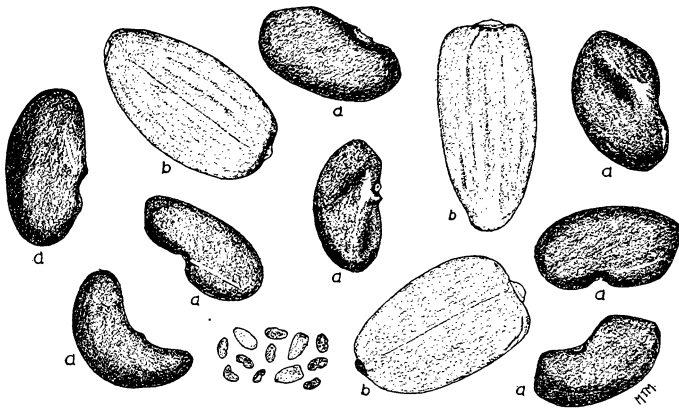


New York Agricultural Experiment Station.

GENEVA, N. Y.



IMPORTED COMMERCIAL TURKESTAN ALFALFA SEED (a) CONTAMINATED
WITH RUSSIAN KNAPEWEED SEED (b).

PURITY OF FARM SEEDS IN 1914.

SUMMARIZED BY
F. H. HALL
FROM BULLETIN BY
M. T. MUNN.

POPULAR EDITION*
OF
BULLETIN No. 394.
PURITY OF FARM SEEDS IN 1914.
F. H. HALL.

Gradual improvement. In 1912 more than one-fifth of the samples of agricultural seeds inspected in New York State were in violation of the law; in 1913, less than one-sixth were condemned; and in 1914 the proportion had dropped to a little over one-tenth. This indicates considerable improvement in seed-trade conditions generally, though a change in the law from the "count" method of determining the percentage of impurity to the "weight" method is responsible for some of the difference between 1913 and 1914, but probably for only a small part of the gain. Seeds were undoubtedly purer, as a general rule, in 1914 than in 1913; yet in some instances full advantage was taken of a weak point in the law, to market seeds that could not be sold at all in some adjoining states.

Law not a sure protection. The law does not require guaranty of a certain percentage of good seeds, but that the goods sold shall not contain more than a certain proportion (3 per ct. by weight) of "foul or foreign seeds," unless that fact be plainly stated. This allows the unscrupulous dealer to include as much sand, and other rubbish not seeds, as he thinks the buyer will overlook, and also to include an indefinite quantity of old, dead seeds of the same kind as the sample; for these impurities are not "foul or foreign seeds." Neither does the law demand freedom, or even comparative freedom, from weed seeds, even those of our most troublesome or dangerous pests.

In consequence of these unfortunate deficiencies in the law 42 samples of the 303 examined were found by Station analysts to be composed mainly of brown, dead and shriveled seeds, 6 were badly infested with dodder, 2 contained bull thistle seeds, 2 Canada thistle seeds, 5 considerable mustard seed and 125 varying amounts of seeds of other weeds classed as noxious. Of these impurities, the quality or quantity was such that 57 of the seed samples were considered of questionable value for seeding, 26 objectionable and 3

* This is a brief review of Bulletin No. 394 of this Station on Seed Tests made at the Station in 1914, by M. T. Munn. Anyone interested in the detailed account of the investigations will be furnished, on application, with copies of the complete bulletins, so long as these are available.

Names of those who so desire will be placed on the Station mailing list to receive future bulletins, popular or complete, as issued.

absolutely worthless. Twenty-three of the samples contained considerable amounts of chaff, and 10 were very dirty, being uncleaned seed. Only a trifle over one-third of the samples were classified as "good" in quality, the others not referred to above being regarded as only average in grade.

Surprisingly, the great majority of the 33 violations of the law were really much better seeds, from the farmer's standpoint, than many of those that had to be passed. These violations were due to finding in alsike clover seed samples more than 3 per ct. of white clover and timothy seeds — foreign seeds present through growth of the other two forage crops in the fields of alsike. The three kinds of seed are so similar in size, shape and weight that their separation is practically impossible.

