

Vetch May Develop Into Highly Profitable Crop

A Legume and Soil-Builder, It Is New to Region

(Editors note: This article on hairy vetch has been written especially for The Frontier's Soil Conservation issue. Although rather new, vetch has possibilities for extensive use in the O'Neill region and might become one of our profitable crops.)

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Hairy vetch, also known as sand vetch, is a viny, weak-stemmed winter annual legume. The stems attain a length of 2 to 5 feet. The stems and leaves of hairy vetch are covered with a heavy pubescence or hairiness which gives the plant a silvery appearance when it reaches the bloom stage. The flowers are blue-violet, borne in dense one-sided clusters. The pods are light green, smooth and contain 2 to 8 small spherical seeds. When ripe the seeds are nearly black.

Uses of Vetch

Hairy vetch is relished by all farm livestock. It makes good pasture, hay and silage and is an excellent cover crop for sandy soils.

As a pasture crop hairy vetch is excellent for sheep and cattle. It should not be pastured when wet because of the danger of bloat. Even though hairy vetch is a fall annual it can be seeded in the spring either alone or with oats for pasture, hay or silage.

Vetch is a little difficult to handle as hay due to its viny nature and the manner in which it clings together. With the use of modern haying machinery this objection can be largely overcome.

Vetch ranks high among the members of the legume family in its ability to fix nitrogen. It is a valuable crop for soil improvement purposes particularly if the above ground parts of the plant are not removed, but returned to the soil, or if the crop is used for feed or pasture and the manure returned.

Adaptability

The two vetches most commonly grown in the United States are common and hairy vetch. Com-

Vetch in a Strip Cropping System

Hairy vetch is a winter annual legume. It may be planted either in the spring or fall.

When sown in the spring it acts like a biennial, that is, it does not set seed until the second season of growth.

For seed production purposes it is commonly planted in the fall with rye which holds the vetch off the ground.

When seeded with small grains such as rye or oats it should be sown at the rate of 15 pounds per acre, whereas if planted alone the rate should be doubled.

Hairy vetch succeeds especially well on sandy soils, but can be grown on most well-drained soils.

Inoculation is essential and should be supplied particularly where hairy vetch is grown for the first time.

Hairy vetch often succeeds on soils where sweet clover and alfalfa fail. It is more tolerant to acid (lime deficient) soils.

mon vetch is less winter hardy and less drought resistant than hairy vetch. Some strains of hairy vetch are more winter hardy than others. The success in the growing of hairy vetch in Nebraska depends to a large degree on its adaptability.

Hairy vetch prefers sandy or sandy loam soils, but the crop will succeed on a great variety of soils provided they are well drained. It grows relatively well on alkaline soils and is more tolerant to acid soil conditions than most leguminous crops.

Method of Seeding

Hairy vetch may be seeded either by broadcasting or by drilling. The most common practice of seeding in the sandy areas of Nebraska is to drill the vetch with rye, in early September, seeding the 1 bushel of rye and 15 pounds of vetch per acre. This practice is generally followed when the crop is grown for seed. The depth of planting will vary with the type of soil and the condition of the surface-moisture of the soil. Under favorable moisture conditions vetch may be seeded 2 or 3 inches deep on sandy soils and 1.5 inches on heavier soils. Oats may be used as a supporting crop and for spring seeding should be drilled somewhat lighter than the regular rate, seeding the vetch at 15 pounds per acre. Spring seeding of oats and vetch is often practiced where the crop is to be pastured or cut for hay.

Hairy vetch may be seeded alone either in the spring or in the fall for pasture purposes. The viny nature of vetch makes it difficult to harvest for hay or seed when grown alone. When

sown alone the rate should be increased to 25 or 30 pounds per acre.

Inoculation

Hairy Vetch unless inoculated is likely to be a failure particularly if the soil on which the crop is to be seeded has not been grown a successful crop of vetch within the past two years. Many failures with vetch are directly attributable to the lack of inoculation. Inoculation can be accomplished by the use of commercial cultures or by the use of soil from fields that have recently grown a successful crop of vetch. When soil is used, it may be mixed with the seed and drilled at the rate of a half bushel per acre and 30 pounds of seed with an ordinary drill. Commercial cultures are inexpensive and their use means cheap insurance that the right kind of organisms of high nitrogen-fixing ability will be present. Precautions set forth in the directions supplied by the manufacturer should be observed carefully.

Soil Improvement

When bacteria of the proper kind are applied to the vetch seed, the bacteria enter the tiny hairs when the young plants begin to grow, causing the development of nodules on the roots. The bacteria in these nodules make nitrogen available to the growing plant. The nitrogen fixed not only will improve the growth of the crop, but when the land is turned to another crop the nitrogen in the legume will be released by decomposition and become available for the following crop.

Hairy vetch may not rank with biennial sweet clover and alfalfa



No vetch was raised in Holt county last year but in Pierce county (near Foster) a field trial proved highly successful. Charles Fenster, of Pierce (right), and E. C. Berggren, of St. Paul, inspect the vine-like plant.



T. H. Goodding of Lincoln (left), representative of the Nebraska Crop Improvement association; D. W. Frey, of Pierce (center), SCS technician, and Wayne Parks, of Foster, survey a field of rye and vetch. Rye and vetch were grown together, followed by corn. No reseeding was necessary to produce vetch and the succeeding rye crop.

fa as a soil builder, but sweet clover and alfalfa are difficult to grow on many of the sandy areas of Nebraska where as hairy vetch can be successfully produced. On a sandy farm in Madison county in 1949, corn following rye and vetch yielded 52 bushels. On the same type of soil where no legume had been grown recently the corn yielded 33 bushels.

