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Management of Korean Lespedeza

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Korean lespedeza gives best results where left on the land year after year. This is true under all soil conditions, and it is especially important on the less productive land. Lower production costs are reached by taking advantage of the ability of lespedeza to reseed itself heavily under almost any use of the crop. By this annual reseeding habit a renewed stand every spring is practically assured.

Korean lespedeza where grown alone continuously over many years is often reduced in value because it is unable to compete with the increased growth of weeds. On fertile soils rank growing annual weeds develop rapidly in early spring and early summer, before lespedeza has made enough growth to offer much competition. On less fertile soils, especially if they are flat and poorly drained, lespedeza does not grow well among summer weeds like foxtail, panic grass, *Aristida,* crabgrass and ragweed. On productive soils bluegrass, redtop and occasionally timothy will develop rapidly among lespedeza, and under some conditions this is desirable.

Lespedeza Occupies the Land for a Short Season

Lespedeza alone does not make full season use of the land. It does not begin growth until late spring. It grows slowly in the spring and normally does not develop for grazing until the middle of June or near the first of July.

Lespedeza develops full growth by late August to early September, remains nearly stationary in size until the first light frost in October, and then grows no more. The crop is thus used for pasture, hay, or seed, or combinations of these during the normal growing season from late spring to early fall.

During the remainder of the fall, winter and spring, land producing only lespedeza is idle. In the spring the most inefficient use of such land occurs. From March to June the land is not producing. It is also during this period that weeds establish themselves, to reduce materially the growth and value of lespedeza during the summer months.

Grow Small Grains with Continuous Lespedeza

Winter wheat or winter rye may be sown in the fall after lespedeza has matured seed. In South Missouri, winter barley may be sown instead of either wheat or rye. In North Missouri winter rye or wheat is considered more practical than barley, since they are more winter hardy and their fall seeding usually comes later than normal seeding of barley.

Oats may be used in place of fall grain by preparing the ground and seeding on the lespedeza ground in early spring before the lespedeza has germinated a stand from seed shattered on the land by last year's growth.

By combining a small grain crop with continuous lespedeza, full seasonal use of the land is gained. Usually there is but little fall and winter growth from grain fall sown after lespedeza. But in the following spring the fall sown grain or the spring sown grain develops rapidly to control the spring weed growth.

The grain crop may be pastured off or be cut for silage or be left to ripen. If it is an oats crop it may, as another alternative, be cut for hay. Where the grain crop containing volunteer lespedeza is pastured off, the lespedeza usually will carry the livestock by the time the small grain pasture has been fully consumed.

Regardless of the method of using the small grain crop, its presence in spring and early summer checks excessive weed growth and allows the lespedeza to use the land during the later part of the growing season. The seeding of small grain also makes practical the yearly applications of fertilizer on a relatively cheap and profitable basis.

Seedbed Preparation

In preparing the seedbed for small grain grown with continuous lespedeza, it is important to so handle the land that the lespedeza can renew its growth and that the best results from the small grain be obtained. Plowing is impractical and costly. It tends to cover the lespedeza seed too deep to insure dense stands the next season. In the fall the plowing would come too late for fall seeding of small grain.

Where fall grain follows lespedeza it is necessary to prepare quickly and easily a satisfactory seedbed without plowing. Under the most favorable fall conditions, where the lespedeza has been grazed close,

and when the soil is well supplied with surface moisture, there is no difficulty in doing this with an ordinary disk harrow. In many seasons, however, the ground is so hard and dry that the use of a disk harrow is difficult and expensive. In some seasons the seedbed would be so poorly prepared by the disk as to cause poor growth and yield of the small grain.

