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**Special Hay and Pasture Crops: Spring Seeded**

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SPECIAL HAY AND PASTURE CROPS

SPRING SEEDED

Department of Agronomy

*Planting Table for Special Pasture & Hay Crops

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<th>Use</th>
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<th>How to sow or plant</th>
<th>Amount seed per acre</th>
<th>Approx. seeding time</th>
<th>Approx. grazing period</th>
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<tr>
<td>Oats</td>
<td>Hay or pasture</td>
<td>Mar. 1, April 15</td>
<td>Drill or broadcast</td>
<td>2½ to 3 bu.</td>
<td>May 1 to May 30</td>
<td>4-6 weeks</td>
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<tr>
<td>Oats and rape</td>
<td>pasture</td>
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<td>Oats 8 pk, Rape 3 to 5 lb</td>
<td>May 15 to June 1</td>
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<td>Rye Grass</td>
<td>Hay or pasture</td>
<td>Mar. 15, April 15</td>
<td>Drill or broadcast</td>
<td>15 to 20 lb.</td>
<td>Late fall or spring</td>
<td>2-3 months</td>
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<td>Lespedeza</td>
<td>Pasture</td>
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<td>Broadcast</td>
<td>10 to 25 lb.</td>
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<td>Hay or pasture</td>
<td>May 15, July</td>
<td>Drill or broadcast</td>
<td>25 to 30 lb.</td>
<td>July 1- Aug. 1</td>
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<tr>
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<td>Hay</td>
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<td>1½ to 2 bu.</td>
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<td>Millet</td>
<td>Hay</td>
<td>June 1, July 15</td>
<td>Drill</td>
<td>2 pecks</td>
<td>In 75 days</td>
<td></td>
</tr>
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</table>

* Dates of sowing and amounts of pasture furnished by each crop vary in different parts of the state. Earlier planting dates are for the southern section and the later dates for the northern section. Seed of all legumes not previously grown should be inoculated.

SPECIAL HAY AND PASTURE CROPS NEEDED

Shortage of hay and pasture due to failures of rotation hay or pasture crops, or to the effects of summer droughts on permanent pasture make the use of supplementary crops necessary. SOYBEANS FOR HAY, OATS, OR RYE GRASS FOR EARLY PASTURE, SUDAN GRASS FOR SUMMER PASTURE FOR CATTLE AND HOGS, RAPE PASTURE FOR HOGS, KOREAN LESPEDEZA IN SMALL GRAINS FOR STUBBLE PASTURE ARE THE LEADING CROPS THAT CAN BE SOWN IN THE SPRING OR EARLY SUMMER TO PROVIDE THE BEST RESULTS FOR THE CURRENT SEASON. The choice of emergency hay and pasture crops is influenced by the soil, kind of livestock, location in the state and the time when pasture is needed. See table above for rates of seeding of the crops that follow.
Oats will furnish the first good pasture of any spring seeded crop. A cool weather crop, oats are better adapted to good loam and silt loam soils of northern and central Indiana than to southern counties. They are poorly adapted to sandy soils.

Oats lose succulence and palatability when heading starts. Second growth alfalfa, or Sudan grass makes a good pasture to use after oats are grazed out or mature. If intended primarily for hog pasture, it is better to sow rape with the oats to provide pasture for the summer and fall.

For hay, oats should be cut in the soft dough stage and cured and handled as other hay. As a hay crop, they are superior to other small grains but are very slippery to handle as loose hay.

It is a good practice to seed a legume for cover crop with oats for plowing under for corn the following spring or to furnish hay or pasture the following year. Likewise, seedings in oats to be grazed or cut for hay may, under favorable conditions, furnish some summer pasture and leave a stand if not overgrazed in the fall.

The yield and quality of oat hay or pasture may be much improved by the application of 300 to 500 pounds of 5-10-10 or 5-20-20 on dark soils and 10-10-10 on light colored soils.

