



HURON TIMOTHY

LEAFLET NO. 99

U. S. DEPARTMENT
OF AGRICULTURE

Issued August 1933

HURON
TIMOTHY

LETTER NO. 33
THE DEPARTMENT
OF AGRICULTURE

HURON TIMOTHY

By MORGAN W. EVANS, *associate agronomist, Division of Forage Crops and Diseases, Bureau of Plant Industry*

History of the Variety

HURON TIMOTHY is a variety developed in breeding experiments conducted cooperatively at North Ridgeville, Ohio, by the Division of Forage Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture, and the Department of Agronomy of the Ohio Agricultural Experiment Station.

The plant from which Huron timothy originated was selected along a roadside about 4½ miles west of Wakeman, in Huron County, Ohio, July 6, 1911. It was assigned F.C.I.¹ no. 3937. During the next few years it was tested at North Ridgeville in comparison with a large number of other timothy selections, in row plots and in broadcast plots. The earliest distribution of seed of this selection was made in February 1919. In 1920 the varietal name Huron was applied to the selection. Many other distributions of seed of this variety have been made since, both to agricultural experiment stations and to farmers who have grown it for hay or for seed.

A Late Variety

Huron timothy is a late variety. The records obtained from plants grown in row test plots show that it blooms about 6 days later than ordinary timothy and that the seeds mature approximately 6 days later than those of ordinary timothy. The difference in the time of blooming of these two varieties is illustrated in figure 1.

Records showing how much earlier or later the flowers bloom and seeds mature on plants of one variety of timothy than on the plants of another variety do not usually tell the complete story of the relative earliness or lateness of the two varieties. It may be observed, on any day during the early summer, in meadows of different varieties of timothy, that a larger proportion of the leaves are green on the plants of some varieties than on those of others. As the season advances and the seeds of the earlier varieties approach maturity the difference between the proportion of green leaves in the plots of early timothy and the proportion in the plots of late timothy becomes greater.

In the summer of 1922 records were made daily, from June 25 to August 5, of the number of leaves with blades that were either entirely or partially green, from a small typical area in each of 2 broadcast plots of ordinary timothy, and also from a small typical area in each of 2 plots of Huron timothy. The number of green leaves per square yard was greater on all dates in the plots of Huron timothy. When

¹ Forage Crop Investigations.

the two varieties are compared in this way there is even a greater difference between them than is indicated by the records of time of blooming and maturing. In the plots from which these records were obtained in 1922, on each day from about July 1 until nearly the end of the month, the number of green leaves in the plots of Huron timothy were as great as they had been in the plots of ordinary timothy at least 10 or 12 days earlier.

The illustration on the cover of this leaflet shows a plant of Huron timothy in full bloom.

Number and Length of Stems

Studies have been made at North Ridgeville of the characteristics of the stems in plots of Huron and other selections and varieties of timothy.

In any timothy meadow in late spring or early summer two distinct types of stems may be found, namely, those that have produced



FIGURE 1.—A, Plot of Huron timothy in full bloom; B, plot of ordinary timothy past bloom, except for a few scattered heads. July 12, 1927.

heads, and also those comparatively short, leafy stems on which no seed heads have developed. If the stems of the latter type are left to grow until late summer or fall, their general characteristics remain unchanged, and no heads develop on them after the time in the season when timothy heads ordinarily appear. On stems with heads, all leaves become dry about the time the seed ripens; on the upper parts of the shorter stems without heads, on the other hand, there are green leaves for several weeks or even months.

In each of the different years in which observations were made, the number of stems in typical square-yard areas in plots of Huron timothy have been compared with the numbers of stems in corresponding areas of ordinary timothy growing in the same series of plots. In practically all of these comparisons the total number of stems in the plots in meadows of Huron timothy have been greater than in the plots of ordinary timothy. This tendency may also be observed in plants that have been transplanted to row plots, where

there is ample space for development. Under such conditions the plants of Huron timothy have a larger number of stems than the plants of ordinary timothy grown under the same conditions, as shown in figure 2.

Observations and records that have been made show that the greater number of stems in meadows of Huron than in meadows of ordinary timothy is usually though not always due to the larger number of the short, leafy type of stems without heads. The number of stems with heads per unit of area is not infrequently less in meadows of Huron than in meadows of ordinary timothy.

In respect to length of stem, the records indicate that, when the plants are grown under the same conditions, there is no important difference in the length of stems of ordinary and of Huron timothy.



FIGURE 2.—The 6 plants at the left were grown from seed of ordinary timothy and the 6 at the right from seed produced by the original plant of Huron timothy. The latter group has a larger number of stems.

In each variety the stems of both types are longer in fertilized than in unfertilized meadows; they are also much longer in seasons when weather conditions are favorable for growth and large yields of hay are produced than in seasons when conditions are less favorable and the hay yields are relatively low.

