

No.



201400093

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

The U.S. Government, as represented by the Secretary of Agriculture

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

An application requesting a certificate of protection for an alleged distinct variety of sexually reproduced, or tuber propagated plant, the name and description of which are contained in the application and exhibits, a copy of which is hereunto annexed and made a part hereof, and the various requirements of LAW in such cases made and provided have been complied with, and the title thereto is, from the records of the PLANT VARIETY PROTECTION OFFICE, in the applicant(s) indicated in the said copy, and Whereas, upon due examination made, the said applicant(s) is (are) adjudged to be entitled to a certificate of plant variety protection under the LAW.

Now, therefore, this certificate of plant variety protection is to grant unto the said applicant(s) and the successors, heirs or assigns of the said applicant(s) for the term of TWENTY years from the date of this grant, subject to the payment of the required fees and periodic replenishment of viable basic seed of the variety in a public repository as provided by LAW, the right to exclude others from selling the variety, or offering it for sale, or reproducing it, or importing it, or exporting it, or conditioning it for propagation, or stocking it for any of the above purposes, or using it in producing a hybrid or different variety therefrom, to the extent provided by the PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LENTIL

'Avondale'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of March, in the year two thousand and fifteen.*

Attest:

REF ID: A61001. Include form number and date on all reproductions.

Form Approved - OMB No. 0511-0013

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

1. NAME OF OWNER The U. S. Government as represented by the Secretary of Agriculture		2. TEMPORARY DESIGNATION OR LC01G02300R LC 01602300R	3. VARIETY NAME Avondale Avondale
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 1400 Independence Ave., SW Washington D.C. 20250		5. TELEPHONE (include area code) (301) 504-6905	FOR OFFICIAL USE ONLY PVPO NUMBER 201400093
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) U.S. Government		6. FAX (include area code) (301)504-5060	FILING DATE 12/19/2013
8. IF INCORPORATED, GIVE STATE OF INCORPORATION N/A		9. DATE OF INCORPORATION N/A	

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)

Rebecca J. McGea
USDA ARS
Grain Legume
Genetics and
Physiology
Research Unit
305 Johnson Hall
Washington State
University
Pullman, WA 99164

Mojdeh Bahar
USDA, ARS, OTT
Ref: Lic. 1620

5601 Sunnyside Ave.
Beltsville, MD 20705-5131

FILING AND EXAMINATION FEES:

F	
E	
S	\$ 4,382
R	DATE 12/19/2013
E	
C	
E	
I	
V	
E	
D	

11. TELEPHONE (include area code) +1 509.335.0300	12. FAX (include area code) +1 509.335.7692	13. E-MAIL rebecca.mcgee@ars.usda.gov
14. CROP KIND (Common Name) Field Pea Field Pea Lentil	16. FAMILY NAME (Botanical) Fabaceae	18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) 0 YES X NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.
15. GENUS AND SPECIES NAME OF CROP Pisum sativum L.	17. IS THE VARIETY A FIRST GENERATION HYBRID? 0 YES X NO	20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) 0 YES (if "yes", answer items 21 and 22 below) X NO (if "no", go to item 23)
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) <input checked="" type="checkbox"/> X Exhibit A. Origin and Breeding History of the Variety <input checked="" type="checkbox"/> X Exhibit B. Statement of Distinctness <input checked="" type="checkbox"/> X Exhibit C. Objective Description of Variety <input checked="" type="checkbox"/> X Exhibit D. Additional Description of the Variety (Optional) <input checked="" type="checkbox"/> X Exhibit E. Statement of the Basis of the Owner(s) Ownership <input checked="" type="checkbox"/> X Exhibit F. Declaration Regarding Deposit <input checked="" type="checkbox"/> X Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) <input type="checkbox"/> 0 Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? 0 YES X NO IF YES, WHICH CLASSES? 0 FOUNDATION 0 REGISTERED 0 CERTIFIED
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? 0 YES X NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? 0 YES X NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. 0 FOUNDATION 0 REGISTERED 0 CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? 0 YES X NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)

SIGNATURE OF OWNER <i>Mojdeh Bahar</i>	SIGNATURE OF OWNER
NAME (Please print or type) Mojdeh Bahar	NAME (Please print or type)
CAPACITY OR TITLE Assistant Administrator, ARS	CAPACITY OR TITLE
Date 12/02/2013	Date

GENERAL INSTRUCTIONS: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (*See Section 97.6 of the Regulations and Rules of Practice*). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Ballimore Avenue, Beltsville, MD 20705-2351. **Retain one COPY for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or *owner's* representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.*)

Plant Variety Protection Office
Telephone: (301) 504-5518 FAX: (301) 504-5291
General E-mail: PVPOmail@usda.gov
Homepage: <http://www.ams.usda.gov/science/pvpo/PVPIndex.htm>

SPECIFIC INSTRUCTIONS:

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, Seed Regulatory and Testing Branch, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. <http://www.ams.usda.gov/lsg/seed.htm>

ITEM 19a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

- (1) identify these varieties and state all differences objectively;
- (2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See Regulations and Rules of Practice, Section 97.103*).

