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Facts About So-Called Hog Cholera Cures and Specifics

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Facts About So-Called Hog Cholera Cures and Specifics

Abstract
Although many so-called hog cholera cures and specifics are widely advertised, none has been found so far in the tests made by the veterinary section or the Iowa Agricultural Experiment Station which will cure bogs affected with cholera. Furthermore, the only product known at the present time which will immunize hogs against cholera is the anti-hog cholera serum produced by the Niles-Dorset method.

Keywords
Veterinary Medicine

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Facts About So-Called Hog Cholera Cures and Specifics

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IOWA STATE COLLEGE OF AGRICULTURE
AND MECHANIC ARTS

Veterinary Section

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Facts About So-Called Hog Cholera Cures and Specifics


Although many so-called hog cholera cures and specifics are widely advertised, none has been found so far in the tests made by the veterinary section of the Iowa Agricultural Experiment Station which will cure hogs affected with cholera. Furthermore, the only product known at the present time which will immunize hogs against cholera is the anti-hog cholera serum produced by the Niles-Dorset method.

Included in the tests of alleged hog cholera cures and specifics so far completed by the veterinary section and the state bacteriological laboratory in cooperation are the following:

- Cholera Immune U. S. Specific
- American Specific No. 2
- Co-Vac-O
- No. 544 Curative
- No. 544 Immunizing
- De Vaux Cholera Antitoxin
- Dr. D. W. Nolan's Anti-Hog Cholera Specific (Noxine)

In addition tests of the Niles-Dorset hog cholera serum were made simultaneously with each of the above products.

These tests were undertaken because of numerous inquiries concerning the efficiency of various so-called hog cholera cures and specifics. These requests for information were so urgent that they made it clearly necessary to determine the reliability of such preparations by means of practical tests conducted under conditions as nearly as possible like those existing on the farms of Iowa. These so-called cures always meet with more or less sale because in cases of distress persons are inclined to take up with the mysterious and buy some new discovery promoted by an unknown person who has little or no responsibility. Particularly do they find a ready market in connection with such epidemics as the so-called Kansas horse disease, the foot and mouth disease, and hog cholera. At these times some previously little known person appears suddenly as a "scientist" and announces his discovery of some specific or cure for the animal disease which happens to be raging. This newly discovered "remedy" is sold to many innocent purchasers who sooner or later learn that they are victims and have parted with their money while the animal disease has followed its natural course uninfluenced by the treatment with the so-called cures.
This sort of practice has been carried on for half a century. Records show that as early as 1862 what were then called “infallible preventatives and sure cures” were used with the same ineffectiveness as at the present time. This class of “remedies” is usually accompanied by many testimonials which are used as strong arguments to recommend them. It should be borne in mind that reliable remedies do not require such testimonials. It should also be remembered that no great discoveries of this character have been made outside the laboratories regularly equipped for, and recognized by state and national government as doing reliable research work. If live stock purchasers would remember that they have competent representatives in the department of agriculture at Washington and at the various state experiment stations who are glad to give them all the information they can along these lines and that this information will be reliable, they would save themselves much trouble and money.

METHOD OF CONDUCTING TESTS

In conducting the tests that were made of the various so-called remedies and of anti-hog cholera serum, special effort was made to be fair and impartial to all concerns. The only object was to learn whether or not the products tested possessed any curative or immunizing powers against hog cholera. It is realized that the present method of producing anti-hog cholera serum is very expensive, because it necessitates the construction of expensive sanitary buildings and the killing of thousands of young shoats to make a virus with which to produce hyper-immune hogs. Therefore, the experiment station and state bacteriological laboratory are not opposed to a more simple and economical method of combating hog cholera. Such a method will be welcomed when it appears. Up to the present time, however, no product has been found that will cure hogs affected with cholera and the only product so far as known that will immunize the hog against cholera is the Niles-Dorset anti-hog cholera serum.

For the sake of thorough comparison, a test was made of anti-hog cholera serum at the same time each of the other preparations was tested. Pigs that received the serum were placed in the pens with the ones receiving the other cures or specifics, except in the case of the De Vaux Vaccine, the pigs in this test being kept separately. Great care was exercised in selecting the pigs for these tests. They were taken from three farms which were known to be free from cholera infection. The pigs were free from parasites and in the very best of physical condition. They were brought to the pens at the experiment station in wagons and treated immediately so as to avoid any previous exposure to hog cholera.

