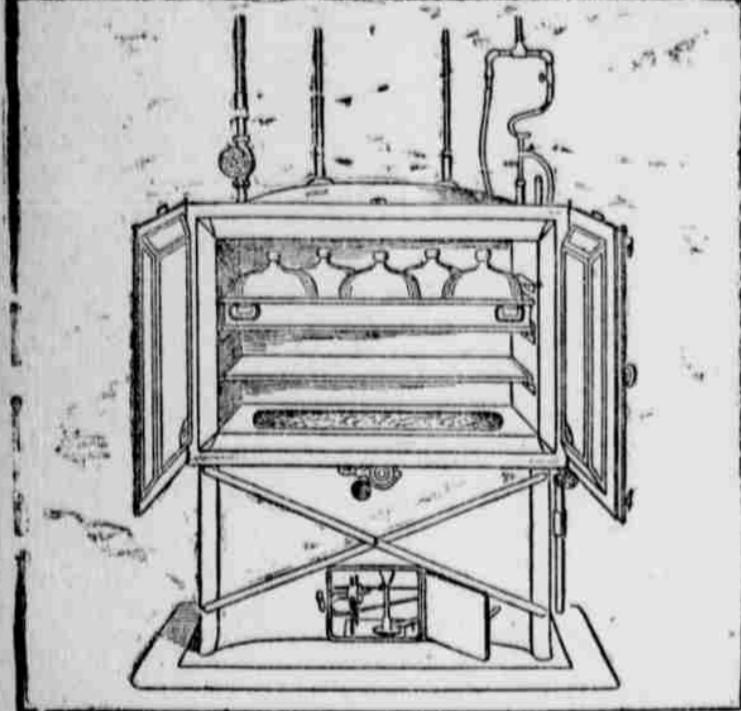


## TESTING SEEDS.

### INTERESTING OPERATIONS AT AN EXPERIMENTAL STATION.

**Seed Adulteration Has Been Reduced to a Science—Test for Impurities—Home-Made Germinating Apparatus.**

WITH the coming of spring, heralded by the alluring and highly colored advertisements of seed dealers and florists, the farmer, housewife and amateur gardener are flooding the mails with the seed orders they are sending to the dealers. The little paper packages, full of promises of lovely blooms and plump vegetables, will be sent by return mail, and then will come the plaiting, waiting, anxiety and triumph or disappointment. Those who bought their seeds of re-



SEED-GERMINATING APPARATUS USED BY THE GOVERNMENT.

putable, conscientious dealers will have themselves to blame if plants, grasses, flowers and shrubs fail to spring from the seed, but too often the little bags or packages of seeds contain sand, crushed quartz, "dead" seed or inferior seed mixed with a small proportion of the genuine, for seed adulteration has been reduced to a science.

Sometimes this adulteration is due to sheer carelessness on the part of growers and dealers, but more often it is the result of careful study and careful manipulation by dishonest men. Europe set the example of mixing inferior, dead and cheap seed with the good to increase the profits of the grower and dealers, and some of the worst pests which trouble farmers were introduced into this country through the medium of adulterated seeds.

The Russian thistle, a foul weed which covers over 35,000 square miles of good farming lands and seriously interferes with agricultural operations in seven States, stole into the United

out upon a smooth glazed black or white surface and all of the impurities are carefully separated from the genuine seed, weighed and their percentage ascertained. All chaff, sand and foreign mixtures of any sort are regarded as impurities. The seeds of weeds are identified, if possible, and every result is carefully recorded on blanks made for the purpose. When the test for impurities is complete the germinating test is made. Where the tests are made thoroughly two lots of seeds are taken for the germinating test; one for the germinating apparatus and one for outdoor or greenhouse culture. For sprouting seeds it is necessary to have some sort of an apparatus in which all of the different factors governing germination, such as light, temperature and moisture, can be controlled, and this requires artificial heat which can be readily regulated. Various forms of equipments are used; one of them consists of a square chamber

carried to place the pan near the stove or in some warm place at night. The pan may be left partly open from time to time to permit fresh air to reach the seed. With this apparatus, and a strong magnifying glass to aid in separating the impurities from the sample to be tested, any farmer can ascertain the practical value of his seed. The sample should be a fair average of the whole and it should be weighed and the seeds counted so that the proper percentage of purity and germinating value can be ascertained.

For cleaning large quantities of seed from which to secure a test sample a seed-cleaning machine is required. One used in an experimental station is like a fanning mill. This machine not only separates the chaff and dirt from the seed, but divides the clean seed into light and heavy seeds.