23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.

24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (*Please provide a statement as to the limitation and sequence of generations that may be certified.*)

23. CONTINUED FROM FRONT (*Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U. S. or other countries.*)

24. CONTINUED FROM FRONT (*Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).*)

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 1.4 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, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (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 to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S. W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

ST-470 (02-06) designed by the Plant Variety Protection Office using Word 2003.

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE
 APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

FOR OFFICIAL USE ONLY

PVPO NUMBER

201400093

EXHIBIT A - ORIGIN AND BREEDING HISTORY

** Use additional pages as needed.

1. Name of Owner The United States Government, as represented by the Secretary of Agriculture	2. Temporary Designation or Experimental Name LC01602300R	3. Variety Name Avondale
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4. Describe the genealogy (back to and including public and commercial varieties, lines, or clones used) and the breeding method(s). **
 Avondale was developed using a modified bulk-pedigree system. It is an F12 line derived from an F5 selection from the cross of 'CDC Richlea' / PI 297754 (cross number X98L047). Richlea (CN 105583) is a medium green lentil that is high yielding and susceptible to ascochyta blight. PI 297754 is a small green lentil that was released by ICARDA as ILL 286. In 1998, the cross was made in the greenhouse and the F1 was advanced to F2. The F2 and F3 generations were grown in the field from 1999 to 2000. Harvested seed from F2 and F3 generations was cleaned and sized using a floor-model clipper fit with a 24/64 round-holed top screen and a 14/64 round-holed bottom screen to remove foreign material and inferior seed. Single seeds from the F4 bulk were grown in the greenhouse during the winter of 2000-2001. Seed for each plant was harvested separately, and F5 progeny rows were grown in the field at Pullman, WA in 2001. Plot number 2300 was selected in the field based on maturity, height, and lodging tolerance and was assigned selection number LC01602300R. LC01602300R was grown in a nonreplicated observation trial in 2002 at the Washington State University Spillman Research Farm. It has been evaluated in replicated advanced yield trials in Washington and Idaho from 2003 to 2013; in Montana from 2008-2013 and in North Dakota in 2006-2012 (excluding 2007).

5. Give the details of subsequent stages of selection and multiplication. **

Year	Detail of Stage	Selection Criteria
1998	Cross made	parental selection
1998	F1 plants grown	none
1999	F2's grown in field nursery	harvested seed selected for size
2000	F3's grown in field nursery	single seeds selected for size
2000-2001	F4's grown in greenhouse	none
2001	F5 progeny rows field nursery	maturity, height, lodging tolerance
2002	F6 selection in non-replicated obs trial	maturity, height, lodging tolerance, seed size/shape
2003	Selection grown in preliminary yield trial	maturity, ht, lodging tol, sd size/shape, yield
2004-2013	Selection grown in advanced yield trials - WA	maturity, ht, lodging tol, sd size/shape, yield
2008-2013	Selection grown in advanced yield trials - MT	maturity, ht, lodging tol, sd size/shape, yield
2006	Selection grown in advanced yield trials - ND	maturity, ht, lodging tol, sd size/shape, yield
2008-2012	Selection grown in advanced yield trials - ND	maturity, ht, lodging tol, sd size/shape, yield
2010-2012	Breeder's seed made	maturity, ht, lodging tol, sd size/shape

6. Is the variety uniform? Yes No

How did you test for uniformity?

Evaluation of breeder's seed for three generations and of entry in yield trials for more than 20 location-years. A total of 10 generations.

7. Is the variety stable? Yes No

How did you test for stability? Over how many generations?

Evaluation of breeder's seed for three generations and of entry in yield trials for more than 20 location-years. A total of 10 generations.

8. Are genetic variants observed or expected during reproduction and multiplication? Yes No

If yes, state how these variants may be identified, their type and frequency.

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE
 APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

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EXHIBIT B – STATEMENT OF DISTINCTNESS

** Use additional tables to present clear differences for additional comparison varieties.
 Use additional pages to present supporting evidence.