In testing No.544 which is claimed to be both a curative and an immunizing agent we used three healthy pigs for the immunizing dose and three sick pigs for the curative dose. The sick pigs selected
were in the early stage of the disease as they were known to be eating and appearing healthy up to January 25, 1915, the day before the tests were made.

The pen used for the above tests was clean and well ventilated. The pigs received the best of care and feed.

The tests of Co-Vac-O, Hog Cholera Immune and Hog Cholera No. 2 were started on January 12, 1916, while the tests for No. 544 and Anti-hog cholera serum were started on January 26, 1915, the pigs being placed in the same pen with the other tests.

Virus was administered to the pigs receiving anti-hog cholera serum and the two check pigs only, the other pigs receiving their exposure from contact with sick pigs in the same pen. The doses administered were exactly as recommended by the manufacturers of the various products.

Careful post mortem examinations were held over all pigs that died.

RESULTS OF THE TESTS

Following is a detailed report of the tests and the results obtained:

TEST OF CHOLERA IMMUNE U. S. SPECIFIC

Manufactured by The U. S. Specific Co., Indianapolis, Ind.
Date of test—January 12, 1916.

<table>
<thead>
<tr>
<th>No. of Pig</th>
<th>Weight</th>
<th>Dose of Remedy</th>
<th>Results of Exposure to Hog Cholera</th>
</tr>
</thead>
<tbody>
<tr>
<td>1713</td>
<td>58 lbs.</td>
<td>5 cc</td>
<td>Died of Hog Cholera Feb. 6, 1915</td>
</tr>
<tr>
<td>1714</td>
<td>49 lbs.</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 11, 1915</td>
</tr>
<tr>
<td>1715</td>
<td>50 lbs.</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 3, 1915</td>
</tr>
<tr>
<td>1716</td>
<td>51 lbs.</td>
<td>5 cc</td>
<td>Died of Hog Cholera Feb. 2, 1915</td>
</tr>
<tr>
<td>1717</td>
<td>43 lbs.</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 12, 1915</td>
</tr>
<tr>
<td>1718</td>
<td>42 lbs.</td>
<td>4 cc</td>
<td>Died of Hog Cholera Jan. 30, 1915</td>
</tr>
</tbody>
</table>

TEST OF AMERICAN SPECIFIC No. 2

Manufactured by The American Specific Co., Indiana Harbor, Ind.
Date of test—January 12, 1915.

<table>
<thead>
<tr>
<th>No. of Pig</th>
<th>Weight</th>
<th>Dose of Remedy</th>
<th>Results of Exposure to Hog Cholera</th>
</tr>
</thead>
<tbody>
<tr>
<td>1719</td>
<td>52 lbs.</td>
<td>5 cc</td>
<td>Died of Hog Cholera Feb. 16, 1915</td>
</tr>
<tr>
<td>1720</td>
<td>36 lbs.</td>
<td>3 cc</td>
<td>Died of Hog Cholera Jan. 31, 1915</td>
</tr>
<tr>
<td>1721</td>
<td>50 lbs.</td>
<td>4 cc</td>
<td>Died of Hog Cholera Jan. 30, 1915</td>
</tr>
<tr>
<td>1722</td>
<td>42 lbs.</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 15, 1915</td>
</tr>
<tr>
<td>1723</td>
<td>50 lbs.</td>
<td>4 cc</td>
<td>Died of Hog Cholera Jan. 30, 1915</td>
</tr>
<tr>
<td>1724</td>
<td>53 lbs.</td>
<td>5 cc</td>
<td>Died of Hog Cholera Feb. 1, 1915</td>
</tr>
</tbody>
</table>
## TEST OF CO-VAC-O
Manufactured by Co-Vac-O Company, Indianapolis, Ind.
Date of test—January 12, 1915.

<table>
<thead>
<tr>
<th>No. of Pig</th>
<th>Weight</th>
<th>Dose of Remedy</th>
<th>Results of Exposure to Hog Cholera</th>
</tr>
</thead>
<tbody>
<tr>
<td>1725</td>
<td>46 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 13, 1915</td>
</tr>
<tr>
<td>1726</td>
<td>50 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Jan. 31, 1915</td>
</tr>
<tr>
<td>1727</td>
<td>43 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 5, 1915</td>
</tr>
<tr>
<td>1728</td>
<td>56 lbs</td>
<td>4½ cc</td>
<td>Died of Hog Cholera Jan. 29, 1915</td>
</tr>
<tr>
<td>1729</td>
<td>46 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 4, 1915</td>
</tr>
<tr>
<td>1730</td>
<td>44 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 20, 1915</td>
</tr>
</tbody>
</table>