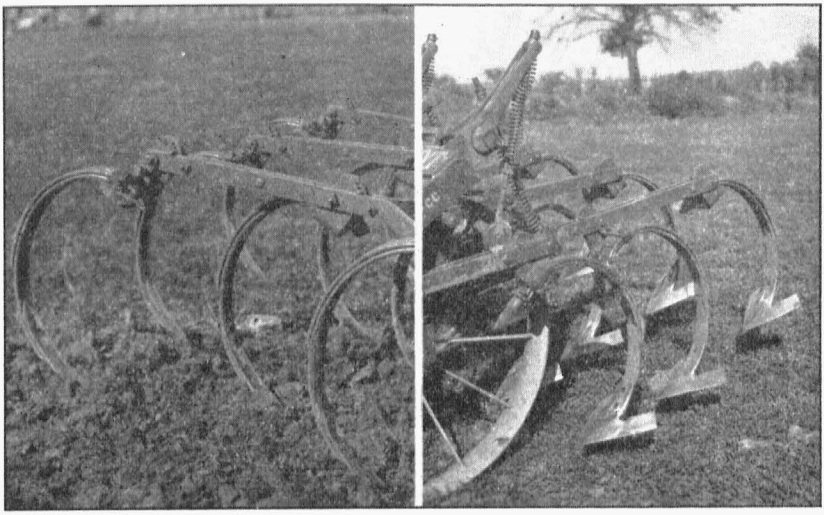

Fig. 1.—Field cultivators are so constructed that shovels (left) are interchangeable with sweeps (right). Additional power is required when the sweeps are used.

Where lespedeza has not been well grazed or when the season is late and moist, there may be a considerable growth of lespedeza or of lespedeza and weeds by the time the land is to be prepared for seeding fall grain. Too much growth seriously interferes with the pulverizing and leveling of the land for seeding. In some instances this growth is left on the land over the winter until oats are to be sown the following spring. While this assists in controlling erosion, it may interfere with spring disking. Frequently it forms a "carpet" over the surface holding the moisture and delaying the drying of the ground for seeding oats.

The use of a field cultivator eliminates most of the difficulties frequently met in using the ordinary disk harrow. On stony land this implement is superior under all conditions. Elsewhere it is at least equal to the disk harrow. It can work the ground as shallow or as deep as desired. The presence of considerable vegetative growth does not impair its use.

Fig. 2.—The field cultivator equipped with small sweeps thoroughly breaks and loosens lespedeza sod. At the top, sweeps were used. The ground was pulverized and light harrowing would leave it a finished seedbed. At the bottom, shovels instead of sweeps were attached. The ground was left in small hard ridges, shown here by pushing back the loose soil. To break and pulverize these ridges would require a cross trip with the field cultivator or the disk harrow.

Under normal conditions of moisture or where the soil is only slightly dry, the sweeps on the field cultivator will evenly pulverize the surface. Under such conditions the ground would need to be worked twice if shovels are used. However, where there is a lot of old growth on the land, or where the land is stony, or where it is extremely hard and dry, the shovels instead of the sweeps are necessary.

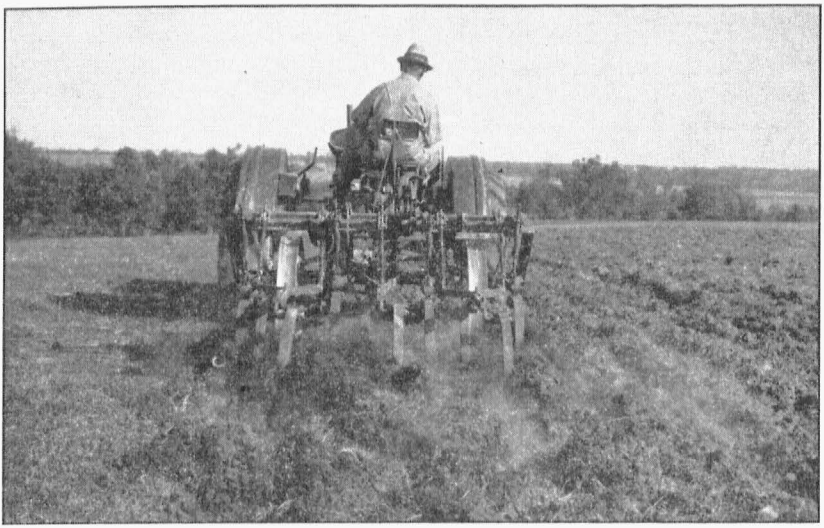

Fig. 3.—A field of lespedeza, grazed short through the summer and early fall, is here being prepared for the seeding of fall grain. After the lespedeza sod is opened with the field cultivator, as shown in the picture, it may be finished by disking or by harrowing or by crossing with the field cultivator itself, depending on the condition of the ground. These operations leave the lespedeza seed near the surface for spring germination. This field has not been plowed in six years. Plowing is not needed, since lighter and less costly operations are just as effective. Furthermore, plowing would bury the lespedeza seed too deeply.