All that this machine does can be done by a farmer with a number of sieves, varying in the number of meshes to the inch. With a number of such sieves the seeds can be cleaned and separated quickly and cheaply.

—Chicago Record.

### MUSEUM IN THE "WHITE HOUSE."

Confederate Memorial Collection Established in Richmond.

The building in which the Confederate museum has just been established, says Leslie's Weekly, is the old White House of the Confederacy. The building was purchased by the city of Richmond for \$40,000 and presented to President Davis when the seat of the Confederate Government was moved from Montgomery, Ala. Jefferson Davis occupied it four years. In April, 1865, when the Federal Army occupied the town, this building became headquarters for "Military District No. 1." From 1871 to less than two years ago it was used as a public school. Miss Winnie Davis, "the Daughter of the Confederacy," was born in the house. Little Joe Davis fell from the portico and was killed.

A Confederate bazaar in Richmond in 1892 yielded \$32,000, and with this and other contributions the building has been restored and improved under the direction of the ladies of the Confederate Memorial and Literary Society. It is a handsome house, with splendid round columns, roomy porches, mantels of Carrara marble, and



CONFEDERATE MUSEUM AT RICHMOND, VA.  
(Formerly the White House of the Confederacy.)

made with double walls which are filled with water to preserve a low temperature. The lower part of the chamber is made of sheet iron and contains a Bunsen gas burner connected with an automatic heat regulator, which is used to control the temperature. The upper chamber is provided with holes for the insertion of thermometers and for the admission of oxygen. The chamber is provided with shelves made of galvanized iron, and on these shelves are copper pans, in which the seed may be germinated in various ways. Before the seed is placed in this or any other generating apparatus it is soaked in distilled water or rain water from six to fifteen hours to hasten germination. The "sprouting bed" is made of some material which will soak up water, such as porous disher, thick cloth, flannel or blotting paper, asbestos cloth, earth or sand. The selected seeds are placed on or between the sprouting bed, and placed in the germinating chamber. The temperature is maintained at a uniform degree as it is in an incubator, and, in fact, the artificial germinating of seeds and the artificial hatching of eggs are alike in many respects, and a good germinator can be made out of an ordinary incubator. The seeds are left in the germinating chamber until they sprout, and the germinating value of the sample of seeds is found by counting the number of seeds which sprout within the time allowed and ascertaining the percentage of the whole number.

Usually the time allowed for seeds to germinate is as follows: Ten full days for cereals, clovers, peas, beans, lentils, sunflowers, cabbage, rape, mustard, flax, chicory, hemp, poppy and tobacco; fourteen full days for beet-seed balls, rye grasses, timothy, carrots, etc.; twenty-one full days for grasses, except meadow and rye grasses and timothy; twenty-eight full days for meadow grasses, birches, alders, acorns, beeches, etc., and forty-two full days for white pine and stone fruits. Seeds which do not germinate within the specified time are counted bad, and, in the calculation, figure as such.

A simple, home-made germinating apparatus can be made of a good-sized milk pan, a porous dish, such as is used for setting flower pots in, and a pane of glass big enough to entirely cover the pan. The bottom of the pan is covered with water and the porous saucer is placed in the middle. In the bottom of the saucer a piece of thick blotting paper or flannel is laid and on this the seed are spread, and then another piece of paper or cloth



ravages of the "white scale," an insect which threatened the orange industry of California with destruction. It cost \$20,000 to introduce the lady birds into California, but as they fed voraciously upon the white scales the latter were nearly wiped out, and the orange groves were saved.

### The Heavy Butter Plate.

One of the tricks of the grocer's trade is "the heavy butter plate." Some grocers have a habit of putting the wooden plates upon which they sell their butter away in a damp place to absorb moisture and gain in weight. In this way the grocer gains about an ounce to the pound, which, in a month's sales, reaches a pretty total.

—Chicago Record.

### Better for the Boys.

The Judge of the Maysville (Ky.) Police Court summoned into court the parents of some incorrigible boys, and offered them the option of giving their sons a sound whipping or having them sent to the workhouse for thirty days. They chose the former, and officers stood by to see that the paddle was well applied.

A fair average sample is secured, and this sample is divided up into smaller average samples, so that several tests can be carried on at the same time. After this smaller average sample is weighed, the seeds are spread

is laid over the seed and the pane of glass is placed over the pan. The paper or cloth is soaked in water before the seeds are laid in and the seeds are soaked from six to fifteen hours before putting them in the pan. The water soaks into the porous saucer and this keeps the "sprouting-bed" moist enough to keep the seeds. The atmosphere of the ordinary living room is suitable if

the ordinary living room is suitable if