

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.75 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

**OBJECTIVE DESCRIPTION OF VARIETY
RED CLOVER (*Trifolium Pratense*)**

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country)		FOR OFFICIAL USE ONLY
		PVPO NUMBER

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (i.e., 0 9 9 or 0 9) when the number is either 99 or less or 9 or less. Characteristics described, including numerical measurements, should represent those which are typical for the variety. Measured data should be for spaced plants. Any recognized color fan, e.g. Royal Horticultural Color Chart, may be used to determine plant color; designate system used: _____ . Give location of test area _____. Ranges of values are valuable and may be included with additional description elsewhere in the application.

Note: For single plant data a minimum of 100 plants is suggested.

1. Type:

1 = Double Cut (medium) 2 = Single Cut (mammoth) 3 = Other (Specify) _____

2. PLOIDY:

1 = Diploid 2 = Tetraploid 3 = Other (Specify) _____

3. PRODUCTIVE PERSISTENCE: (Usual duration of planting)

1 = Annual 2 = Biennial 3 = Short Lived Perennial (3 -4 Years)

4. ADAPTATION: (e.g. 0 2 3) = northcentral and southcentral

1 = Northeast 2 = Northcentral 3 = Southcentral 4 = Southeast 5 = West 6 = Other (Specify) _____

5. MATURITY:

% Plants flowering in seedling year

Beginning of spring growth:

Days Earlier Than Standard Variety
 Days Later Than Standard Variety

Time of flowering (50% of plants in bloom): (from spring growth in non-seeding year)

Days Earlier Than Standard Variety
 Days Later Than Standard Variety

6. PLANT HEIGHT: (From soil level to top of flowering head at 50% flowering)

<input type="text"/> <input type="text"/> cm Tall	<input type="text"/> <input type="text"/> cm Shorter Than	<input type="text"/> Standard Variety
	<input type="text"/> <input type="text"/> cm Taller Than	<input type="text"/> Standard Variety

7. FLOWERING STEM: (from first noncontracted internode, longer than 0.5 cm., to tip if flowering head)

<input type="text"/> <input type="text"/> No. Flowering Stems per Crown
<input type="text"/> <input type="text"/> No. Internodes
<input type="text"/> <input type="text"/> cm. Length of Stem

Hairiness: Give percentage of plants with each type of surface (Total = 100%)

<input type="text"/> <input type="text"/> <input type="text"/> % Hairs Projecting Upward
<input type="text"/> <input type="text"/> <input type="text"/> % Hairs Projecting Downward or at Right Angles
<input type="text"/> <input type="text"/> <input type="text"/> % Glabrous (Fewer than 5 hairs/1 cm. path along central internodes)

Habit: Give percentage of plants with each type of habit. Stem habit should be determined by the angle of lowest stems to the horizontal (soil level) at 50% flowering.

<input type="text"/> <input type="text"/> <input type="text"/> % Prostrate (0 - 30°)	<input type="text"/> <input type="text"/> <input type="text"/> % Semi-Prostrate (30 - 45°)	<input type="text"/> <input type="text"/> <input type="text"/> % Semi-Erect (45 - 60°)	<input type="text"/> <input type="text"/> <input type="text"/> % Erect (60 - 90°)
--	--	--	---

8. LEAF: (Central leaflet of 3rd node below flowering head)

<input type="text"/> <input type="text"/> mm Width	<input type="text"/> <input type="text"/> mm Narrower Than	<input type="text"/> Standard Variety
	<input type="text"/> <input type="text"/> mm Wider Than	<input type="text"/> Standard Variety
<input type="text"/> <input type="text"/> mm Length	<input type="text"/> <input type="text"/> mm Shorter Than	<input type="text"/> Standard Variety
	<input type="text"/> <input type="text"/> mm Longer Than	<input type="text"/> Standard Variety

Color:

<input type="text"/>	1 = Light Green (Altaswede)	2 = Medium Green	3 = Dark Green (Hungaropoli)	4 = Blue Green
----------------------	-----------------------------	------------------	------------------------------	----------------

Leaf Marking (at 50% flowering: Note: Categories below allow for increasingly detailed description of the same data. The diagram illustrates the terms: 1 = Apical 2A = Full 2B = Extended 2C = Delta 2D = Incomplete 3 = Basal

Presence of mark: Of total plants, give percentage of marked and unmarked plants (Total = 100%)

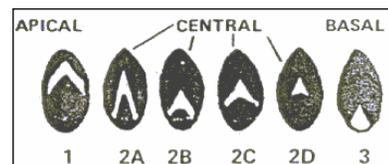
<input type="text"/> <input type="text"/> <input type="text"/> % Absent	<input type="text"/> <input type="text"/> <input type="text"/> % Marked
---	---

Position of mark: Of total plants, give percentage with leaf mark in each position (Total = % marked above)

<input type="text"/> <input type="text"/> <input type="text"/> % Apical	<input type="text"/> <input type="text"/> <input type="text"/> % Central	<input type="text"/> <input type="text"/> <input type="text"/> % Basal
---	--	--

Shape of mark: Of total plants, give percentage with central leaf marks having each shape (Total = % marked above)

<input type="text"/> <input type="text"/> <input type="text"/> % Full	<input type="text"/> <input type="text"/> <input type="text"/> % Extended	<input type="text"/> <input type="text"/> <input type="text"/> % Delta	<input type="text"/> <input type="text"/> <input type="text"/> % Incomplete
---	---	--	---



9. FLOWER COLOR: (Determine color on freshly opened florets) Give percentage of plants with each color (Total = 100%).

Colors are referenced to the Munsell Color System.

