
**Jimmy Carter Plant Materials Center
Americus, Georgia**

**‘AU SUNRISE’
CRIMSON CLOVER
A NEW COVER CROP**



TECHNICAL NOTE

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

STATE OFFICE SERVICE CENTER
ATHENS, GEORGIA

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TECHNICAL NOTE
PLANT MATERIALS

AN EARLY CRIMSON CLOVER FOR COVER CROP USE

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INTRODUCTION:

In the later half of this century, agriculturists have studied numerous cool season legumes for cover crop and conservation tillage use. Many agronomists recognized the value of incorporating early developing legumes into their conservation tillage systems.

With this in mind, in 1994 the NRCS Jimmy Carter Plant Materials Center and the Auburn University, Alabama Experiment Stations released an early developing hairy vetch called 'AU EarlyCover'.

In 1997, the NRCS Jimmy Carter Plant Materials Center and the Auburn University, Alabama Experiment Stations released an early developing crimson clover called 'AU Sunrise'. Results from two years of testing have shown 'AU Sunrise' is a cultivar that flowers 5 to 18 days earlier than 'AU Robin' and 12 to 28 days earlier than 'Tibbee' crimson clover. This new crimson clover should fit into several green manure and conservation tillage systems.

AREAS OF ADAPTATION:

The cultivar is well adapted to fertile upland soils of Alabama and Georgia. Further comparison testing will be done before the complete useful range of this cultivar is determined. However, it should be adapted in suitable sites to much of the Southeastern United States where 'Tibbee', 'Dixie', and 'AU Robin' crimson clovers are grown.

ESTABLISHMENT:

'AU Sunrise' can be broadcast or drilled. For maximum cool season coverage, broadcast 20 pounds of inoculated seed per acre or drill 8-15 pounds of seed per acre. In North Alabama and Georgia, plant September 15 - November 1. In Northern South Carolina, plant September 1 - October 15. In Southern Alabama and Georgia, plant October 1 - November 15. In Southern South Carolina, plant September 15 - November 15. In North Carolina mountains, plant mid August - mid September. In North Carolina Piedmont, plant September 1 - September 30. In North Carolina Coastal Plain, plant September 1 - October 15. Prior to planting, apply lime to raise pH to 6.0. Apply fertilizer as indicated by recent soil test results. Planting depth should be around 1/4 inch.

MANAGEMENT:

When it is time to kill the cover crop for conservation tillage planting, experience at Americus indicates that use of a systemic herbicide produces better results than a contact herbicide. Approximately two weeks after spraying, the cover crop should be dried sufficiently for proper summer crop planting. Due to earlier blooming characteristics, the summer crop can be planted 5-18 days earlier and 12 to 28 days earlier than when planting into 'AU Robin' or 'Tibbee' respectively.

DISEASE AND INSECTS:

This cultivar does not have any particular resistance to disease or insects beyond those commonly found in the species.

COMMERCIAL SEED PRODUCTION:

'AU Sunrise' can be harvested by direct combining. In Americus, Georgia, this is usually done from late April - early June. Normal yields are approximately 100 - 200 pounds of clean seed per acre. At Americus, the following combine settings were utilized on a 72 All Crop Harvester: Concave setting 1.0, cylinder speed 1200 rpm, fan setting of 2, tractor rpm 2400.

AVAILABILITY:

Auburn University and Alabama Crop Improvement Association worked with interested companies to secure rights to the new cultivar. Breeder seed stocks will be maintained by Jimmy Carter Plant Materials Center and the Alabama Crop Improvement Association.

RENEWED INTEREST IN LEGUMES

The utility and importance of this clover should increase with the continued rise in energy costs. 'AU Sunrise' can provide a early maturing source of nitrogen rich ground cover with increasing efficiency as manufactured sources of nitrogen fertilizer are forced to increase their costs and pass them on to the consumer.

The trend of increase fertilizer costs and perhaps shortages in fertilizer should continue for the immediate future. This seems to be assured due to continued hostilities in the world. Also increased consumption of oil and gas products will continue to elevate fertilizer production and transportation costs.

The use of legumes like 'AU Sunrise' could provide a source of renewable ground cover and nitrogen for many agricultural systems. This could be a vital link in future energy independence for the United States.

USDA-NRCS
Jimmy Carter PMC
Americus, Georgia

AU SUNRISE CRIMSON CLOVER

TRIFOLIUM INCARNATUM

PLANTING GUIDE

SPECIES: Crimson Clover, (*Trifolium incarnatum* L.)

RELEASE NAME: ‘AU Sunrise’

GENERAL INFORMATION: Crimson clover is an annual cool season legume. The leaves are palmately tri-foliolate. Heads are cylindrical with a deep red color. This new cultivar is an early blooming variety of crimson clover, recently released by USDA-NRCS Jimmy Carter Plant Materials Center and Auburn University.

USE: Because of its early blooming characteristic, AU Sunrise is well suited for cover crops in conservation tillage systems. It can also be used as an early green manure crop for conservation cropping systems.

ADAPTATION: AU Sunrise is tolerate of a wide range of sites. It is most productive on moderately-well to well drained soils. It is well adapted in Alabama and Georgia. It should be adapted in suitable sites in the Southeastern United States where Tibbee, Dixie, and AU Robin crimson clover varieties are grown. However, additional field comparisons are needed to determine the exact range of this cultivar.

ESTABLISHMENT:

SOILS: Crimson clover is adapted to moderately-well to well drained sites.

PLANTING DATE: In North Alabama and Georgia, plant September 15 - November 1. In Northern South Carolina, plant September 1 - October 15. In Southern Alabama and Georgia, plant October 1 - November 15. In Southern South Carolina, plant September 15 - November 15. In North Carolina mountains, plant mid August - mid September. In North Carolina Piedmont, plant September 1 - September 30. In North Carolina Coastal Plain, plant September 1 - October 15.

FERTILIZATION: Apply enough lime to raise the pH to 6.0. Apply fertilizer according to soil test results.

SEEDING RATE: Broadcast 20 pounds/acre, drill 8 - 15 pounds/acre, using scarified and inoculated seed.

PLANTING DEPTH: Plant approximately 1/4 inch deep.

MANAGEMENT: Basically manage like other crimson clovers. When it is time to kill the cover crop for conservation tillage planting, experience at Americus indicates that use of a systemic herbicide produces better results than a contact herbicide. Approximately two weeks after spraying, the cover crop should be dried sufficiently for proper summer crop planting. Due to earlier blooming characteristics, the summer crop can be planted 5-18 days earlier and 12 to 28 days earlier than when planting into 'AU Robin' or 'Tibbee' respectively.

DISEASE AND INSECTS: This cultivar does not have any particular resistance to disease or insects beyond those commonly found in the species.

About the Author

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Disclosures

Mention of a trademark or propriety product does not constitute a guarantee or warranty of the product by USDA-NRCS.

WHERE TO GET HELP: For more information about AU Crimson Clover, contact Donald Surrency, Plant Materials Specialist, Thomson, Georgia, 706-595-1339. E-mail don.surrency@ga.usda.gov. Mike Owsley, Jimmy Carter PMC, Americus, Georgia, 229-924-4499. E-mail mike.owsley@ga.usda.gov. For more information about AU Crimson Clover, click the Jimmy Carter Plant Materials Center homepage. The homepage address is www.ga.nrcs.usda.gov/ga/pmc

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