1. Name of Owner The United States Government, as represented by the Secretary of Agriculture	2. Temporary Designation or Experimental Name LC01602300R	3. Variety Name Avondale
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Based on overall morphology, Avondale is most similar to Brewer, Merrit Avondale most clearly
Applicant's new variety *Most similar comparison variety(ies)* *Applicant's new variety*
 differs from Brewer, Merrit in the following traits Name the specific trait. Then list the value of that trait for each variety in the comparison. Submit
Most similar comparison variety(ies)

appropriate supporting evidence (see the [Guidelines for Presenting Evidence in Support of Variety Distinctness in the instructions](#)):

	<i>Eg. Leaf Pubescence</i> <i>Eg. Leaf Color</i> <i>Eg. Plant Height</i>	<i>heavy pubescence</i> <i>Dark Green (5GY 3/4)</i> <i>200 cm +/- 10 cm (N=25)</i>	<i>glabrous</i> <i>Light Green (2.5GY 8/10)</i> <i>250 cm +/- 15 cm (N=25)</i>	<i>photograph attached</i> <i>Munsell Color Chart</i> <i>statistics attached</i>
	1. Qualitative traits:	2. Color traits:	3. Quantitative traits:	4. Other traits:
Application Variety	Avondale		Plant height Index= 0.94; Pod height Index =0.79 ; seed size = 4.9 g/100 s +	
Comparison Variety 1	Brewer		Plant height Index= 0.81; Pod height Index =0.57 ; seed size = 5.9 g/100 s +	
Comparison Variety 2	Merrit		Plant height Index= 0.80; Pod height Index =0.78 ; seed size = 6.4 g/100 s +	
Comparison Variety 3				

** Use additional tables to present clear differences for additional comparison varieties. Use additional pages to present supporting evidence.

Exhibit B

Statement of Distinctness of Avondale

Avondale is a spring-sown lentil variety. It has white, unpigmented flowers and lens shaped seeds with yellow cotyledons and an unmottled, green seed coat. Avondale is most similar to two other medium-green seeded lentils: Brewer and Merrit. It varies from them in that it has superior tolerance to lodging, as measured by the plant height index and the pod height index, and has smaller seeds.

Table 1. Plant Height Index of Avondale, Brewer and Merrit as measured at the Washington State University Spillman Research Farm, Pullman, Washington.

Entry	Plant Height Index				
	2006	2007	2008	2009	2010
Avondale	1.00	1.00	0.96	0.89	0.92
Brewer	0.76	0.82		0.71	0.91
Merrit	0.93	0.87	0.64	0.69	0.77
Trial Average	0.87	0.86	0.82	0.77	0.85
LSD (0.05)	0.14	0.16	0.21	0.14	0.11

Plant Height Index is determined by dividing the canopy height by the total vine length at harvest maturity.

Table 2. Pod Height Index of Avondale, Brewer and Merrit as measured at the Washington State University Spillman Research Farm, Pullman, Washington.

Entry	Pod Height Index				
	2006	2007	2008	2009	2010
Avondale	0.64	0.80	0.98	0.70	0.91
Brewer	0.34	0.61		0.55	0.59
Merrit	0.81	0.70	0.84	0.59	0.91
Trial Average	0.55	0.65	0.93	0.69	0.78
LSD (0.05)	0.21	0.23	0.10	0.22	0.25

Pod Height Index is calculated by dividing the height of the lowest pods at green stage by the height of the lowest pods at harvest maturity.

Table 3. Seed size of Avondale, Brewer and Merrit from four locations and two years in Washington.

Entry	Hundred Seed Weight (g)							
	Dusty, WA		Farmington, WA		Palouse, WA		Walla Walla, WA	
	2012	2013	2012	2013	2012	2013	2012	2013
Avondale	4.6	4.8	4.9	4.9	5.0	5.0	4.5	5.5
Brewer	5.4	5.9	5.9	5.6	5.9	6.0	5.5	6.7
Merrit	5.9	6.1	6.5	6.3	6.4	6.6	5.6	7.4
Trial Average	4.5	4.8	5.1	4.9	5.1	5.0	4.4	5.5
LSD (0.10)	0.2	0.3	0.1	0.1	0.2	0.1	0.3	0.2

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AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