Harvesting for Seed

The most common way of harvesting in Nebraska is with the combine. Vetch should be harvested when the lower half of

the pods are fully ripe. At this stage of maturity the upper pods will be fully formed and the plant will be carrying a maximum quantity of seed. Vetch is usually seeded with a supporting crop like rye when grown for seed. When grown in this manner the crop can be harvested directly from the field with a combine. When seeded alone it may be necessary to cut the vetch with an ordinary mower with a swather and combine from the windrow by means of a pick-up attachment. Hairy vetch shatters easily, consequently the com-

bing should be done immediately after mowing.

Pasturing

Vetch may be used for pasture and is readily eaten by all kinds of farm livestock. Cattle and sheep do the least damage in pasturing vetch, hogs seem to be the most destructive. The possibilities of bloating cattle and sheep may be reduced if a good quality of hay or straw is made available to the animals. The animals should not be turned on the lush pasture when they are hungry.

Seed

The purchases of seed not only should inquire about its germination and purity but should investigate the source of the seed.

A strain of hairy vetch known as Madison has been placed on the certification list by the Nebraska Crop Improvement association. This strain of vetch was grown on one farm in Madison county for a period of approximately 10 years when its favorable characteristics and adaptability to Nebraska conditions were called to the attention of the Nebraska Crop Improvement association.

Eight growers of certified Madison vetch, selected at random, harvested a total of 137 acres of vetch planted rye during the summer of 1950. The average seed yield per acre of the rye-vetch mixture was 19.4 bushels whereas the vetch seed when separated from the rye gave an average yield of 6 bushels per acre.

Rye-Vetch Seed Mixtures

The separation of vetch seed from a rye-vetch mixture can be accomplished with a high degree of purity by use of a spiral separator. But the separation of rye

from a rye-vetch mixture by means of mechanical devices is quite difficult. Furthermore, the seed trade discriminates in price against rye containing vetch seed. In fact, rye containing over 6 percent of vetch will be placed in sample grade and for this reason probably should be ground and fed on the farm.

Varieties of rye grown for certification purposes should not be seeded with vetch since it is so difficult to remove the rye from the vetch seed. If vetch volunteers in the rye the crop should be sprayed with 2, 4-D to kill or retard the growth of the vetch so as to prevent the seed from contaminating the rye.

Members of the grain and seed trade feel confident that a high speed method for the separation of rye or wheat from vetch seed at a nominal cost can be accomplished. If this can be done the vetch growing area may be extended into the winter wheat section of Southeastern Nebraska.

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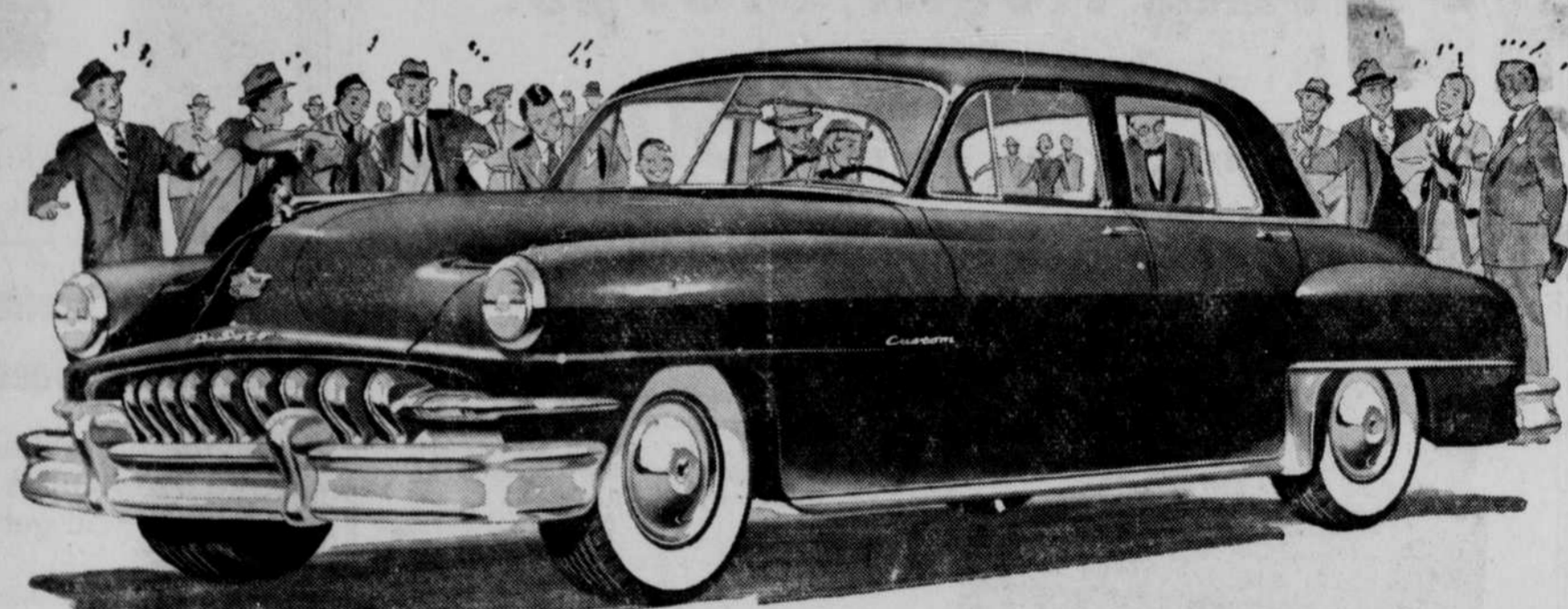
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