

DISCOVER THE DURANA ADVANTAGE IN YOUR PECAN ORCHARDS

Reduce costs & increase profits with



The Durable, All Purpose White Clover



FREE NITROGEN

Durana can produce up to 150 lbs. of nitrogen/acre/year – a value of over \$100/acre/year, based on \$.70/lb. nitrogen prices.



BENEFICIAL INSECTS

Durana creates a haven for beneficial insects reducing the need for insecticides.



EROSION CONTROL

Durana is a true perennial that will hold the soil year round, saving precious topsoil, while helping reduce chemical runoff.



LOW MAINTENANCE

Durana is very easy to plant and maintain... less mowing and spraying!



REDUCTION IN WEED COMPETITION

Because Durana is a single species growing as the orchard floor cover, it can reduce weed competition and thus the need for chemical sprays.



PRODUCTION OF ORGANIC MATTER

Durana can build up the organic matter in the soil and improve soil tilth.

Durana White Clover as a Pecan Orchard Floor Cover



Cutting cost and implementing more sustainable and environmentally friendly practices in pecan production has been a major emphasis of late. For a number of years, scientists and pecan specialists have studied the use of clover as an orchard floor clover to lower production costs and increase sustainability of commercial pecan production.

an effective source of organically bound nitrogen (N). In addition, Dr. Wells says that cool season legumes stimulate an early increase in beneficial insect populations and can also reduce weed competition, aid in the cycling of nutrients, build soil organic matter and prevent soil erosion and runoff.

According to Georgia Extension Pecan Specialist Lenny Wells, **“combining warm season sod culture and cool season legumes is a practical and effective strategy for conserving and supplying nitrogen for orchard crops as well as enhancing stewardship of the environment through the enhancement of beneficial insects, weed suppression, soil sustainability, and wildlife.”**

Durana’s growth habits and plant characteristics make it an excellent fit for use in pecan orchards.

Cool season legumes, such as clover, possess many characteristics that make them compatible with pecan production. They are not especially competitive with trees for soil moisture until mid to late spring. They also serve as

Growers throughout the pecan producing areas of the US are using Pennington’s Durana perennial white clover in their production systems to cut costs and increase sustainability. Durana’s growth habits and plant characteristics make it an excellent fit for use in pecan orchards. It is a low growing variety with small leaves and high numbers of stolons which allow aggressive spreading and excellent traffic

tolerance. It flowers profusely for long periods, making it a dependable re-seeder. Durana was specifically developed to survive hot, dry conditions which according to Dr. Wells makes it well suited to drip or micro-jet sprinkler irrigated orchards.

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WHAT PEOPLE ARE SAYING ABOUT DURANA CLOVER

“I planted Durana in my pecan orchard in December of 2007 for ground cover and beehive honey production. I had heard about the advantages such as increased nitrogen fixation, increased soil tilth and durability. Durana has furnished a great orchard floor cover because of the tremendous stolon density and large plant canopy. Besides furnishing nitrogen to the trees and reducing weed competition, Durana flowers over a long period of time. This has helped my honey production.” – Jeff McMullan, Sugar Land, TX



Benefits of Durana in Pecan Orchards

Free Nitrogen

As a perennial legume, Durana can capture up to 150 lbs. per acre of atmospheric nitrogen annually that can be shared with pecan trees. Research conducted at Auburn University by Dr. Bill Goff indicated that adequate nitrogen levels could be maintained for mature producing pecan trees by 35-50 lbs/A N applied in August coupled with nitrogen fixation by clover (see table). This significantly reduces production costs and increases profits.

Enhances Beneficial Insect Populations

Durana creates a haven where beneficial insects develop and thrive. The beneficial insects help hold pecan insect pests in check and reduce the need for the application of expensive insecticides.

Reduces Weed Competition

As a perennial orchard floor cover, Durana aggressively competes with weeds and inhibits weed emergence. This means less weed pressure and a reduction in the need to apply herbicide sprays.

Easy Establishment

Durana is easily established. No tillage is required. Seed can be broadcast on exposed soil after pecan harvest in late fall or early winter. Seed come pre-inoculated.

Low Maintenance

Durana's growth habits and plant characteristics make it an excellent fit as a pecan orchard floor cover. It is low growing with small leaves. It requires minimal mowing thus reducing labor and equipment costs.

