum," will stop the disease on the spot.

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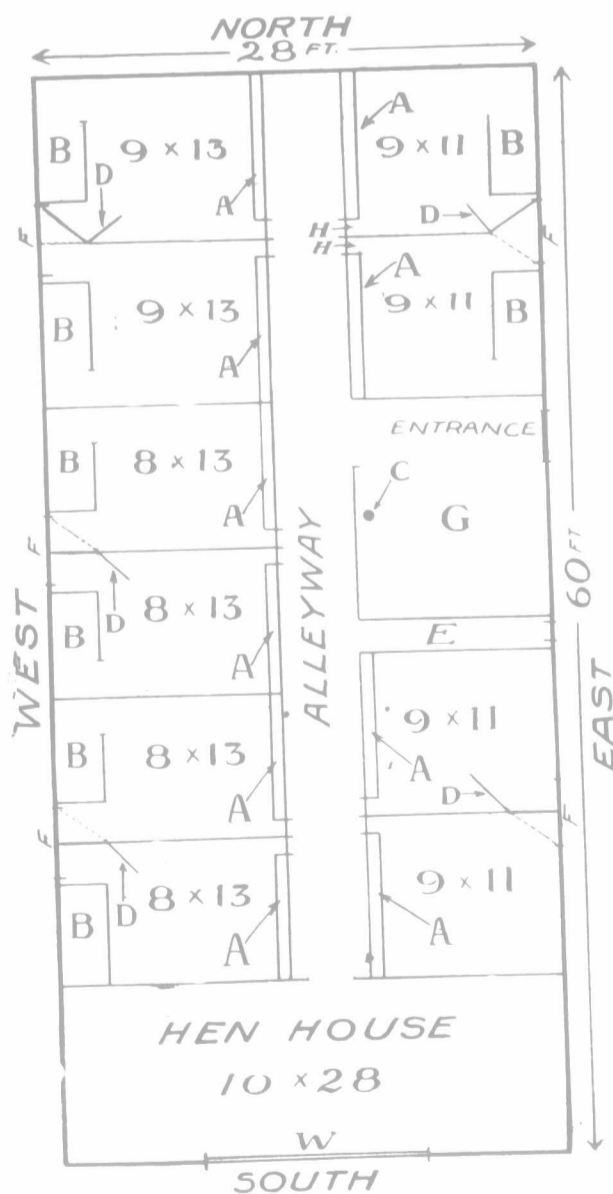
Showing How the Hog-cholera Serum is Drawn and Prepared.

[Note.—The foregoing important subject is dealt with in full detail in "Circular of Information, No. 29," by Dr. J. W. Connaway, Veterinarian of the Missouri College of Agriculture. He cautions swine-raisers against any neglect of the usual sanitary precautions against hog-cholera outbreaks. The serum is a preventive, not a "cure," as reported in the newspapers.—Editor.]

A Satisfactory Pigpen.

Editor "The Farmer's Advocate":

In reply to your request for pigpen plan, I herewith submit ground-floor plan of pen which I built in 1907. The building is 28 x 60 ft. In it



Mr. Wilson's Pigpen Plan.

there are ten pens, two of which are 9 x 13 ft., four 9 x 11 ft., and four 8 x 13 ft., with henhouse 10 x 28 ft. across south end of building. Feed-room (G) in east side, near center; entrance from outside into feed-room, then into alley, 4 ft. wide, running from north end to henhouse. North end is built against barn, A indicating troughs, B beds, C water-pipe from tank under barn, which is supplied by windmill; D, swinging doors on end of short partitions, to swing to either side, and bolts so that one pen may pass in or out at will and close the other pen, or, swinging free, both pens are open to door F, which leads into outside yard; G, feed-room, 11 x 12 ft.; E, loading chute, 2 ft. wide, in which is a loose runway for either wagon or sleigh. There are small doors leading out of each pen into alley; immediately over each door (F) is a large window. There is also a window in feed-room, as well as one 2 x 12 ft. in south side of henhouse, and one 2 x 6 ft. in west end. The partition between henhouse and pen is wood, 3 ft. high, with wire netting to ceiling, and wire door from alley into henhouse, which admits light from large window. The troughs and floor are of cement. The loft is covered with lumber laid slightly open, and covered with two or three feet of straw, so that, with the ventilators in roof, good ventilation is afforded. This pen is quite satisfactory, and, if building again, would make few, if any, changes.

J. J. WILSON.

Halton Co., Ont.

Beef Trade with Japan.

A recent issue of Trade and Commerce Report contains an item from W. T. R. Preston, Trade Commissioner at Yokohama, Japan, in which the beef supply is discussed as follows:

The consideration of a supply of beef for Japan is becoming an exceedingly interesting question. The number of cattle raised annually in Japan is less than 150,000, and it is very doubtful whether that number can be appreciably increased. Lands for grazing purposes are exceedingly limited, and, unless some cheaper mode of feeding young cattle can be discovered, it is hardly likely that greater facilities for raising cattle will exist in the future. On the other hand, the cattle killed at present for domestic purposes in Japan aggregate 225,000. The number of cattle imported from Korea annually has been less than 20,000. It is not unlikely but that this number may be doubled or quadrupled within the next few years, but even that will not keep pace with the increased demand in Japan for meat food. In any event, there can be no marked increase in the export of cattle from Korea for some years, and then it will only be in the Koreans having become more proficient in the raising of cattle, which they are likely to do through the careful instruction which has been given by the newly-established Japanese agricultural station.

In the meantime, however, and probably for all time, there is going to be an increased demand in Japan for beef. It is not surprising that, under present circumstances, the frozen meat from Australia is finding a profitable market, and those engaged in the business are more than satisfied with the outlook. Importers, however, have learned that, if they dispose of it only to wholesale dealers, the general public, whether foreigners or Japanese, are contributing a handsome profit to those who are engaged in the business. In order to put a stop to this situation, it is rumored that the Australian traders have decided upon opening retail stores for the sale of Australian beef in large centers of population. By doing this, they expect to reap a considerable share of a profit which now passes into the hands of the middlemen, and, by selling it at a lower price than the domestic beef is usually marketed for, they expect to engage in an exceedingly profitable business.

The freight rate for chilled or frozen meat from Australia to Japan is 75 shillings per ton, or 40 cubic feet. This is equivalent to about \$18 currency per ton. The trip from Australia takes about 35 days. Inasmuch as the centers of the great cattle markets of Western Canada are within 18 days of Yokohama, it should not be a difficult problem for Canadians to successfully control the meat market of Japan.

Cobblestone Floor.

We have a floor of small cobblestones in part of our horse stable and in the cow stable, which has been down for thirty years, and it is just as good to-day as it ever was, and is very satisfactory. But there are not many who understand the work of laying such a floor right.

D. L.