

# Forage Seed Production

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**A** common question from cattle producers is "Why can't I harvest my own grass and clover seed to save money buying it and also possibly sell seed to my neighbors?" The answer is that you can but it may not be worth the trouble and expense, depending on forage species, management, and climatic conditions which affect seed production of that crop. This article will discuss something about seed production in the southeastern USA, major forage seed production areas in the USA, and why they are successful.

## Some factors affecting seed production

Ideally, temperature and soil moisture conditions should be favorable to maintain continuous vigorous growth throughout the growing and seed setting period for maximum seed yields. Excess soil water or drought during this period will reduce seed yields. Dry weather just prior to and during harvest is essential for high yields of good quality seed. Most legumes such as alfalfa, sericea lespedeza, red, white, arrowleaf, and crimson clovers require bees for pollination so generally honey bee colonies must be placed in the seed fields to supplement natural bee populations to obtain satisfactory seed yields. Weed control is essential for production of clean, economical seed yields. In some cases, insects can destroy seed during the maturation period and must be controlled or else seed yields will be low. To maintain varietal purity, seed fields must be isolated from fields of other varieties to prevent movement of pollen via bees in the case of clover or wind pollination of grasses. Harvested seed must be dried and cleaned immediately to prevent heating that can damage seed quality. Thus, seed production to obtain high yields and quality is a specialized enterprise that requires favorable climatic conditions, often with irrigation and other inputs. However, seed is often produced in less favorable climates with less inputs



Yuchi arrowleaf clover seed field and grower in Willamette Valley, Oregon.

that result in lower yields but can provide additional income to a livestock enterprise.

## USA forage seed production

There are two types of forage seed production in the USA. The majority of some common varieties of grass and legume seed are produced as a secondary crop to pasture or hay production. Conditions are generally not favorable for top production so seed yield and quality may suffer. For instance, most of the Kentucky 31 endophyte-infected tall fescue seed is produced in Missouri as an adjunct enterprise on cattle farms and supplies most of the forage and turf grass market. Approximately one-half of the red clover is produced in the Midwestern states of the USA. A considerable amount of arrowleaf clover and some crimson clover seed are produced in the southeastern USA. Most of the bahiagrass seed is produced as a sideline on cattle farms in Florida.

With some forage species, seed is grown by specialized seed growers in dry climate areas where water can be controlled by irrigation to maximize seed yields. Alfalfa seed production is concentrated in Idaho, Washington, California, and several other western states. White (ladino) clover is mainly produced in California, Idaho, Oregon, and Washington. Bermudagrass seed production is located in southern California and Arizona. Pearl millet seed

are grown in west Texas and Arizona. New patented varieties of many other forage and turf species are increasingly being grown in these specialized seed production areas to maintain varietal purity and provide dependable high yields of quality seed.

One of the most concentrated cool season seed production areas of the USA is the Willamette Valley, an area about 45 miles in width and 100 miles long, south of Portland, Oregon. Virtually all the

USA annual ryegrass production comes from this area. In addition, most of the improved varieties of orchardgrass, tall fescue, Kentucky bluegrass, perennial ryegrass, as well as substantial amounts of white clover, red clover, crimson clover, and arrowleaf clover are grown here. It is also the primary area for seed production of improved cool season turf grass varieties.

The reason for this concentrated production in the Willamette Valley is the superior climate for seed production on excellent soils. Mild winter temperatures with extended rainfall during autumn, winter, and spring are followed by sunny dry summers for seed harvest. Irrigation is available for crops needing irrigation in summer prior to seed harvest. In addition, seed production is the primary farm occupation by producers with seed expertise who have the specialized planting, spraying, and harvesting equipment that is needed. It is impressive to visit this area during the summer seed harvest season and see these expert seed growers at work. A large number of complex drying and processing plants are available to handle the harvested seed. The result is high yields of seed with excellent germination and vigor. Seed yields (pounds/acre) obtained in the Willamette Valley are well above that obtained in the southeastern USA: annual ryegrass - 1600, tall fescue - 1400, orchardgrass - 900, red clover - 450, white clover - 350, crimson clover - 700, and arrowleaf clover - 800.

## Forage seed production in Georgia

Although Georgia is not a significant forage seed producer, there is some production of certain species. This state is the main producer of rye seed, used widely for winter annual pasture. Some bahiagrass seed are produced by direct combining with yields of about 100 to 300 lb of clean seed/acre. Shattering is a problem and because of uneven ripening, rapid drying is essential to prevent heating damage to the seed. Crimson clover is also harvested with seed yields ranging from 100 to 300 lb/acre, the low yields a result of clover head weevil damage and wet weather at harvest. Arrowleaf clover is also harvested with yields ranging from 50 to 300 lb/acre, with losses due to rotting of excessive vegetative growth, wet weather at harvest in late June or July, and threshing losses from improper combine harvester adjustment. Sericea lespedeza is a very drought-tolerant legume but dry weather during the critical seed setting months of August and September often results in



*Harvesting swathed crimson clover seed in Willamette Valley of Oregon.*

seed yields of less than 100 lb/acre. Irrigation during this period can boost seed yields to 800 or 1000 lb/acre. Grasshoppers can destroy developing sericea seed so must be controlled or seed yields will be low.

Is seed production a good option for Georgia cattlemen? This all depends on availability of harvesting and drying equipment, potential market for seed, weed problems, insects, and time to spend on this enterprise. For some

producers, this may be a viable option if well managed but it can be a hazardous enterprise for spring and summer harvested forage seed because of wet weather problems. Purchased seed of known varieties produced by expert seed growers in favorable growing areas offer reliable sources of high quality weedfree seed that are generally well worth the cost and are often a better buy than home-grown seed.