<input type="text"/> <input type="text"/> <input type="text"/> % White	<input type="text"/> <input type="text"/> <input type="text"/> % Light Pink (5RP 8/4)
<input type="text"/> <input type="text"/> <input type="text"/> % Medium Pink (5RP 7/6)	<input type="text"/> <input type="text"/> <input type="text"/> % Light Pink (5RP 8/4)
<input type="text"/> <input type="text"/> <input type="text"/> % Red (5RP 5/10)	<input type="text"/> <input type="text"/> <input type="text"/> % Light Pink (5RP 8/4)

10. SEED COLOR: Maximum color development in unstored, mature seed (at beginning of calyx browning). Give percentage of plants with each seed color (Total = 100%).

<input type="text"/> <input type="text"/> <input type="text"/> % Yellow	<input type="text"/> <input type="text"/> <input type="text"/> % Yellow with some Purple
<input type="text"/> <input type="text"/> <input type="text"/> % Purple	<input type="text"/> <input type="text"/> <input type="text"/> % Purple with some Yellow
<input type="text"/> <input type="text"/> <input type="text"/> % Other (Specify) _____	(attach explanation)

11. DISEASE AND PEST RESISTANCE: (0 = Not Tested 1 = Susceptible 2 = Resistant) If variety is claimed to be resistant or to show intermediate reaction, substantiating test scores should be attached clearly identifying disease, application variety, check varieties, date and location of test and range and direction of test scores.

A. Diseases:

- | | |
|--|--|
| <input type="checkbox"/> Crown Rot (<i>Sclerotinia trifoliorum</i>) | <input type="checkbox"/> Root Rot (<i>Fusarium spp.</i>) |
| <input type="checkbox"/> Northern Anthracnose (<i>Kabatiella caulivora</i>) | <input type="checkbox"/> Summer Black Stem (<i>Cercospora zebrina</i>) |
| <input type="checkbox"/> Southern Anthracnose (<i>Colletotrichum trifolii</i>) | <input type="checkbox"/> Black Stem (<i>Phoma trifolii</i>) |
| <input type="checkbox"/> Target Spot (<i>Stemphylium sarcinaeformae</i>) | <input type="checkbox"/> Powdery Mildew (<i>Erysiphe polygoni</i>) |
| <input type="checkbox"/> Pepper Spot (<i>Leptosphaeralina trifolii</i>) | <input type="checkbox"/> Black Patch (<i>Rhizoctonia leguminicola</i>) |
| <input type="checkbox"/> Red Clover Vein Mosaic Virus | <input type="checkbox"/> Bean Yellow Mosaic Virus |
| <input type="checkbox"/> Nematode (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |

B. Insects

- | | |
|--|---|
| <input type="checkbox"/> Clover Root Borer (<i>Hylastinus obsurus</i>) | <input type="checkbox"/> Clover Root Curculio (<i>Satona hispidula</i>) |
| <input type="checkbox"/> Sweetclover Weevil (<i>Sitona cylindricollis</i>) | <input type="checkbox"/> Clover Seed Chalcid (<i>Bruchophagus platyptera</i>) |
| <input type="checkbox"/> Lesser Clover Leaf Weevil (<i>Hypera nigrirostris</i>) | <input type="checkbox"/> Potato Leafhopper (<i>Empoasca fabae</i>) |
| <input type="checkbox"/> Yellow Clover Aphid (<i>Therioaphis trifolii</i>) | <input type="checkbox"/> Meadow spittlebug (<i>Philaenus spumarius</i>) |
| <input type="checkbox"/> Clover Seed Midge (<i>Dasineura leguminicola</i>) | <input type="checkbox"/> Pea Aphid (<i>Acrythosiphon pisum</i>) |
| <input type="checkbox"/> Clover Leafhopper (<i>Aceratagallia sanguinolental</i>) | <input type="checkbox"/> Other (Specify) _____ |

12. Indicate the variety most closely resembling the applicaton variety for the following:

CHARACTER	VARIETY	CHARACTER	VARIETY
Leaflet shape		Seed color	
Cutting recovery		Late season growth	
Winter hardiness		Persistence	

REFERENCES:

Hawkins, R. P. 1953. Investigations on local strains of herbage planst II. Types of red clover and their identification. J. Brit. Grassland Soc. 8, 213-218.
 Williams, R. D. 1927. Red clover investigations, 1919 – 1926. Welsh Plant Breeding Station Bull., Ser. H. No. 7.

COMMENTS: (If additional space is necessary, use reverse side)