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# The Production of Hardigan Alfalfa Seed

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MICHIGAN AGRICULTURAL COLLEGE  
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# THE PRODUCTION OF HARDIGAN ALFALFA SEED

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\*Hardigan alfalfa is a new variety developed by plant breeders at the Michigan Agricultural College. It possesses the low-set, spreading crown, the heavier lateral root branches, and the variegated blossoms characteristic of Grimm alfalfa, and it has proved itself to be fully equal to the best of Grimm in winter hardiness and forage production.

Its exceptional merit lies in its profuse blossoming habits, which give it the ability to set seed abundantly under Michigan's climatic conditions. This characteristic, combined with Hardigan's ability to produce forage, promises to establish in Michigan a very profitable alfalfa seed-producing industry. The tremendous advantage to this State of having a large supply of home grown alfalfa seed from a variety like Hardigan, both for home use and for the certified seed market, is readily apparent.

The newness of quantity alfalfa seed production in this State leaves much to be learned about methods which insure greatest success. The suggestions given here are in line with present experience on Michigan farms and at the Michigan Agricultural College.

## The Soil and the Fertilizer

Soils ranging from light sandy loam through to clay, reasonably good in fertility, and well supplied with lime, have all given excellent alfalfa seed yields in Michigan. At the Agricultural College the original plot of Hardigan seed was produced on a light sandy loam. Intermediate types of soil have been used successfully for seed production in various parts of the State, while low-lying, heavy clay land in a section of Monroe county produced over 8,000 bushels of high quality alfalfa seed in 1922 (the Lebeau alfalfa). Isolated cases where equal success has been obtained are reported from heavy land sections in central Michigan and in the Thumb district.

It is not to be expected that soils showing considerable sourness or acidity will produce alfalfa seed profitably until this condition has been corrected. In such cases, an application of two or three tons per acre of finely ground limestone, or its equivalent, is necessary. Soils which, upon test, are shown to be neutral or alkaline in their reaction do not need any application of lime.

A broadcast application of 250 lbs. per acre of 16 per cent acid phosphate profitably increases the yield and quality of the seed. Lighter soils might well use a fertilizer carrying potash, such as 0-12-4.

\*From (Hardy) Mich(igan).

### **Fitting the Seed Bed**

As with alfalfa seedings for forage, a seed bed well firmed to bring moisture near the surface and free of weeds is essential. Freedom from weeds is doubly necessary in order to insure seed of high purity.

### **The Time to Plant**

In fields where weeds, grasses, or crops having seeds similar in size to alfalfa have not been fully subdued, it is very likely that August seedings, whether in rows or broadcasted, would be most easily kept clean. Working of the seed bed through spring and summer months kills out weed seeds and growing plants, and avoids the necessity of combatting them in the growing alfalfa.

Early spring seedings may be made on clean land without a companion crop. They will occasionally yield some seed that same season.

### **Rate and Method of Seeding**

As the seed industry in Michigan develops, it is probable that fields for seed will be put in just as they are for forage, the alfalfa usually being started with a companion crop. The first alfalfa cutting may then be taken for hay and should this produce all the forage necessary on that farm, the second cutting can be left for seed.

While Hardigan seed is limited in quantity, many growers will find it advantageous to sow it in 28-inch rows and follow usual cultivation methods. In this manner from one to three pounds of seed are sufficient for one acre.

Broadcast seedings should not use more than from six to eight pounds of seed per acre. The slightly thinner stands are more favorable to a heavy setting of seed.

### **Keeping the Crop Clean**

Mixtures of clover, sweet clover, inferior types of alfalfa, weeds, and other crop seeds all depreciate the value of Hardigan seed. The thorough subduing of all such plants before the Hardigan is even planted is the most efficient and economical method of keeping Hardigan pure. Those weeds and mixtures springing up afterwards must be kept back by clipping and cultivation.

Hardigan in rows can be given frequent inter-row cultivation, as is done with corn or beans, while weeds or dangerous crop mixtures can be removed from within the alfalfa rows by hoeing or by hand.

Broadcasted seedings, when made in the spring, can be clipped not later than September 1 to check any weed growth. Summer seedings will probably not need clipping.

### **Choice of Cutting to be Saved for Seed**

In line with keeping the crop clean, it is usually advisable to use the first cutting of a broadcasted seeding for hay. The second will spring up as pure alfalfa and give cleaner seed. The first crop should be removed immediately when new shoots begin to appear at the crown. Any delay will interfere seriously with seed yields.

Use of the second cutting for seed has many other advantages. On heavier and more fertile soils the forage growth of the first crop of alfalfa is usually so dense as to shut off air circulation from the lower leaves and buds. A setting of seed under such conditions is likely to be very light. The second

crop, being less vigorous in growth, gives plenty of opportunity for full blossoming and seeding to take place.

A third advantage in saving the second cutting for seed is that blossoming takes place during a more arid time of the season, and such conditions, rather than the humid season when first-cutting blossoms come, are best for seed production.

In addition to greater seed possibilities, the use of the second crop for seed gives the great economic advantage of a hay crop from the first cutting, while the saving of this first crop for seed makes it possible to secure only one crop from the field that season.

#### **When First Cutting Should be Used for Seed**

On lighter soils in droughty districts, the first cutting will frequently give the most profitable seed yield. This is particularly true when an early drought prevails at blossoming time.

When Hardigan is seeded in rows, the first cutting will give more seed if conditions are not too humid at blossoming time. If, when blossoming begins, the weather is moist and muggy, it is better to cut the alfalfa and depend on the second crop for seed.

In the north where the season is too short for both a hay and seed crop the first growth crop must be used for seed.

#### **How and When to Harvest**

Alfalfa seed is ready for harvest when about two-thirds of the spiral seed pods are brown. It is ordinarily cut with the mower, using the bunching attachment, and handled in much the same manner as clover seed. Bunched up in small cocks, it will thoroughly cure out and mature there. If cut and handled in the morning, much shattering and loss of seed will be avoided.

#### **Hulling**

At hulling time the thresher should be thoroughly cleaned. Many good lots of alfalfa seed are greatly depreciated in value through mixtures of red clover, sweet clover, or other crop or weed seeds which come from the huller at threshing time. Insist on a clean machine. It is advantageous for all Hardigan growers in a given community to get their hulling done consecutively and by the same machine, thus insuring clean seed and avoiding extra labor in cleaning the machinery.

Do not take Hardigan alfalfa seed to the ordinary elevator for cleaning. Special arrangements can and should be made for bringing the seed to standard purity with organizations having complete seed cleaning equipment.

High grade Hardigan alfalfa seed, after cleaning, will contain no noxious weeds, will be plump and of a clear yellow color, will be at least 99 per cent pure, and will germinate 90 per cent or better.

The taking of a seed crop from an alfalfa stand in no way injures the permanency of that stand. Many alfalfa seed producing fields are 10 to 25 years old in areas where seed production has long been in vogue.