

especially to the *T. tritici* group. The new wheats Rival, Mercury, and Premier showed marked resistance to all collections of smut used in this test.

The different collections of smut varied considerably in percent of infection on Ceres and Thatcher

wheat. Collection L320 developed 19 percent smut on Ceres and 0 percent on Thatcher wheat, while L372 developed 71 percent on Ceres and 20 percent on Thatcher wheat. These differences in infecting ability of pure lots of smut, when persistent through repeated tests, are used to establish races of smut.

Viking Flax

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VIKING flax is a selection from a cross, B-Golden x Burbank's Golden, made by the writer in his home garden in 1926. The cross was made not so much to produce a new flax variety, as to carry on my "hobby" of cross breeding. I have made hundreds of crosses on flax, wheat, oats, and flowers.

The reason for using the Burbank Golden was that Burbank considered his flax so valuable he sold his seed for \$1.00 an ounce and kept his supply in a vault. The reason for its high value, as stated by the originator, was that its oil had a superb quality and could be used in making artists' paints. Previously oil for these paints had been imported.

The crop from this cross was grown in my garden for some time. Later, seed was planted on plots at the Experiment Station. It grew short and only the tallest plants were harvested. A single plant was selected and the seed increased.

Because of its short straw, not much attention was paid to this flax nor to the other parent, B-Golden. On good soils in eastern N. Dakota they always gave good yields of extra quality, but they were said to be too short for general use. In 1930-32, a flax called "New Golden" was grown in Walsh County. This "New Golden" had good, tall straw but didn't yield so well as Bison. A farmer from Hoople, N. Dak., was

visiting our flax plots and among other flax experiments, I told him about Viking. He said he would like to grow a shorter-strawed flax if it would yield as much as other flax varieties. About 10 pounds of seed was furnished him in the spring of 1932. On September 18, 1935, he wrote: "I got about 350 bushels golden flax from 18 acres, nice quality too."

In the same year, the Department of Botany and Plant Pathology had a comparative test of several hundred flax selections including Viking, Bison, Buda, and Linota on good, clean land. The yield per acre, oil content, iodine number, height of plant, is recorded in the table below.

Some may be skeptical about such high yields of flax, but they are not unusual under good cropping conditions. In California, 50 bushels of flax per acre has been obtained, and in Arizona, they have records of 60 bushels per acre or more.

In 1938, some of this flax was planted at Gardner, N. Dak. That year, 1938, was very dry. As there was hardly any rain during the growing season it grew very short. The crop on 90 acres averaged about 13 bushels per acre with much dockage, 17%. A chemical analysis of this seed showed it had an oil content of 41.91% and an iodine absorption number of 197

CROP GROWN AT THE NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION
IN 1935

Exp. No.	Variety	Yield acre	Oil content	Iodine No.	Ht. In.
5684	Viking	31.8 bu.	38.5%	181	19
6400	Buda	23.3 "	34.8%	167	26
6401	Linota	25.7 "	33.7%	176	26
6402	Bison	27.9 "	36.5%	161	27

which is exceptionally high. For the same year, the oil content of Bison, grown at the Experiment Station, was 39.2% and the iodine number, 184.

I showed a sample of this flax to Mr. B. E. Groom of the Greater North Dakota Association. He asked me to send a sample to the International Grain and Hay Exposition at Chicago. It took first award in 1938 and also in 1939 and 1940.

Summarizing briefly: Viking flax has a medium-sized seed with a golden yellow color, has pale pink flowers and yellow anthers; grows about 18 inches tall; is rust and wilt-resistant enough to be safely planted on land not too bad-

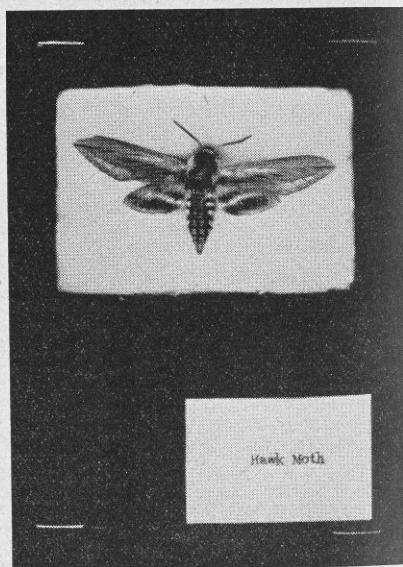
ly infected with flax wilt (*Fusarium lini*.) Viking is not as wilt-resistant as Bison which is still the safest variety to plant on land known to be severely infected with flax wilt. Viking is quite resistant to flax rust but, as in the case of most varieties, it is susceptible to pasmo. Viking will also stand more spring frost than Bison, Buda, or Linota. It grows about 6 inches shorter than Bison, but in a normal year, on good land, grows tall enough to be harvested with a binder, and will generally produce as high a yield per acre with oil of better quality. If Viking flax is used, seed of good germination should be used and it should be planted early on land reasonably free from weeds.

An Inexpensive Insect Mount

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TO many young farm folk the cost of commercial mounts for preserving insect specimens is often prohibitive. To overcome this expense and to provide a small compact unbreakable mount, a special one was designed by the writer for this purpose, (Figure 1). The outcome is so promising that it should have widespread appeal to teachers, extension workers as well as to 4-H Club members, boy scouts and other groups interested in nature study.

This mount consists of a rectangular block of $\frac{3}{8}$ inch plywood cut into any convenient size with a cut-out space to serve as a frame for the insect specimens to be exhibited. A piece of cardboard or sheet celluloid is stapled on the bottom of the frame and the space filled with cotton. Celluloid is placed over the entire top of the block, enclosing the insect specimens and the card containing the necessary data. Adequate space is provided on the lower portion of the mount for the data which may be typed or printed and pasted to the wood prior to placing the celluloid on the mount. The celluloid sheet is stapled on the plywood with an ordinary paper stapling machine. The size of the whole



mount and the frame may be cut to any desired dimension. A convenient mount now in use at the North Dakota Agricultural College measures on the outside 4" by 5½" containing a 3" by 2" space for holding the insect specimens. To increase the attractiveness of the