Other grains are less desirable for hay or pasture.

Oats or Oats and Rape will furnish the earliest good hog pasture of any spring seeded crop. Oats and rape have almost three-fourths the pasture carrying capacity of alfalfa. Dwarf Essex rape should be used, as annual rape has very little value for pasture. Rape is best suited to limy, well drained and productive soils. Fertilization as suggested above for oats is important, especially on the less fertile land. Feeding lots or productive fields adjacent to farm buildings are excellent places to seed rape or rape and oats.

The seed bed for oats or rape should be well prepared. Drill or band seed the rape back of the discs from the small seed attachment of the grain drill, or broadcast after drilling the oats; cultivate if the soil is dry. Use 3 to 5 pounds of rape seeded with oats or 4 to 6 pounds per acre seeded alone.

Oats may be grazed when 5 to 6 inches high. In pasturing rape alone or in the mixture, wait until the rape plants are 8 to 10 inches high.

Rape may be seeded in corn at the last cultivation to furnish grazing where the corn is to be hogged off. It is not recommended for cattle and may cause bloat on both cattle and sheep.

Domestic Rye Grass is commonly seeded in late summer as a winter annual or short-lived perennial. However, it also may be seeded in southern Indiana in early spring and used much as suggested above for oats. When seeded alone it can serve, while pastured, as a nurse crop for other grasses and legumes if rate of seeding is about 5 pounds per acre. Rye grass is a very rapid growing and palatable grass. It is only a little less tolerant than red top to wet soils. Fertilization of rye grass for pasture is important for good carrying capacity. For amount and analysis of fertilizer to use, see above under oats.
Sudan Grass has proved to be the best summer seeded temporary pasture crop for Indiana. It is palatable in the early growth stage to cattle, hogs, sheep and turkeys. Sudan grass is highly drought-resistant and does well under high temperatures. It stands grazing better than most summer pastures, recovers quickly after being grazed off and serves at a time when regular pastures are failing. In a succession of pasture crops, Sudan grass should be ready to graze about the time blue grass or oats ceases to give succulent grazing. On highly fertile soils, it may be used as a companion crop for grass and legume seedings.

Sudan grass is a hot weather crop and should be planted after the soil is warm, usually after normal corn planting time. The grain drill, set 2 1/2 to 3 1/2 pecks per acre for wheat, should sow 25 to 30 pounds of seed per acre, the recommended amount. It is usually ready for pasture in 5 to 6 weeks or when plants are about 12 inches high. Sudan grass continues growing until frost kills the plants. The old growth may be harvested for hay but new growth after frost is sometimes dangerous to graze. There is less danger of stock poisoning in grazing Sudan grass than the other sorghums.

Piper Sudan, developed at the Wisconsin Experiment Station, has produced more forage in Indiana and is more resistant to leaf diseases than common or sweet. It starts quickly and makes a quick recovery after grazing. Large supplies of certified seed became available after 1953. Common or commercial Sudan is subject to leaf diseases that reduce the amount of pasture and palatability. Sweet Sudan is more palatable than common and has greater disease resistance but growth starts more slowly. The new Greenleaf promises better production than either.

As hay, Sudan grass is somewhat better than timothy in feeding value but much more difficult to cure because of its juicy stems. Sudan grass and soybeans are sometimes grown together for hay. This combination is also very difficult to cure, but is very satisfactory for grass silage.

Millet may be used in late summer seedings for hay but it is not popular. It should be ready for harvest in about 50 to 75 days from seeding. Common, German, Hungarian and other millets of the foxtail group are preferred. Proso or hog millet is a grain and not a forage crop. Japanese millet may be grown for hay, silage or pasture and tolerates cooler weather than Sudan grass or common millets.

Sorghums: With forage sorghums allowed for silage without affecting corn allotments, interest in them is increasing. They yield up to one-fourth more than corn and are highly palatable when used as fodder. Sorghums are drought and heat resistant and the leaves and stalks remain green after the seed has matured so they can be ensiled over a longer period than corn. Sorghum is ready for the silo as soon as the seed reaches the soft dough stage.

