

GRASS SEED PRODUCTION



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GRASS SEED PRODUCTION

THE WHEATGRASSES

Crested
Slender
Intermediate
Tall
Western

OTHER GRASSES

Brome
Green stipa
Mandan wildrye
Russian wildrye
Switch
Big bluestem

Importance of Producing Grass Seed From Cultivated Rows Rather Than Regular Drilled Seedings

ADVANTAGES OF CULTIVATED ROWS

Higher yields
More years of good seed production from a field
Larger, plumper seeds

DISADVANTAGES OF CULTIVATED ROWS

Difficulty of swathing-pickup combining

The much higher yield obtained from row seedings as compared with solid seedings results in the advantages for outweighing disadvantages.

Grass seed harvested from cultivated rows of grass usually has a higher test weight and is larger seeded than seed harvested from solid stands of grass. Plump seed germinates to form a strong seedling that has a better chance to establish itself than the weaker seedling from a shriveled seed.

Large, plump grass seed is very important in establishing stands of grass. As an example --- a bushel weight of 22 pounds is considered the minimum for crested wheat grass seed; choice quality crested may weigh as high as 26 pounds per bushel while poor quality crested may weigh as little as 18 pounds per bushel. The individual seeds from the 26 pounder bushel grade germinate much bigger and stronger seedlings than the seed from the 18-pound bushel weight. Seedling vigor can be very important in determining whether or not a grass seeding is successful.

Where To Grow Grass Seed

Seed the grass rows only on fields you are sure has no quack, field bindweed or leafy spurge.

Straight rows are satisfactory on fairly level fields. However, run them across the slope if possible.

On fields with long slopes of more than 2 or 3 percent slope it will be necessary to have the field laid out for contouring, seeding the rows on the contour. Running the rows up and down hill will result in serious soil losses from water erosion.

Your Soil Conservation District can help you lay out a contour system.

Depth of Seeding

Seed the grass at a depth of about 1/2 inch in loam and clay soils; about 3/4 to 1 inch deep in sandy soils. A firm seed bed is very desirable; it helps keep the seeding depth uniformly shallow.

How To Seed

Row seedings may be made with either a corn planter or with the common grain drill. The shoe type corn planter is preferred. The shoe packs the ground underneath the seed and is less likely to go too deep on uneven ground than a disk type seeder. Corn planters seed two or four rows of grass at a time while most grain drills work out to three rows. Naturally it's desirable to have the grass planted two or four rows at a time because cultivating is usually done with two row or four row equipment. If you try to cultivate three row plantings with a two or four row cultivator, you are likely to have difficulty in matching up the rows.

When making row plantings with a 6-inch spacing grain drill, seed out of 1-drill cup, plug 6; out of 1 - plug 6, etc. or seed out of 2 - plug 6; out of 2 - plug 6, etc. The latter case will give you double rows of grass with 42 inches between each set of double rows. With a 7-inch spacing drill plug 5 cups between seeding cups or sets of seeding cups.

Below are listed adjustments to make in planting crested, slender and brome grass with a corn planter in 42-inch rows at 3 lbs. per acre:

Select the seed plates having seed cells or notches of the size, in width and depth, for the grass seed to be sown. (Illustration) If plates of these sizes are not available, it is possible to use plates with larger notches by having the notches filled with bronze by a welder. Then file out notches of the correct dimensions.

