

Necessity of Refined, Sterile Hog Cholera Serum

The necessity of sterility in hog cholera serum is shown by the fact that the word "sterile", when applied to a serum, means just one thing—absolute freedom from all living germs.

Unless the serum is guaranteed to be sterile, you may be assured that it contains germs, and these germs will multiply as the product ages.

Serious abscesses may be produced, or even blood poisoning result from the injection of contaminated serum. Why take chances with your hogs?

Sterile (germ-free) serum, cannot decompose. It is absolutely free from all noxious substances and cannot produce abscesses or in any way injure your hogs when properly administered.

Too much emphasis cannot be laid upon safeguarding hog cholera serum against foot-and-mouth disease. There is only one method known at the present time that can be depended upon as an absolute safeguard. I refer to the heating of serum to 60° C. for 30 minutes, as recommended by the U. S. Bureau of Animal Industry. The man who uses any hog cholera serum that has not been heated by this Government-recommended process, takes a needless risk.

Unless the serum is refined it contains solid matter which has no protective value, but causes the serum to be absorbed very slowly.

Properly refined serum is absolutely free from all solid matter. When injected it is promptly and completely absorbed, thus insuring immediate and full protective value from the dose injected.

Irregular and uncertain results must be expected from the ordinary, contaminated, unrefined serums.

Uniform, dependable results may be expected only through the use of refined, sterile, heated serum, with its prompt and complete absorption, its absolute freedom from all germs and disease, and its guaranteed potency.

H. K. Wright, D.V.S.

Mulford Refined Hog Cholera Serum

The only 100% Potent, Sterile (germ-free), Clear, Heated Hog Cholera Serum

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CULTIVATORS AND CROP CULTIVATION

IV.—Adjustment of Two-horse Cultivators

[Under the above heading a series of five articles will appear. These articles should be read by every farmer interested in raising a maximum corn or cotton crop.]

ONE reason why farmers should use more two-horse cultivators is that they take a full row every time and thus save one-half the labor bill. But another equally important reason is that they can be adjusted and adapted to all conditions of soils and crops, to cultivate deep or shallow, level or bedded.

A farmer can now buy a two-horse wheel cultivator which will use any kind of spring-tooth, shovel or disk attachment that he may prefer. For example, suppose he purchases a riding disk cultivator and finds it useful to round off and pulverize the seed beds before planting. As soon as the corn or cotton gets large enough to cultivate, these disk gangs can be taken off and four, six or eight shovels attached in their place. These will serve for the first one or two cultivations and can then be replaced by sweeps or by spring-tooth gangs. By paying just a little more for these extra attachments, a farmer is prepared to cultivate his crop any way he wants to. Not only can he use any kind of attachment he pleases, but these attachments have many adjustments to adapt them to do work under all conditions. For example, in a disk cultivator the disk gangs can be set to throw the dirt toward or away from the row, to throw more or less dirt, and to leave the surface level or bedded. With the shovel gang attachment, the shovels can be twisted to throw the dirt either way or set straight and leave the surface level; they can be set to penetrate deep or shallow, or placed close together or farther apart according to width of rows.

The two-horse cultivators have some other important adjustments which make them very desirable. The wheels can be placed at any distance apart depending upon the width of rows. This is usually accomplished by what is known as a telescope axle; that is, the axle is in two pieces and the ends opposite the wheels can be forced in or out of a socket, sleeve casting, or pipe.

The single trees on all two-horse cultivators can be attached at varying heights, depending upon the size of team; that is, to do the best work with a large team, set the single trees higher than for a smaller team.

The tension on the gang lift springs on most cultivators can be varied, depending upon the weight of the gangs. Disk gangs are heavier than shovel gangs, consequently these springs must be tightened in order to permit the gangs to be lifted out of the ground easily.