It should be planted soon after corn planting time, using 5 to 8 pounds of seed per acre. The row width is the same as for corn. Seed should be treated with Ceresan to prevent smut. Special corn planter plates are required to seed the crop properly.

Good sorghums are as follows: Northern and central Indiana - Norkan, Axtel, Early Sumac, and for southern Indiana - Atlas and Ellis. Further details in Agronomy AY-15A (Rev. 1955).

Soybeans can be grown throughout Indiana and should be ready for hay harvest in about 90 days from planting. Their wide adaptation and yield of high protein hay
make soybeans the best choice of emergency hay crops. The feeding value of well cured soybean hay, cut at the proper stage, is very close to that of alfalfa.

Good seed bed preparation as for corn, weed control before planting, inoculation of seed, shallow planting and cultivation are important factors in success with soybeans. Seed should be drilled solid for hay at $1 \frac{1}{2}$ to 2 bushels per acre, varying with size and germination. Adapted varieties are as follows: Northern Indiana-Hawkeye or Harosoy, Central Indiana-Lincoln, Kingwa, Hawkeye or Clark and Southern Indiana-Kingwa, Wabash, Perry and Clark.

For maximum hay and feed production, soybeans should be swollen to the greatest green size in the pods before the hay is cut. Hay should be cut before leaves have turned yellow. Curing may be in the windrow, swath or shock. See Purdue Extension Bulletin 231 for more soybean information.

Annual Lespedezas are primarily pasture crops, although in good seasons enough growth is made in southern Indiana to permit hay harvest about mid-August. Japanese lespedezas is native to much of the lower southern counties. Korean lespedezas is earlier maturing and taller growing and is now the preferred lespedezas in southern Indiana. Some farmers include it in pasture mixtures in northern Indiana particularly on thin or sandy soils. Fields seeded to lespedezas may be pastured during the first year and still produce enough seed for a volunteer crop the following year. A full stand may be expected the year of seeding by sowing 15 to 25 pounds of seed per acre. Seedings may be made in small grains like red clover. Lespedezas may also be broadcast on thin pastures in late winter without seed bed preparation.

Lespedezas sericea, a perennial, does not make sufficient growth the first year to be used as a hay or pasture crop.

Alfalfa, seeded in early spring with small grain or alone under favorable soil and climatic conditions, may make enough growth to cut for hay or be used for pasture in late summer of seeding year. It should not be grazed or harvested much after September 1 in northern Indiana or later than September 15 in southern counties if a vigorous stand is wanted the following year. Further information is available in Purdue Extension Bulletin 212 and Mimeo AF-361. Non hardy alfalfa varieties will make more fall growth for hay or pasture, but will winter-kill far more than Ranger, Atlantic, Grimm and Hardy commons.

Red, Alsike or Ladino clover may make enough summer growth for some hay or pasture during the first year under very favorable moisture conditions. For management as hay or pasture the first year, see above under alfalfa.

Sweet Clover is sensitive to clipping or heavy grazing the first season. If sufficient growth is made, it can be cut for hay by waiting until early October or grazed lightly until frost. Sweet clover made for hay the year of seeding approximates alfalfa in feeding value.

In seeding the above legumes, attention should be given to the level and balance of fertility, the lime requirement, inoculation, variety or strain of seed and method of seeding. For seed mixtures, see Agronomy Mimeo AF-24

Other Annual Forage Crops: Frequently, some forgotten annual forage crop is brought out under a new name and with new claims of its value for hay or pasture purposes. Before investing in one of these highly advertised forage crops, usually offered at exorbitant prices, farmers should get in touch with their county agent or experiment station.

Purdue University Department of Agricultural Extension
J. G. Dieslin, Director, Lafayette, Indiana
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