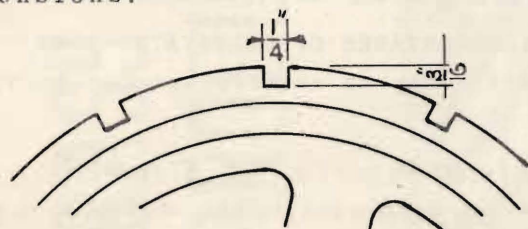


PLATE FOR CRESTED WHEAT

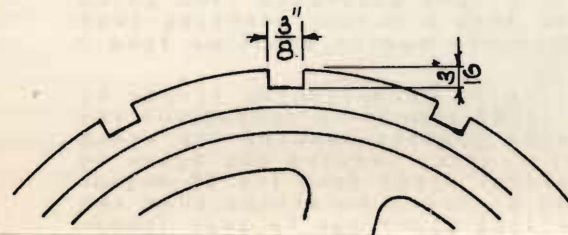


PLATE FOR SLENDER WHEAT

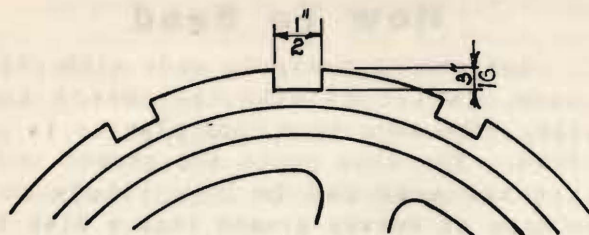
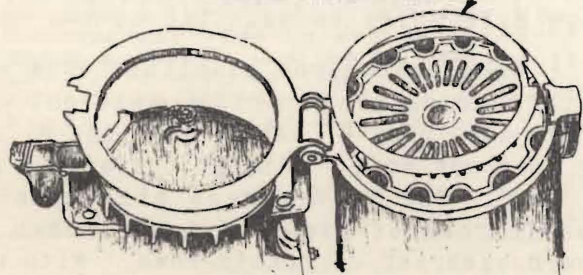


PLATE FOR BROME GRASS

It is necessary on most planters to use a gasket between the planter plate and false bottom plate (Illustration) to keep seed from working out around the edge at the bottom of the hopper.

RING CUT OUT OF 24 GAGE SHEET METAL



SHEET METAL RING PLACED NEXT TO PLANTER PLATE AS A GASKET TO KEEP SMALL SEED FROM WORKING OUT AROUND SIDE OF HOPPER

Set the planter for drilling. Set the variable seed drop shift lever on No.4 position. Put the planter drive chain on the combination of drive sprockets that will give the slowest planter speed, that is, using the smallest driver sprocket and the largest driven sprocket.

Seed Treatment

Suggested for trial mainly as protection against root rot and other seedling diseases. Treat the grass seed with Arasan at least 24 hours before seeding. Use 10 oz. Arasan per 100 pounds of grass seed or 7 oz. of Arasan SF (Slurry) per 100 pounds of seed.

Rate of Seeding

Seed about 3 pounds per acre in 42-inch rows. Use well cleaned heavy test weight seed. Check drill regularly to see that all cups are seeding. Heavy, clean seed is less likely to plug up or bridge over than light weight or dirty seed.

Time To Seed

About September 1 in summerfallowed land:

As soon as the grass is up enough to see the rows, cultivate to roughen the ground in between the rows to provide protection from blowing during the winter. It's a pretty good idea to put on a good big ridging shovel to work about halfway between the rows to make a furrow and ridges.

Seed green stipa grass only in the fall. It has a seed dormancy that is broken only by many years storage or by alternate wetting and drying at temperatures near the freezing mark. Fall seedings usually give good stands of green stipa; spring seedings are almost always a failure.

Switch grass and big bluestem, being summer grasses, should be seeded only in the spring. They like warm weather.

Late fall just before freeze up:

In clean stubble land.

Early spring on clean stubble, well-packed spring plowing or summerfallow:

On late fall and early spring seedings made with a grain drill mix a small quantity of rye or oats with the grass seed to mark the rows so that cultivation can be started as soon as possible.

When seeding with a corn planter, blind-cultivate immediately and keep cultivating so that the rows are not lost. Grain, mixed with grass seed, does not feed well out of the corn planter.

Cultivation

On established stands of grass, cultivate the rows in much the same manner as you would corn. The first operation should be as early in the spring as possible--about the time you prepare land for wheat seeding.

The second cultivation should be about May 15 to June 1. A third cultivation may be necessary in June but is usually not needed. The final cultivation of the year should be made in September, preferably early in September.

Mowing the grass stubble after harvest may improve seed production from the field next year. However, it is a good idea to leave a row of stubble standing about every 30 feet to trap snow on the field.