Builds Soil Organic Matter

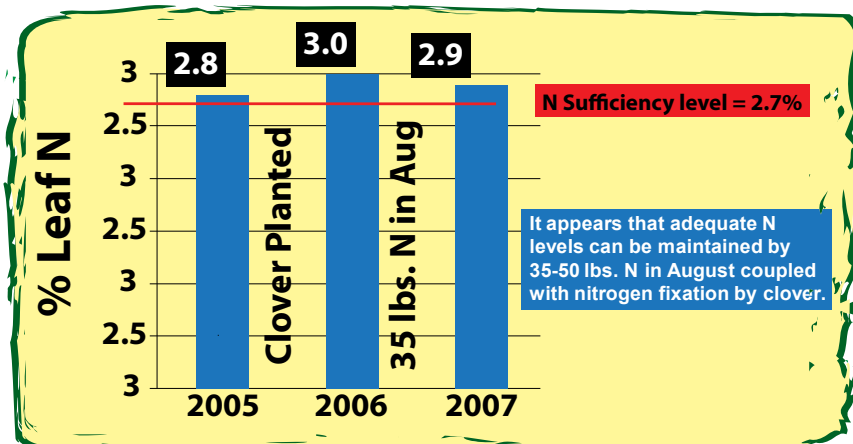
As a legume, Durana helps build soil organic matter and improves soil tilth.

Prevents Soil Erosion

As a perennial, Durana is present as a ground cover throughout much of the year. This feature helps hold soil in place, reducing soil erosion and water and chemical runoff. Durana also exhibits excellent machinery traffic tolerance.

Others

Durana flowers over an extended period of time making it a dependable re-seeder and excellent honeybee attractant. It is shade tolerant and tolerates grass competition. Durana provides food and habitat for many game and non-game birds and animals.



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Compare Clover Characteristics and Establishment Costs



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When shopping for clovers, seed cost per acre should be considered over seed cost per pound. This is because different varieties or types of clover call for different seeding rates. Seeding rates can range from 2 lbs. to 20 lbs. or more seed per acre depending on the type of clover. Another factor to consider is expected stand life. Some clovers last a single growing season while others remain

productive 2-5 years or longer. While perennial clovers may cost more per pound, prorated establishment costs are often much lower than those of annual types that must be seeded every year. As a long lasting perennial clover, Durana offers lower prorated seed and establishment costs when compared to annual clovers and other short-lived clover varieties. (See Table.)

Clovers Compared

Plant Characteristic	Durana	Ladino	Red	Crimson	Arrowleaf
Stand Life	3-5 yrs	1-2 yrs	1-2 yrs	6 mos	6-8 mos
Seeding Rate (lbs/ac)	5	5	10	20	10
Ground Cover(months)	9+	9+	6	2-3	3-4
Grazing Tolerance	Excellent	Fair	Fair	Fair	Fair
Drought Tolerance	High	Medium	Low	Medium	Medium
Seed \$/A Stand Life	\$7 - \$11	\$7-\$15	\$15-\$30	\$20.00	\$30.00
Nitrogen Fixed (lbs/ac)	150	150	150	60	75
N Value (0.70/lb)	\$105	\$105	\$105	\$42	\$52.50

Durana White Clover for Pecan Orchards



Name: Durana White Clover (*Trifolium repens*) **Type:** Cool season perennial legume

Adaptation: From eastern Texas and Oklahoma across the south to the Atlantic coast and north along a line from Macon, GA to Dallas, TX. On loamier soils in the Coastal Plain region of the Southeastern US under orchard or foodplot management. Also in the Pacific Northwest and in river valleys and certain irrigated areas of the western U.S.

Benefits: A perennial plant that offers year round sustainable and low maintenance vegetative cover. Durana is highly persistent with excellent drought, cold and heat tolerance. Reduces weed competition and is competitive with existing grasses. As a legume, Durana captures atmospheric nitrogen ranging from 75 to 150 lbs. per acre or more per year resulting in lower amounts of purchased Nitrogen needed. Builds soil organic matter and improves soil tilth. Serves as a host for beneficial insects.

Planting:

- Seeding rate:** 5 lbs. per planted acre.
- Method:** Broadcast seed on an exposed soil surface with a seeder designed for sowing small seed. Using a cultipacker or similar roller device following seed application helps insure good seed/soil contact improving stand emergence. Seed can be drilled with a no-till planter equipped with a small seed hopper. Seed at a maximum depth of 1/8 inch. Planting clover seed too deep can result in stand failure.
- Planting dates:** Establishment should be completed as soon as possible following pecan harvest, preferably in November to mid-January. If clover is seeded prior to harvest, seeds may be removed from the orchard floor during the sweeping and harvesting process.
- Fertilizer:** Soil testing is highly recommended. Durana performs best at a soil pH of 6.0 – 6.5 but will tolerate a pH in the 5.0 – 5.5 range. Providing adequate levels of potassium and phosphorus are necessary to ensure that the clover establishes and remains productive.
- Inoculant:** Durana seed come pre-inoculated with selected rhizobia strains of bacteria for optimal root nodulation and nitrogen fixation.

Management: Aggressive winter annual forages such as ryegrass should be controlled/suppressed with appropriate herbicides to allow the clover to establish. Durana does not require the addition of nitrogen fertilizer. Excess clover forage may be periodically clipped. Keeping the vegetation at a 3” – 4” height helps maintain the clover and aids in weed control/suppression.

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