Exhibit C

**OBJECTIVE DESCRIPTION OF VARIETY
Lentil (*Lens culinaris* Medik.)**

NAME OF APPLICANT (S) The United States Government, as represented by the Secretary of Agriculture	TEMPORARY OR EXPERIMENTAL DESIGNATION LC01602300R	VARIETY NAME Avondale
ADDRESS (Street and No., or RD No., City, State, Zip Code and Country) 1400 Independence Ave, SW Washington, D.C. 20250		FOR OFFICIAL USE ONLY PVPO NUMBER 201400093

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

PLEASE READ ALL INSTRUCTIONS CAREFULLY. Place the appropriate number that describes the varietal character in the boxes below. Place a zero in the first box (e.g. or) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 25 plants. Comparative data should be determined from varieties entered on the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____

Please answer all questions for your variety; lack of response may delay progress of your application.

1. MATURITY:

Relative Maturity: 1 = Early 2 = Medium 3 = Late

Days from Planting to Harvest

Days from Planting To Harvest of the Check Variety. Name of Check Variety: Merrit

2. PLANT HABIT:

Type: 1 = Determinate 2 = Intermediate 3 = Indeterminate

Plant Height in Centimeters

Plant Height of the Check Variety. Name the Check Variety: Merrit

Pod Position: 1 = Low (Lower Pods Touching the Soil Surface)
 2 = High (Lower Pods Not Touching the Soil Surface)
 3 = Scattered (Not Concentrated High or Low)

Adaptability to Machine Harvest: 1 = Adapted 2 = Not Adapted

Lodging Resistance: 1 = Good 2 = Fair 3 = Poor

3. LEAFLET MORPHOLOGY:

Leaflet Texture: 1 = Smooth 2 = Wrinkled

Leaflet Surface: 1 = Dull 2 = Glossy 3 = Semiglossy 4 = Variable

3. LEAFLET MORPHOLOGY:

2 Relative Size: 1 = Small 2 = Medium 3 = Large
 1 Leaflet Shape: 1 = Ovate 2 = Lanceolate 3 = Deltoid 4 = Cordate 5 = Rhomboid
 2 Apex of Leaflet: 1 = Acute 2 = Acuminate 3 = Cuspidate 4 = Obtuse
 1 Base of Leaflet: 1 = Obtuse 2 = Oblique 3 = Cordate 4 = Cuneate 5 = Attenuate

4. FLOWER:

1 Color of Standard: 1 = White 2 = Cream 3 = Pink 4 = Blue 5 = Purple 6 = White/Blue
 7 = Other (Specify) _____
 1 Color of Wings: 1 = White 2 = Cream 3 = Pink 4 = Blue 5 = Purple 6 = White/Blue
 7 = Other (Specify) _____
 1 Color of Keel: 1 = White 2 = Cream 3 = Pink 4 = Blue 5 = Purple 6 = White/Blue
 7 = Other (Specify) _____
 68 Number of Days to 50% Bloom

5. POD MORPHOLOGY:

Green Mature

1 1 Color Pattern: 1 = Solid 2 = Striped 3 = Blotched 4 = Mottled 5 = Other (Specify) _____
 3 5 Primary Color: 1 = Purple 2 = Red 3 = Green 4 = Yellow 5 = Tan 6 = Brown 7 = Other _____
 Color Modifier: 1 = Light 2 = Light Medium 3 = Medium 4 = Medium Dark 5 = Dark
 7 7 Secondary Color: 1 = Purple 2 = Red 3 = Green 4 = Yellow 5 = Tan 6 = Brown 7 = Other _____
 1 1 Cross Section Shape: 1 = Flat 2 = Pear 3 = Round 4 = Figure 8
 1 1 Pod Curvature: 1 = Straight 2 = Slightly Curved 3 = Curved 4 = Recurved
 1 1 Pod Beak Orientation: 1 = Straight 2 = Curved Upward 3 = Curved Downward 4 = Variable
 1 1 Pod Constrictions: 1 = None 2 = Slight 3 = Deep
 01 Average Beak Length in Millimeters
 02 Average Number of Seeds per Pod