Fertilizers

A good supply of available nitrogen seems to be quite important in securing large grass seed crops. The following kinds and rates of fertilizer are suggested for trial:

50 to 100 pounds per acre of ammonium nitrate (33-0-0) applied in late fall or very early spring, or

100 pounds 16-20-0 per acre applied late fall or very early spring.

Broadcast application of fertilizer has proven satisfactory on grass fields. However, it might be worthwhile to try applying it in bands along each side of the row.

Do not apply the fertilizer at the time the grass is seeded as this may make weed competition worse. Put the fertilizer on after the grass stand has become established.

Harvesting Methods

Harvesting may be done with a grain binder, shocking and threshing; swather and pickup combining or by direct combining.

Straight combining of Russian wildrye and green stipa grass is difficult due to shattering or seed ripening habits of these grasses. Even on grasses such as slender wheat, brome and crested wheat, straight combining is rather risky. A wet weather or other delay at harvest time followed by heavy wind can put most of the seed on the ground.

Combining before the seed is thoroughly ripe may result in the seed heating in storage. Much, if not all, of the seed will be ruined if heating takes place. Spreading the combine harvested seed in

thin layers to dry or using a regular drying outfit, such as a corn dryer, are possible solutions to direct combine harvesting.

Many growers have expressed the desire to swath and combine pickup if at all possible. Picking up swaths lying between the rows is next to impossible. Accordingly the following arrangement is suggested for trial:

Seed 8 rows of grass, then a 6 to 10 foot solid seeding, eight rows of grass, a 6 to 10 foot solid seeding and so on across the field.

This will permit swathing by placing a 4-row swath, on the solid seeded area, from either side. The solid seeded area should be mowed a few days before swathing so that there will be a dry grass bed to drop the swaths on.

Adjustments of Combines and Threshers For Grain Seed

Combining is most effective when seed is fully mature. Generally, combines with rasp bar cylinders are more satisfactory than those having tooth type cylinders. The clearance between the cylinder and concave should be as wide as possible and cylinder speed the slowest that will result in complete threshing without excessive chopping of the straw or cracking the seed. Little or no air blast is necessary in combining or threshing most grass seeds. Careful adjustment of the chaffer vanes is necessary to keep the straw out of the seed and retain seed of the best quality. Cylinder speeds will vary from around 900 RPM for bluestems up to 1,500 RPM for wheatgrasses.

Canada and Mandan wildrye present a problem in threshing with either a combine or thresher because of the large awns which have a tendency to tie the seeds together in clumps. It is preferable to harvest this grass with a binder and thresh with a thresher since direct combining or windrow combining will overload the combine and prevent good threshing without loss of a lot of seed.

A successful practice is to thresh the bundles through with the thresher adjusted so that the material moves easily through the machines. A considerable amount of seed will be blown over into the straw in this operation. Then reset the machine and thresh the straw stack with more careful adjustments to retain the seed. This practice usually results in recovery of nearly all of the seed and takes less time than attempting to do a complete job of threshing the first time.

Seed Cleaning and Processing

Russian wildrye, Mandan wildrye, green stipa, switch grass and big bluestem seeds need processing to put into shape for seeding through a drill. The seeding qualities of brome grass are also greatly improved by processing. Several seed companies have installed processing equipment.

Whether to purchase a hammermill and seed cleaning equipment for processing and cleaning your own seed or have it processed and cleaned at commercial plants is a question for you to decide on the basis of cost of doing it as compared with custom costs.

Grass seed is processed to remove awns and to polish the seed. This is commonly done by running it through a hammermill. However, processing may also be accomplished by other methods, such as by running it through a corn sheller, by scarification machinery and by certain kinds of rubbing machines.

Seed should always be cleaned before sale or use. A common farm fanning mill will usually improve any lot of seed. Custom cleaning is recommended before seed is sold. Purity and germination tests can be obtained at State Seed Laboratory, State College Station, Fargo.

For information on harvesting, processing and cleaning refer to:

USDA Farmers' Bulletin No. 1985 "Seed For Regrassing the Great Plains" pages 19 to 37.

or

USDA Yearbook of Agriculture, "Grass" pages 537 to 540.

See your County Extension Agent or Soil Conservation Service man. They can give you good advice on the various phases of grass seed production.

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