1731 No treatment  | 1732 No treatment  | 1733 No treatment  | 1734 No treatment |

## TEST OF No. 544 CURATIVE
Manufactured by The Thiele Laboratories Co., Columbus, Ohio.
Date of test—January 25, 1915.

<table>
<thead>
<tr>
<th>No. of Pig</th>
<th>Weight</th>
<th>Dose of Remedy</th>
<th>Results of Exposure to Hog Cholera</th>
</tr>
</thead>
<tbody>
<tr>
<td>1740</td>
<td>52 lbs</td>
<td>4½ cc</td>
<td>Died of Hog Cholera Feb. 11, 1915</td>
</tr>
<tr>
<td>1741</td>
<td>70 lbs</td>
<td>7½ cc</td>
<td>Died of Hog Cholera Feb. 6, 1915</td>
</tr>
<tr>
<td>1742</td>
<td>70 lbs</td>
<td>7½ cc</td>
<td>Died of Hog Cholera Feb. 1, 1915</td>
</tr>
</tbody>
</table>

## TEST OF No. 544 IMMUNIZING
Manufactured by The Thiele Laboratories Co., Columbus, Ohio.
Date of test—January 26, 1915.

<table>
<thead>
<tr>
<th>No. of Pig</th>
<th>Weight</th>
<th>Dose of Remedy</th>
<th>Results of Exposure to Hog Cholera</th>
</tr>
</thead>
<tbody>
<tr>
<td>1743</td>
<td>45 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 7, 1915</td>
</tr>
<tr>
<td>1744</td>
<td>62 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 15, 1915</td>
</tr>
<tr>
<td>1745</td>
<td>60 lbs</td>
<td>4 cc</td>
<td>Died of Hog Cholera Feb. 8, 1915</td>
</tr>
</tbody>
</table>

## TEST OF S. B. L. No. 75 ANTI-HOG CHOLERA SERUM
Date of test—January 26, 1915.

<table>
<thead>
<tr>
<th>No. of Pig</th>
<th>Weight</th>
<th>Am’t of Virus</th>
<th>Am’t of Serum</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1749</td>
<td>50 lbs</td>
<td>2 cc</td>
<td>20 cc</td>
<td>Pigs remained well</td>
</tr>
<tr>
<td>1750</td>
<td>45 lbs</td>
<td>2 cc</td>
<td>15 cc</td>
<td>Pigs remained well</td>
</tr>
<tr>
<td>1751</td>
<td>55 lbs</td>
<td>2 cc</td>
<td>20 cc</td>
<td>Pigs remained well</td>
</tr>
<tr>
<td>1752</td>
<td>62 lbs</td>
<td>2 cc</td>
<td>15 cc</td>
<td>Pigs remained well</td>
</tr>
<tr>
<td>1753</td>
<td>65 lbs</td>
<td>2 cc</td>
<td>25 cc</td>
<td>Pigs remained well</td>
</tr>
<tr>
<td>1754</td>
<td>60 lbs</td>
<td>2 cc</td>
<td>25 cc</td>
<td>Pigs remained well</td>
</tr>
<tr>
<td>1755</td>
<td>50 lbs</td>
<td>2 cc</td>
<td>0</td>
<td>Died of Hog Cholera Feb. 3, 1915</td>
</tr>
<tr>
<td>1756</td>
<td>50 lbs</td>
<td>2 cc</td>
<td>0</td>
<td>Killed for Virus Feb. 3, 1915</td>
</tr>
</tbody>
</table>
TEST OF DeVAUX CHOLERA ANTITOXIN
Manufactured by DeVaux Antitoxin Co., Chicago, Ill.
Date of test—January 12, 1916.

<table>
<thead>
<tr>
<th>No. of Pigs</th>
<th>Weight</th>
<th>Dose of Remedy</th>
<th>Dates of doses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1735</td>
<td>55 lbs</td>
<td>4 cc</td>
<td>In each case, 1st dose 1-12-15</td>
<td>Died Feb. 3, 1915 Cholera</td>
</tr>
<tr>
<td>1736</td>
<td>54 lbs</td>
<td>4 cc</td>
<td></td>
<td>Died Feb. 13, 1915 Cholera</td>
</tr>
<tr>
<td>1737</td>
<td>52 lbs</td>
<td>4 cc</td>
<td>2nd dose 1-13-15</td>
<td>Died Jan. 28, 1915, Cholera</td>
</tr>
<tr>
<td>1738</td>
<td>49 lbs</td>
<td>4 cc</td>
<td>4th dose 1-19-15</td>
<td>Died Feb. 10, 1915 Cholera</td>
</tr>
<tr>
<td>1739</td>
<td>50 lbs</td>
<td>4 cc</td>
<td></td>
<td>Died Jan. 30, 1915 Cholera</td>
</tr>
</tbody>
</table>

Where immunization is desired the manufacturer of this product recommends the administration of four doses, to be given as follows: One on the first day, one on the second, one on the seventh and one on the twenty-first.