Fig. 4.—The disk plow is also an effective means of preparing lespedeza sod for small grain. The ground may be worked shallow or deep. There are some objections to it: on loose soil the seed is turned under too deep; on hard, dry soil the surface is left rough and cloddy.

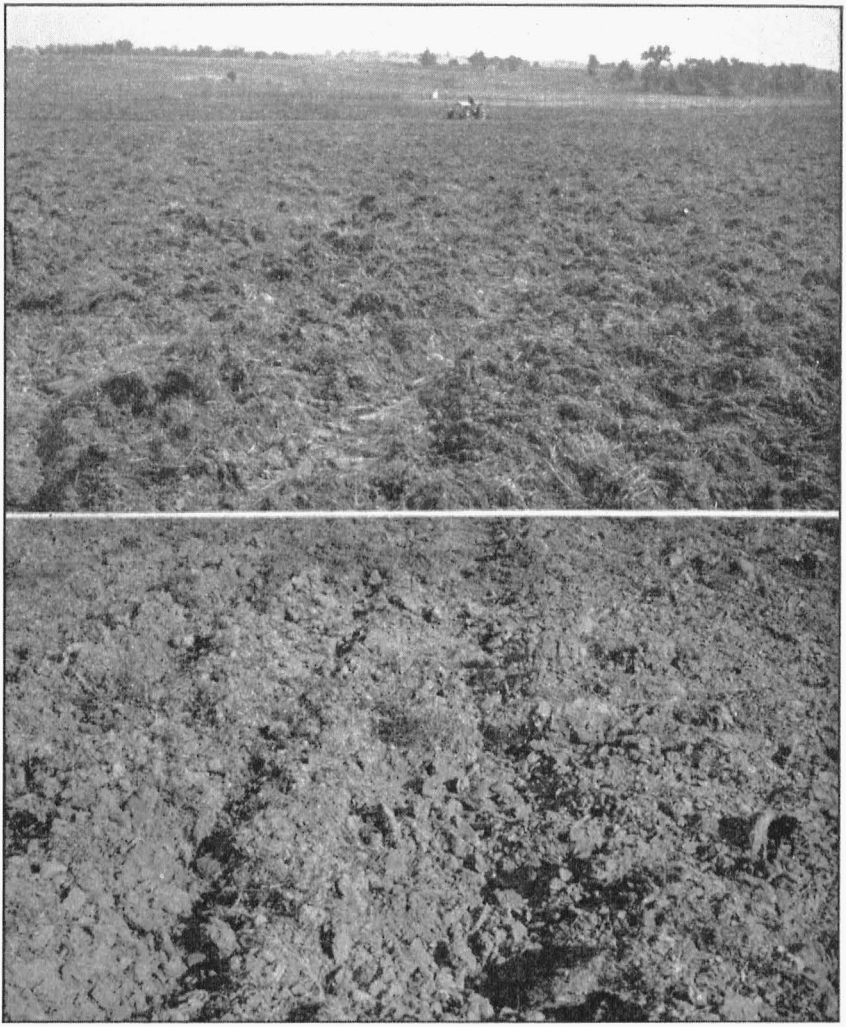

Fig. 5.—These pictures show the efficiency of the field cultivator in preparing very dry lespedeza sod for fall grain. The top field was worked once with sweeps; the bottom field was worked and cross-worked with shovels. Either field may now be further worked with a disk or harrow, according to the type and condition of the soil and the slope of the ground. Both fields have been continuously in lespedeza for ten years and neither field has been plowed in that time.

By adjustment in degree and depth of working the land any desired amount of the lespedeza stubble may be covered or left on the surface. This permits preparing the seedbed somewhat earlier than if the ground were disked. The immature lespedeza seed left on the plants above ground, will mature sufficiently to germinate the following season.

