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# Renovating Grass Fields with a Renovation Seeder

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## RENOVATING GRASS FIELDS WITH A RENOVATION SEEDER

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REVISED:

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Putting legumes into grass dominant pasture and hay fields through renovation is certainly not a new idea in Kentucky. Renovation has been an important forage improvement practice for the past twenty years. What is relatively new is the power tillage technique of introducing legumes into grass dominant sods.

### What Does Power Tillage Mean?

The power-driven tillage blades of the renovation seeder do the correct amount of tillage for interseeding legumes into existing grass fields. The tillage is accomplished by power-driven blades which cut furrows through the grass into the soil, much like rotating saw blades are used to cut wood, steel or concrete. The cutting points on the tillage blades have a surface layer of tungsten carbide so that the blades wear well in typically rough and rocky grass fields.

### What is a Renovation Seeder?

A renovation seeder is a total seeding machine for grassland renovation. A renovation seeder tills, meters seeds, places seed in the tilled furrow, covers the seed, and presses the seed in the furrow all in one trip over a grass field. Accurate tillage is the unique feature of the seeder. Each tillage unit floats independently and can follow uneven land surfaces and float over surface obstructions, such as rocks, without affecting the position of the other tillage units. The power-driven tillage method was developed at the University of Kentucky and was specifically designed to work in the varying pasture and hay lands of Kentucky.

### Preparing a Grass Field for Renovation with a Renovation Seeder

1. Test the soil and apply the necessary lime, phosphorus, and potassium as needed for the particular legume that is to be planted in the grass field.
2. Graze or mow the grass field so that grass height is 2 inches or less.
3. Remove baler twine and fence wire that might be on the surface of the grass field.
4. Plan to seed the field with the renovation seeder at the proper time for the legume that is to be seeded and when there is sufficient soil moisture to insure germination and emergence.

### Tillage Unit Schematic

#### Seeding a Grass Field With a Renovation Seeder

1. Attach the renovation seeder to the three-point hitch on a 60 horsepower tractor.
2. Adjust the top link until the planter is approximately level.
3. Check the drive chains to be sure that they are tight and well lubricated.
4. Check the tillage blades to be sure that the hard surface is on each tooth.
5. Check the depth adjustments to be sure that they are set for a tillage depth of three-fourths of an inch.
6. Check blades frequently for overheating. Check with machine in lifted position. If one or more blades are overheating, remove the blade and check for strings or other material between blade and axle.
7. Set the seed box metering adjustment to obtain the proper seeding rate for the legume that is to be seeded (see Extension publication AGR-26).
8. Check seed tubes after seed has been placed in seed box to insure all tubes are delivering seed. Check frequently during seeding. Check by turning drive wheel with machine in lifted position and PTO off.
9. Inoculate the legume seed just before they are placed in the seed box (see Extension publication AGR-26).
10. Operate the tractor at the rated engine speed to obtain the proper power take-off speed (540 rpm or 1000 rpm).
11. Operate the tractor in a transmission gear that will give a ground speed of from 3 to 5 miles per hour.
12. Oil the main drive chain (double 60 roller chain) after each 4 hours of operation with #90 lubricating oil.
13. Check after each day's operation for any loose bolts or abnormal wear.
14. Always lift machine when making turns.
15. Never engage PTO when machine is fully lifted. Engage with machine lowered where tillage blades are above the ground approximately 6 inches. Engage PTO at low engine RPMs, adjust engine to desired RPM and begin forward motion before lowering machine.
16. Check all drive chains after each 50 hours to be sure that they are tight.
17. Check the tillage blades for wear every 20 to 30 hours of operation. If the hard surface on the teeth is worn away, resurface with a Haystellite 60 welding rod (see Extension publication ID-32).

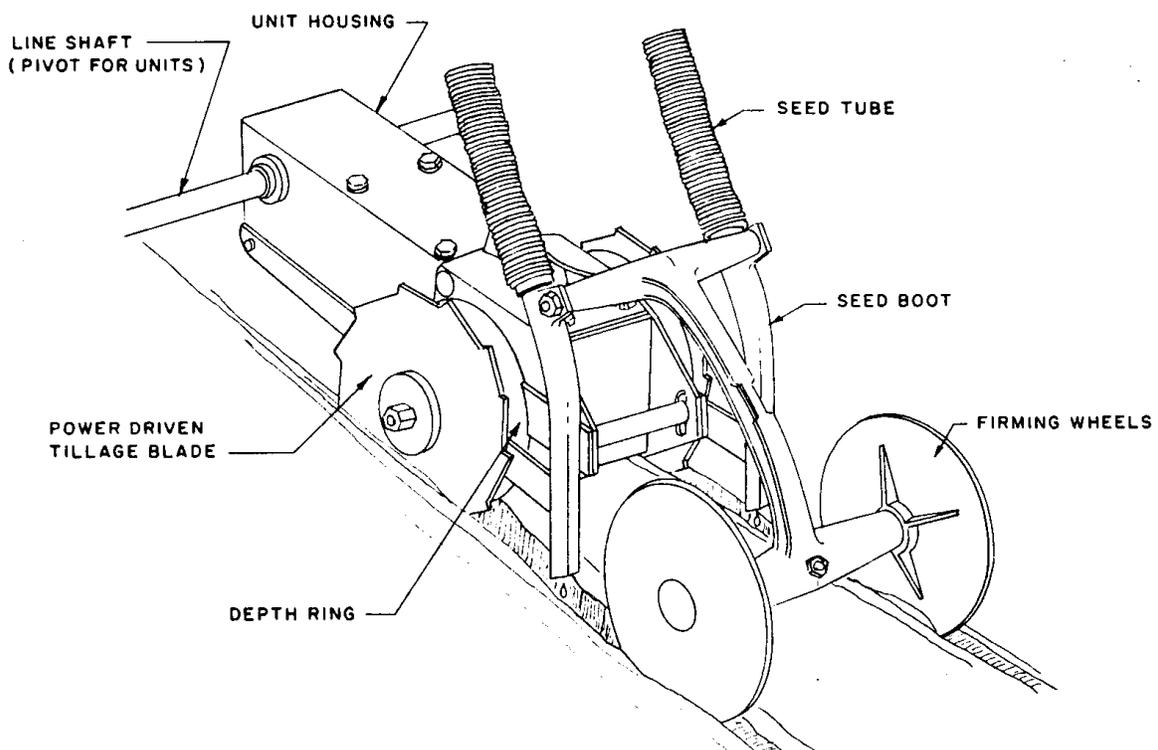
### Management of a Grass Field After Renovation with a Renovation Seeder

1. Continue grazing the field until the legume seedlings are tall enough that the animals will bite them off as they graze.
2. Remove the animals and allow the legumes to grow and produce feed which can be utilized by grazing and/or cut for high quality hay or haylage.
3. If a grass field cannot be grazed after it is renovated, keep the grass mowed until the legumes reach a height of 1-1/2 to 2 inches.

**Note:** *The grazing and/or cutting management after a grass field is renovated is very important so that the small legume seedlings can get plenty of sunlight. Without this management, renovation could be an absolute failure.*

### Herbicide Application with a Renovation Seeder

A renovation seeder can be equipped to apply a herbicide in bands 4 inches wide over each seeded row. This herbicide kills approximately half of the grass and tends to reduce grass yields during the first year after renovation. A herbicide is not a substitute for grazing and/or mowing. These management practices should be followed, even when a herbicide is used.



Tillage Unit Schematic