We attempted to isolate the pigs used in this test so as to keep them from exposure to cholera until after the fourth dose was administered but shortly after the third dose was administered on January 19, 1915, the pigs sickened, so the fourth dose was not given. Pigs all died of cholera on the dates given above.

While this test is incomplete it shows the impracticability of a method of immunizing hogs which requires three weeks' time to complete, especially in districts where cholera is prevalent.

TEST OF Dr. D. W. NOLAN'S ANTI-HOG CHOLERA SPECIFIC (Later called Noxine)
Manufactured by Dr. D. W. Nolan's Specific Co.
Date of test—April 7, 1915.

<table>
<thead>
<tr>
<th>No. of Pigs</th>
<th>Weight</th>
<th>Dose</th>
<th>Exposure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1798</td>
<td>50 lbs</td>
<td>As per directions in each case</td>
<td>Pen with sick pigs in each case</td>
<td>Died May 3, 1915</td>
</tr>
<tr>
<td>1799</td>
<td>60 lbs</td>
<td></td>
<td></td>
<td>Died April 26, 1915</td>
</tr>
<tr>
<td>1800</td>
<td>40 lbs</td>
<td></td>
<td></td>
<td>Died April 1, 1915</td>
</tr>
<tr>
<td>1801</td>
<td>50 lbs</td>
<td></td>
<td></td>
<td>Died April 19, 1915</td>
</tr>
<tr>
<td>1802</td>
<td>55 lbs</td>
<td></td>
<td></td>
<td>Died April 22, 1915</td>
</tr>
</tbody>
</table>

On April 6, 1915, 37 healthy pigs were purchased from farmers whose premises were known to be free from hog cholera infection.

Thirty-two of these pigs were used in testing four mixtures of serum and five were selected for the purpose of testing the curative value of Dr. Nolan's Specific, a product which is represented to be both a curative and a preventative for hog cholera.

These five pigs were weighed, numbered and placed in a pen with two sick pigs. They were not injected with virus.

Pigs remained well and ate heartily until April 15 when pigs...
Nos. 1801 and 1802 did not come up to eat. The other three pigs, Nos. 1798, 1799 and 1800, were still eating and appeared healthy.

Dr. Nolan's remedy was administered as directed to all five of the pigs, beginning on April 15 the first day that sickness appeared.

Pasteurized milk was purchased from the dairy department of Iowa State College in which the medicine was placed and fed from an iron trough. Each pig was given two teaspoonsful of the medicine in a pint of milk each morning and evening. A bran slop was given at noon.

The above is as directed by the producers of the medicine.

During this period, from April 15 to April 22, two pigs died of hog cholera. Number 1801 died on April 19 and 1802 died on April 22, 1915.

On April 24 the remaining three pigs would not drink the milk and medicine so the medicine was administered with a spoon each morning and evening until they were all dead of hog cholera.

Number 1799 died on April 26, No. 1800 died on May 1 and No. 1798 died on May 3.

Post mortem examinations revealed well marked lesions of hog cholera in each carcass.

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SUMMARY

Products tested:

- Cholera Immune U. S. Specific.
- American Specific No. 2.
- Co-Vac-O.
- No. 544 Curative.
- No. 544 Immunizing.
- De Vaux Cholera Antitoxin.
- Dr. D. W. Nolan's Anti-Hog Cholera Specific (Noxine).
- Hog Cholera Serum. (Niles-Dorset).

No. of shoats used in test ......................... 46
No. of shoats treated ............................. 40
No. of shoats not treated ........................ 6 All died
No. of shoats treated with hog cholera serum ...... 6 None died
No. of shoats treated with other products not serum .. 34 All died

Method of Exposure: Infected pen. Serum test pigs given 2 cc virus in addition to pen exposure.

The results of tests in Ohio, Indiana and Kentucky on “544” gave the same results as were secured in the Iowa tests.

All above tests indicate that none of the products entering into the tests protected hogs against attacks of hog cholera except hog cholera serum prepared according to the general plan worked out and recommended by the Bureau of Animal Industry of the U. S. Department of Agriculture.