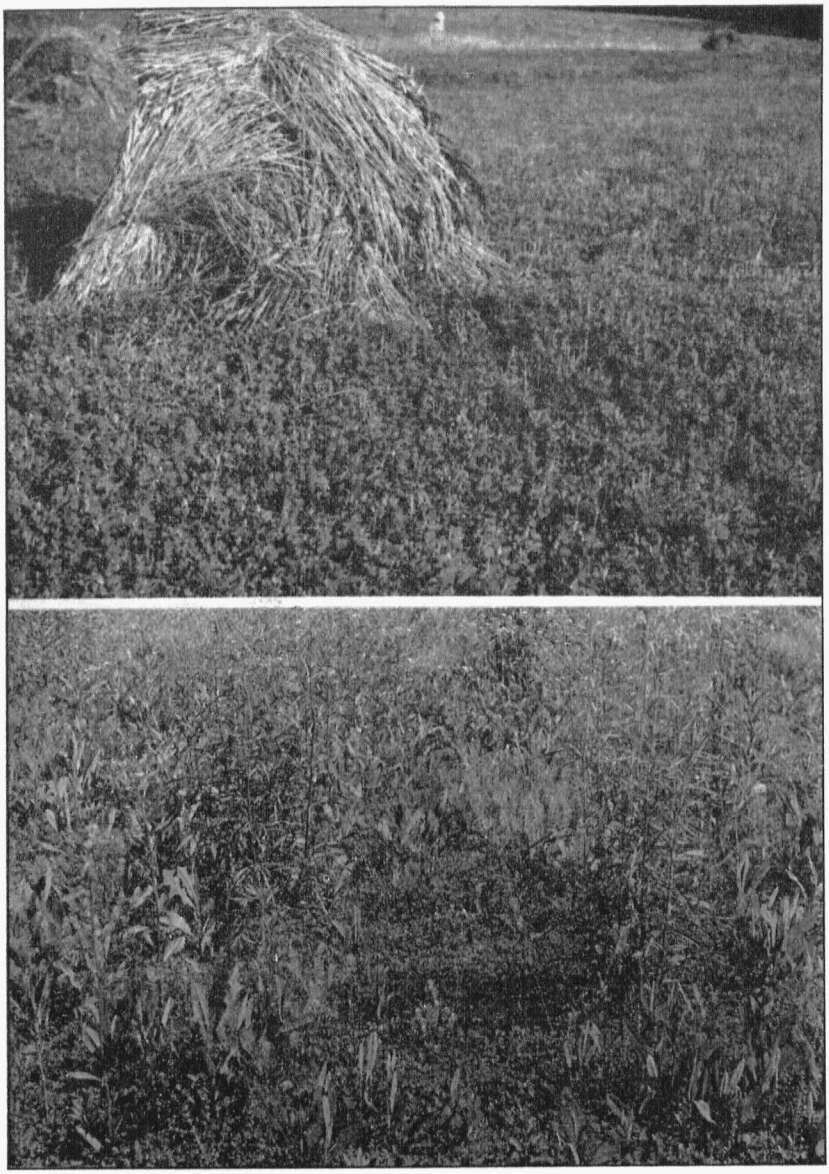

Fig. 6.—These pictures, taken in early July, show how annual rotation with a grain crop will affect the growth of lespedeza. In the field shown in the upper photograph, wheat has been sown on lespedeza sod every fall, after lespedeza has matured seed. Spring growth of the wheat has controlled weeds, so that the volunteer lespedeza stand is clean. In the field shown in the lower photograph, lespedeza every season has volunteered and grown alone; consequently it has become infested with weeds, and finally it is less productive and less useful.

Fig. 7.—After lespedeza has matured seed in October the ground may be worked with shovels on the field cultivator and left in this rough furrowed condition over the winter. This insures earlier, easier, and better preparation for spring grain. On rolling land the ground should be worked on the contour. Very little winter erosion will occur.

A reasonable amount of lespedeza stubble left on or near the surface will help to hold snow, will make the soil more receptive to rain, and altogether will reduce erosion.

With the field cultivator the land can be left with the surface rough or level as desired. On rolling land or where early drying of the land the following spring is desired, lespedeza stubble may be worked in the fall, preferable on the contour, as fall preparation for oats next spring.