Several of the alfalfa samples were evidently of commercial Turk-
 estan alfalfa, showing by their gray or whitish color the coating of very fine clay which characterizes seeds from that region. This commercial Turk-
 estan alfalfa is not as desirable as American-grown strains of this plant.

Much of this commercial Turk-
 estan alfalfa seed is now stored in America; and this old seed — somewhat inferior even when fresh — will undoubtedly be placed on the market during the coming season to meet the demand, since the war has stopped the importation of fresh supplies.

Dodder-infested alfalfa-seed will also be forced on the market without doubt; and half the samples of alfalfa seed being received at date of this writing (February 20, 1915) show presence of this very undesirable pest.

The law requires no notice of the presence of such impurities unless they exceed three per ct.; and even one-half of one per ct. of dodder might so infest an alfalfa field as to make it valueless.

The purchaser of seeds must, therefore, either rely upon his own judgment as to the presence of seeds of harmful weeds or must have a purity test made.

In addition to the 303 official samples, the Station
 also examined during 1914 nearly four times as many
 samples, 1,155, sent in by correspondents, and
 reported on their purity. Here, as in the official
 samples, the marketing of Turk-
 estan alfalfa seed in considerable
 quantity was indicated; as one-sixth of the samples contained seeds
 of Russian knapweed, and others showed by the gray color of the
 alfalfa seeds that they had grown on the dusty plains of Turk-
 estan. Dodder seed was less common in 1914 samples than in those of 1913,
 but as indicated above, there is great danger that dodder-infested
 seed will again be common in 1915.

The examinations of 1914 did not bring to light the seeds of any
 especially noteworthy new weeds; but added considerably to the
 number of less importance that are coming into the State through

Voluntary purity tests.

crop seeds. In the samples examined in 1913 and 1914, seeds of 155 weeds or noxious plants were found while 15 kinds of crop seeds were present in samples where they were classed as foreign seeds. In the complete edition of which this is a "popular edition" a table gives a list of these impurities, with the number of times they were found in each kind of crop seed examined.

These purity examinations of samples sent in by individuals seem so helpful, and so necessary as a **Sampling and sending seeds.** supplement to the official determinations, that the station will continue, until the demands overtax its facilities, to make examinations of samples for farmers who wish to sow only pure seed. Certain conditions are essential, however, if the samples are to furnish reliable information.

First, the sample must be large enough to represent fairly the quantity of seed from which it is taken. This means at least two ounces for the larger seeds, like alfalfa, the clovers, millet and rape. and at least one ounce for grass seeds.

Second, the sample should be taken from lots from which the dealer agrees to supply the purchaser's needs after the report of the analysis has been received. The small packets or samples sometimes furnished by dealers are frequently taken from seed specially cleaned for advertising purposes; and examination of them serves to delude rather than to enlighten the sender.

Third, in taking samples, the bulk of seed should be thoroughly mixed, or small quantities should be taken from top, middle and bottom of the bag or other container and mixed before taking out the amount to be sent to the Station.

Fourth, the sample should be sealed in a strong, tight package that will not be easily broken in the mail; and marked plainly with the name and address of the sender. It is not sufficient to send an unmarked package with a separate letter describing its contents, as the Station may receive a score of seed samples in a single mail.

If these conditions are complied with, the Station will examine the samples as promptly as possible, usually within two days, and report to the sender at once, giving the percentage of pure seed, percentage of rubbish and percentage of other seeds, with an indication of the kind and quantity of specially undesirable weed seeds present. A statement is also usually made as to the general quality of the seed; but the Station does not make germination tests. It must be thoroughly understood that these examinations will be made for farmers only, or for other intending purchasers of seed for farm use. The Station can not and will not knowingly examine seeds for dealers or others who wish to know their quality for purposes of sale, or for labeling under the law.