6. SEED COLOR:

2 Seed Luster: 1 = Shiny 2 = Dull 3 = Semishiny 4 = Variable
 1 1 = Monochrome 2 = Polychrome
 1 1 Primary Color: 1 = White 2 = Yellow 3 = Beige 4 = Tan 5 = Brown 6 = Pink 7 = Red 8 = Purple
 9 = Blue 10 = Black 11 = Green 12 = Other _____
 1 2 Secondary Color: 1 = White 2 = Yellow 3 = Beige 4 = Tan 5 = Brown 6 = Pink 7 = Red 8 = Purple
 9 = Blue 10 = Black 11 = Green 12 = Other None
 1 2 Seed Fleck Color: 1 = White 2 = Yellow 3 = Beige 4 = Tan 5 = Brown 6 = Pink 7 = Red 8 = Purple
 9 = Blue 10 = Black 11 = Green 12 = Other None
 1 Seedcoat Color Pattern: 1 = Solid 2 = Splashed 3 = Mottled 4 = Striped 5 = Flecked 6 = Dotted
 1 2 Hilum Color: 1 = White 2 = Yellow 3 = Beige 4 = Tan 5 = Brown 6 = Pink 7 = Red 8 = Purple
 9 = Blue 10 = Black 11 = Green 12 = Other Clear
 1 Cotyledon Color: 1 = Yellow 2 = Orange 3 = Red 4 = Yellow/Orange 5 = Red/Orange

7. SEED SHAPE AND WEIGHT:

Shape: 1 = Round 2 = Oval 3 = Cuboid 4 = Kidney 5 = Truncate/Fastigate

Dry Seed Weight in Grams per 100 Seeds (Adjusted to 12% Moisture)

8. ANTHOCYANIN PIGMENTATION: 1 = Absent 2 = Present

Flowers Stems Pods Seeds
 Leaves Petioles Peduncles Nodes

9. DISEASE or PEST REACTION: 1 = Susceptible 2 = Resistant 3 = Tolerant 4 = Avoidance 0 = Not Tested

Give the Common Name (CN) Scientific Name (SN), and Race/Biotype/Panhototype (R), Where Applicable

Anthracnose (*Colletotrichum* spp.)
 Ascochyta (*Ascochyta pisi*)
 Fusarium (*Fusarium solani*)
 Pythium (*Pythium ultimum*)
 Pea Enation Mosaic Virus
 White Mold (*Sclerotinia sclerotiorum*)
 CN Stemphylium Blight SN Stemphylium botryosum R _____
 CN _____ SN _____ R _____
 CN _____ SN _____ R _____
 CN _____ SN _____ R _____
 CN _____ SN _____ R _____
 CN _____ SN _____ R _____
 CN _____ SN _____ R _____
 CN _____ SN _____ R _____
 Weevils
 CN _____ SN _____ R _____
 CN _____ SN _____ R _____

10. PSYCHOLOGICAL STRESS REACTION: 1 = Susceptible 2 = Resistant 3 = Tolerant 4 = Avoidance 0 = Not Tested

Heat Cold Drought Air Pollution

11. COMMENTS:

Exhibit D. Additional Characteristics of Avondale.

YIELD

Table 1. Yield performance of Avondale lentil at ten locations in Montana 2008-2012 (kg/ha).

Entry	Bozeman						Conrad					
	2008	2009	2010	2011	2012	Avg	2008	2009	2010	2011	2012	Avg
Avondale	-----	-----	2491	1767	767	1675	626	3487	769	2558	1900	1868
Brewer	-----	-----	2078	1501	591	1390	400	2545	427	2278	1254	1381
CDC												
Richlea	-----	-----	2538	1718	637	1631	-----	3171	698	2584	2016	2117
Merrit	-----	-----	2312	1523	680	1505	571	2445	431	2409	1392	1450
Trial												
Means	-----	-----	2187	1653	627	1489	504	2745	597	2494	1676	1603
LSD (0.05)	-----	-----	428	155	110		159	626	240	NS	NS	

Entry	Corvallis						Creston					
	2008	2009	2010	2011	2012	Avg	2008	2009	2010	2011	2012	Avg
Avondale	1499	2794	1178	-----	937	1602	2997	3378	2941	2267	2005	2718
Brewer	827	1053	1080	-----	454	853	2065	2755	2424	1640	1400	2057
CDC												
Richlea	-----	2858	1090	-----	1000	1649	-----	3171	2408	2098	1820	2374
Merrit	1335	1580	773	-----	441	1032	2738	3168	2188	1938	1163	2239
Trial												
Means	1245	2018	963	-----	784	1253	2589	2825	2424	2041	1506	2277
LSD (0.05)	432	442	390	-----	396		302	502	511	NS	472	

