

White lupin can be used as a cover crop in the Piedmont because it is more cold tolerant than blue lupin. It is not recommended for the Mountains or Ridge & Valley. It has a relatively short production season that limits its usefulness for grazing. Some varieties have alkaloids that are toxic to livestock. “Sweet” (low alkaloid) cultivars should be used in mixed row crop/livestock operations where the cover crop might be grazed.

**Recommended Varieties**

| Variety     | Reasons Why  | Source                          |
|-------------|--|---------------------------------|
| TIFWHITE-78 | A low alkaloid “sweet” lupin. Can be used in mixed row crop/livestock operations. Can be attractive to wildlife. | Managing Cover Crops Profitably |

**Planting Information**

| Information                       | Comments   | Source  |
|-----------------------------------|--|---|
| Drilled Seed Depth (inches)       | 1 - 2  | Managing Cover Crops Profitably, USDA White Lupin Plant Guide |
| Drilled Seeding Rate (lbs/acre)   | 90 - 120<br>Higher rate for large seeded white varieties. Use <i>Rhizobium lupini</i> inoculant. | Managing Cover Crops Profitably, USDA White Lupin Plant Guide |
| Broadcast Seeding Rate (lbs/acre) | N/A  |   |

**Termination Information**

| Information  | Source                           |
|--|----------------------------------|
| White lupin can be terminated by grazing. It can only be grazed once because its growing point is at the top of the plant.   | UGA.                             |
| White lupin can be terminated with herbicides, rolling & crimping, mowing, or tillage. The hollow stems crush or break readily, making it easy to plant cash crops using conservation tillage equipment. | Managing Cover Crops Profitably. |
| Consult your local Extension and state Pest Management Handbook for herbicide recommendations. Always follow the herbicide label.  |                                  |

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**Cultural Traits**

| Traits                              |   | Comments   | Source   |
|-------------------------------------|---|--|--|
| Typical Dry Matter Range (lbs/acre) | 4,900 - 7,000   | There is little information available on white lupin biomass in the South. | Grow Your Own N: Legumes in Row Crop Systems 2006, Sulas et al. 2015   |
| Typical Total N Range (lbs/acre)    | 100 - 150   |  | USDA White Lupin Plant Guide   |
| Life Cycle                          | Cool season annual legume   |  | USDA White Lupin Plant Guide   |
| Growth Habit                        | Upright   |  |  |
| Preferred Soil pH                   | 5.6 - 7.5   |  | USDA White Lupin Plant Guide   |
| Relative Seed Cost (\$/acre)        | \$\$\$\$  |  | Based on survey of seed costs using maximum price and max seeding rate |
| Min. Germination Temp (F)           | N/A   |  |  |
| Cautions                            | Lupines may need to be limited in diet of gestating animals. Be sure to use a low alkaloid variety. |  |  |

**Forage Traits**

| Information   | Source      |
|---|-------------|
| Lupine grows slowly in the fall and flowers by late March – early April which limits its productive season and usefulness as a forage. Lupines also commonly contain bitter alkaloids that reduces palatability. Low-alkaloid varieties are available for forage use. | UGA Forages |

**Sources:**

Managing Cover Crops Profitably: <https://www.sare.org/Learning-Center/Books>

Mitchell, C.C. and J. Mosjidis. 2006. Grow Your Own N: Legumes in Row Crop Systems. Agronomy Series Timely Information Alabama Cooperative Extension S-05-06

Sulas, L., S. Canu, L. Ledda, A.M. Carroni, M. Salis. 2015. Yield and nitrogen fixation potential from white lupine grown in rainfed Mediterranean environments. Scientia Agricola: <http://dx.doi.org/10.1590/0103-9016-2015-0299>

USDA White Lupin Plant Guide: [https://plants.usda.gov/plantguide/pdf/pg\\_lual22.pdf](https://plants.usda.gov/plantguide/pdf/pg_lual22.pdf)

UGA Forages: <https://georgiaforages.caes.uga.edu/species-and-varieties/cool-season/minor-cool-season-annuals.html>