Yields of Hay

In one experiment at North Ridgeville, Huron timothy and ordinary timothy were grown in a series of plots, and records of hay yields were obtained from them in nine consecutive seasons. Half the plots received no fertilizer treatment. On the other plots, fertilizers were used each spring, nitrate of soda was applied at the rate of 120 pounds per acre, and 16-percent superphosphate at the rate of 200 pounds per acre. The soil where these plots were located is a comparatively fertile clay loam.

In 8 of the 9 years, on the unfertilized plots, Huron produced larger yields than ordinary timothy, the average increase for the 9 years being 307 pounds per acre. Every year the fertilized plots of Huron produced the larger yield, the average excess over ordinary timothy being 364 pounds per acre. The unfertilized plots of ordinary timothy produced an average yield of 2,475 pounds per acre and the fertilized plots an average yield of 3,375 pounds per acre, an increase of 900 pounds. In the unfertilized and the fertilized plots of Huron timothy the average yield was respectively 2,782 and 3,739 pounds per acre, an increase of 957 pounds.

In some other experiments at the same station the increases in yields of Huron as compared with those of ordinary timothy have been less than the increases indicated in the preceding paragraphs, and in some tests there Huron has even produced smaller yields than ordinary timothy. In 1930, in particular, when there was a very severe drought during the summer, in a set of plots in which the two varieties were compared, Huron produced about 580 pounds less hay per acre than ordinary timothy. In that season two other observers in different parts of Ohio reported that Huron produced relatively large numbers of the short leafy stems without heads and a smaller number of stems with heads than ordinary timothy.

Huron Timothy in the Pacific Northwest

Huron timothy has been grown on farms and at agricultural experiment stations in northeastern California, western and eastern Oregon, and western Washington. According to nearly all the reports received from these tests, Huron has been found superior to ordinary timothy.

In 1932, records of hay yields from ordinary timothy, Huron, and several other varieties of timothy at Union, Oreg., showed that the largest yields obtained from any of the plots were produced by Huron.

At the Western Washington Experiment Station at Puyallup, Huron and ordinary timothy were harvested for hay in 1928 and 1929 from duplicate plots of each variety located on a muck soil. In both seasons Huron produced the larger yield. In 1929 records of the pasturage produced by each variety were determined by cutting the grass in an immature condition at five different times during the season. From the plots of ordinary timothy an average yield of approximately 6,800 pounds of dry matter per acre was harvested; from the plots of Huron timothy an average of nearly 7,800 pounds, or about 1,000 pounds per acre more dry matter than from the plots of ordinary timothy, was harvested.

At the Oregon Agricultural Experiment Station at Corvallis a plot of Huron timothy and also plots of ordinary timothy, ryegrass, tall oatgrass, and mixtures of various other grasses and legumes have been used as a hog pasture for 6 years. Under this rather severe treatment the Huron timothy has maintained a turf and continued its growth better than ordinary timothy or any of the other grasses grown in these plots.

Production of Seed

The seed of timothy may be produced practically wherever this grass is grown for hay. Any farmer may provide his own supply of Huron seed, either by sowing a separate meadow for this purpose or by reserving a part of the crop in any meadow until the seed is mature. Most farmers, however, purchase their seed.

In some parts of western Oregon and western Washington where Huron timothy has been successfully grown, it is utilized almost exclusively for pasture and hay. Up to this time most of the limited quantity of Huron timothy seed produced on the Pacific coast has been grown in northeastern California.

While the seed of Huron timothy is harvested in the same way as that of ordinary timothy, there are a few special precautions that should be taken in the production of the seed of any improved variety.

If the meadow of Huron timothy borders along fence rows where plants of ordinary timothy may be growing, at least two or three waths should be mowed for hay around the outside of the field.

When the seed is threshed, the machine should first be thoroughly cleaned, so that no seed of ordinary timothy will become mixed with the seed of the Huron variety.

The farmer who purchases timothy seed should obtain evidence that it is relatively free from weed seeds, particularly those of noxious weeds.

Recommendations

Huron timothy, like many varieties of other farm crops, is peculiarly adapted to some conditions, yet cannot be successfully grown under other conditions.

Experimental records and practical tests on farms indicate that this variety is well adapted in northeastern California and in western Oregon and Washington. It also grows well in some localities in the northern part of the area between the Cascade and Rocky Mountains, on irrigated land or on land where there is a sufficient natural supply of moisture. Experience with Huron timothy in the Pacific Northwest indicates that it is useful there, not only for hay production but also for farm and range pastures, where the soil is adapted for the growing of timothy. There may be other areas in the northern part of the United States where conditions may be favorable for the growth of this variety.

Because of its rather limited adaptation, it does not seem advisable to introduce Huron timothy into Iowa, Missouri, Minnesota, or other parts of the Central West where timothy seed is produced on a large scale for distribution to different parts of the United States. Other strains of timothy that have been selected more recently show indications that they may grow well where Huron is evidently not well adapted. From one or more of these other selections varieties will probably be developed that may have a wider range of adaptation than Huron.

The production of Huron timothy seed should probably be restricted to those parts of the country where this variety has been found satisfactory for hay production.