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Intensified Improved Certified Alfalfa
Michigan State University Extension Service

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A N N O U N C I N G



INTENSIFIED
IMPROVED CERTIFIED ALFALFA

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Michigan State University

Introduction

Alfalfa is Michigan's most important forage crop. Alfalfa or alfalfa mixtures are grown on over 75 percent of Michigan's hay land. Nearly 1½ million acres of hay are harvested annually.

Alfalfa is the basis for the state's forage-consuming livestock industry because it is nutritious, palatable, and productive throughout the growing season and is the most widely adapted livestock feed crop.

Its deep and extensive root system provides insurance against drought — an important consideration in many seasons.

High yields of high quality alfalfa are being produced in Michigan with modern production practices. Five-ton yields of alfalfa are about as easy to obtain as 90-bushel corn yields. Yields of over six tons per acre have been recorded. High yields are essential for profitable production.

The technological innovations for higher alfalfa yields are mainly in three areas.

1. Variety selection. In a 1965 MSU East Lansing trial the best variety yielded 9/10 of a ton more than the least productive adapted variety.
2. Three cuttings instead of two cuttings system. Gain nearly one ton plus better quality hay.
3. Annual topdressing with commercial fertilizer, especially potassium.

Plant Certified Seed of Recommended Varieties

A multitude of new alfalfa varieties are available to Michigan farmers. In some instances Michigan test results are insufficient to permit a recommendation. However, alfalfa variety trials are conducted each year and the annual test results are available from the local County Extension Agricultural Agent or from the MSU Department of Crop Science at East Lansing.

Most of the alfalfa seed is produced in far western states. Only certified seed of approved varieties should be used from these areas. Extensive research has proved that certified seed of these varieties from the west is satisfactory in Michigan, while a crop from uncertified seed may not be hardy enough for Michigan conditions.

A word of caution is warranted since there are many so-called Flemish alfalfa varieties being marketed under dozens of different brands as uncertified seed. Approximately 22 Flemish types have been described by the French seed officials, although only a few of these are presently certified for reproduction and marketing in the USA. The use of certified seed insures proper varietal performance.

Vernal

Vernal, a Wisconsin variety with desirable winter hardiness, wilt resistance, high yield, fine stems, and attractive dark color, has an excellent yield record in a 3-year trial at East Lansing. It is the best variety for fields intended for production for three years or more.

Flemish Varieties

Many varieties of this type are on the market, but DuPuits, Alfa, Orches, and FD-100 are among those that are widely available and which have been in Michigan trials. Plant certified seed to insure varietal performance. Uncertified seed may mean that the crop will not survive Michigan winters.

How to Best Use Varieties

Flemish varieties are ready for harvest before Vernal by about 7 to 10 days. By cutting when the first flowers appear and growing both varieties, harvest of a larger acreage at the best stage of development is facilitated. The larger the acreage of alfalfa, the greater the benefits from using several alfalfa varieties of different maturity.

In general, the Flemish varieties are best adapted to the 3-cutting area of central and southern Michigan for short term stands. Yields are 5 to 10 percent higher than Vernal from topdressed fields cut three times per season. Flemish varieties lack the winter hardiness and bacterial wilt resistance of Vernal.

Scheduled Harvest

The combination of three cuttings, instead of two, in central and southern Michigan plus the annual application of high rates of potassium fertilizer and the use of a Flemish variety should increase the hay yields in southern Michigan by 1½ tons per acre.

In the 3-cutting area make the first cutting May 20 to June 5, the second cutting July 5 to 15, and the third August 25 to September 1.

In northern Michigan, two cuttings a year can be expected to yield more hay than one cutting. Annual topdressing with the appropriate fertilizer is essential in both areas.

Annual Topdressing

The annual application of fertilizer is one of the essential practices for increasing the yield of alfalfa.

Tons of Vernal Alfalfa Hay Produced Under Different Annual Potassium Topdressing Rates. 3-year average, East Lansing, Hilsdale Sandy Loam — pH 7.8.

Pounds per acre of potash annually	Tons of Hay per Acre per Year		Tons per acre Advantage over 2 cuttings
	3 cuttings	2 cuttings	
0	4.6	4.2	.4
50	5.1	4.3	.8
100	5.3	4.3	1.0
200	5.5	4.5	1.0
400	5.8	4.5	1.3

Tips for Improving Alfalfa

1. Alfalfa does best on well drained soils that are nearly neutral in soil reaction. Apply lime on the basis of a soil test; a year ahead of alfalfa is best.
2. Get a good start. Plant seed shallow and be sure it is inoculated. Successful seeding establishment is more difficult on poor soil than on good soil. Good seeding practices assure successful establishment on problem areas. Band seed to assure shallow planting and correct seed placement with respect to the fertilizer.
3. Alfalfa is very responsive to commercial fertilizer. Usually liberal quantities of phosphorus and potassium are necessary. Apply fertilizer according to need indicated by a soil test. Follow the recommendations in Extension Bulletin E-550, Fertilizer Recommendations for Michigan Vegetable and Field Crops.
4. Carefully manage established stands. Don't harvest alfalfa in September if it is intended for harvest the following year.
5. Control harmful insects. Consult your County Extension Agricultural Agent for the current recommendations regarding materials and on specific insect problems. Be sure to follow the directions on the pesticide label to avoid residue problems.

See Extension Bulletin 523, Insect Control in Forages and Small Grains.

Alfalfa weevil adults were discovered in Livingston, Branch, Hillsdale, Lenawee and Monroe Counties during 1966. This insect is one of the most damaging pests to infest alfalfa. Larvae of the alfalfa weevil range from 1/32 to 3/8 inch in length. They are light yellowish-green with black heads. Viewed from above there is a light stripe down the back. When disturbed they often assume a "C" shape or curved appearance.

Control needs in Michigan may not be critical for the next few years, but growers should inspect their fields for a buildup even in these years. Control methods and the insecticides to use can be had from your County Agricultural Agent or Michigan State University.

6. Harvest at the best time and provide good storage. Extremely early harvest can damage the stand and lower the yield. Delayed cutting of early maturing varieties results in severe leaf loss. Save the leaves, they contain most of the proteins and digestible nutrients.

7. Use CERTIFIED seed of these varieties: Vernal — First choice for long-time stands. It is wilt-resistant, winter hardy.

Flemish Varieties — For short term stands on productive well-drained soil — Be sure the seed is Certified.

If you are planting all grain and no alfalfa, you may be paying more and getting back less.

Why? Because improved certified alfalfa is the *intensified* protein crop.

Proof? The average acre of alfalfa yields twice as much crude protein as an average grain crop acre.

Here are the facts! Farmers have produced 8 to 10 tons of alfalfa on 150 bushel corn land or 5 to 7 tons on 100 bushel corn land. An eight-ton yield of alfalfa will produce 3,000 pounds of crude protein per acre. By comparison, 150 bushels of corn harvested for silage would yield only 1,200 pounds of crude protein.

Grain crops must have a protein supplement to become a good feed ration. Instead of buying expensive protein supplement, grow a crop of alfalfa—new intensified certified alfalfa.



**You can really intensify
your alfalfa yields . . . How?**

- Select well-drained soil.
- Plant certified alfalfa seed of a high yielding adapted variety.
- Establish a good stand.
- Apply lime and fertilizer according to soil test.
- Control weeds and insects.
- Cut by first bloom.
- Retain feeding value with good storage and harvesting methods.

**INTENSIFIED PROTEIN
DON'T BUY IT . . . GROW IT**