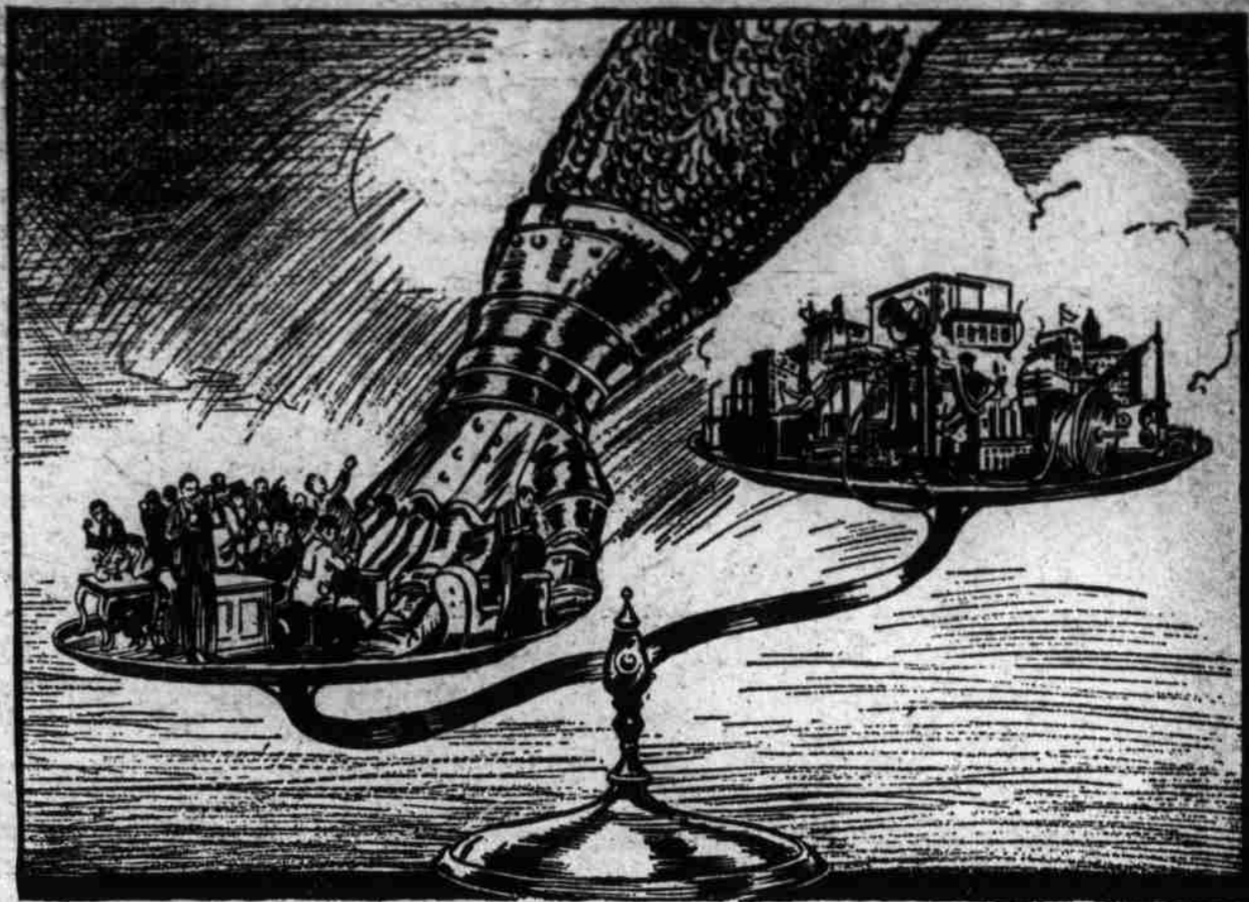
All two-horse cultivators should have some sort of an arch adjustment so that gangs and inside shovels can be set to cultivate as close to the row as possible. Many riding cultivators are now equipped with a hand lever by which this distance can be changed instantly.

All riding cultivators should have a balancing lever or some adjustment by which the weight of the driver on the seat and the tongue are properly balanced so that, when the gangs are raised, the neck yoke will not fly up and strike the jaws of the horses. Of course the seat can always be moved forward or backward in order to permit the operator to handle the gangs easily with his feet. This adjustment may sometimes be used to balance the cultivator also.

In buying a two-horse cultivator of either the walking or riding type, the farmer should keep all of these adjustments in mind and take advantage of them if possible.

F. R. JONES.

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The Weight of War

The heavy hand of war has disturbed the balance between supply and demand the world over. Our problem of serving the public has all at once assumed a new and weightier aspect.

Extraordinary demands on telephone service by the Government have been made and are being met. Equipment must be provided for the great training camps, the coast-defense stations must be linked together by means of communication, and the facilities perfected to put the Government in touch with the entire country at a moment's notice.

In planning for additions to the plant of the Bell System for 1917, one hundred and thirty millions of dollars were apportioned. This

is by far the largest program ever undertaken.

But the cost of raw materials has doubled in a year. Adequate supplies of copper, lead, wire, steel and other essentials of new equipment are becoming harder to get at any price, for the demands of war must be met.

Under the pressure of business incident to the war, the telephone-using public must co-operate in order that our new plans to meet the extraordinary growth in telephone stations and traffic may be made adequate.

The elimination of unnecessary telephone calls is a patriotic duty just as is the elimination of all waste at such a time. Your Government must have a "clear talk track."



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