Entry	Havre						Huntley (Dry)					
	2008	2009	2010	2011	2012	Avg	2008	2009	2010	2011	2012	Avg
Avondale	2065	2024	3125	1551	979	1949	1632	2146	1037	982		1449
Brewer	1536	1314	2785	1147	1256	1607	1064	553	476	450	653	639
CDC												
Richlea	-----	1732	3195	1952	930	1952	-----	1795	637	978	822	1058
Merrit	2119	1491	3212	1262	1094	1836	1355	1061	522	803	586	865
Trial												
Means	1790	1567	3064	1525	930	1775	1496	1565	642	753	688	1029
LSD (0.05)	364	338	381	335	200		273	NS	305	NS	187	

Entry	Joplin						Moccasin					
	2008	2009	2010	2011	2012	Avg	2008	2009	2010	2011	2012	Avg
Avondale	-----	-----	-----	651	2712	1681	2016	-----	2177	1011	1070	1569
Brewer	-----	-----	2504	392	2270	1722	1562	-----	1980	818	847	1302
CDC												
Richlea	-----	-----	2656	690	2149	1832	-----	-----	2309	1232	1073	1538
Merrit	-----	-----	2855	612	2382	1950	1681	-----	2117	864	939	1400
Trial												
Means	-----	-----	2603	699	2326	1876	1832	-----	2135	995	933	1474
LSD (0.05)	-----	-----	629	NS	NS		197	-----	NS	NS	161	

Table 1. Continued

Entry	Richland						Sidney					
	2008	2009	2010	2011	2012	Avg	2008	2009	2010	2011	2012	Avg
Avondale	-----	1438	2072	1566	2286	1840	-----	1851	2429	1987	507	1694
Brewer CDC	1111	1052	1483	651	2108	1281	-----	1235	1594	1188	206	1056
Richlea	-----	1788	1749	1206	2099	1711	-----	1903	2194	1785	594	1619
Merrit Trial	1238	1230	1607	986	1915	1395	-----	1576	1512	1588	249	1231
Means	1241	1344	1721	1058	1866	1446	-----	1513	2055	1617	416	1400
LSD (0.05)	258	323	329	439	372			291	437	486	NS	

Tables 2. Yield (kg/ha) of Avondale in the Statewide Variety Trials and Western Regional Yield Trials in Idaho, Washington and North Dakota 2006-2011

Idaho

Entry	Moscow				Nez Perce	Genesee (UI)		Kambitsch		Craigmont	Average
	2009	2011	2011	2012	2009	2011	2012	2011	2012	2012	
Avondale	2884	2174	2174	2009	860	2141	2211	3060	2474	553	2054
Brewer	1958	1946	1946	1752	349	1879	1931	2685	1780	478	1670
Merrit	2418	2050	2050	1999	503	1875	2414	2691	1989	664	1865
Richlea	2072	1797	1797	1793	773	1900	2088	2821	2112	577	1773
Trial Mean	2508	1776	1776	1595	590	1819	1852	2321	1835	572	1798
LSD (0.05)	650	330	330	549	231	323	355	247	287	368	

Washington

Entry	Dusty			Farmington			Palouse			Walla Walla			Average
	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013	
Avondale	1470	800	2262	2670	940	1478	2790	1790	2688	1700	1300	1210	1758
Brewer	710	650	2184	2450	910	1221	2650	1600	2318	1590	1210	750	1520
Merrit	1090	790	1882	2230	960	1322	2460	1480	2475	1480	1350	773	1524
Richlea		1040	2430		980	1434		1700	2262		870	1064	1473
Trial Mean	1040	710	1994	2120	910	1310	2360	1540	2419	1230	910	1019	1464
LSD (0.05; 2011) (0.10; 2012, 2013)	212	160	190	255	180	168	487	170	179	289	130	112	

North Dakota

Entry	Williston			Carrington			Hettinger			Minot			McClellan Co.	Sheridan	Average
	2008	2009	2011	2006	2008	2012	2006	2011	2012	2009	2010	2012	2011	2011	
Avondale	400	1057	1786	315	2813	1961	2322	1399	1337	2979	1604	1639	1027	1674	1580
Brewer						731			1294			1688			1238
Merrit	298	1070		174	2292	821	1525		1116	2510		1427			1311
Richlea	265		2013	293	2476	1692	2089	1729	1378		1849	2062	1008	1612	1482
Trial Mean	310	990	1624	254	2138	1313	1728	1640	1527	2531	1266	1607	817	1378	1334
LSD (0.05)	87		373	84	420	465	403	208	390		361	393	323	689	

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

FOR OFFICIAL USE ONLY

PVPO NUMBER

201400093

EXHIBIT E - STATEMENT OF THE BASIS OF OWNERSHIP

1. Name of Owner The United States Government, as represented by the Secretary of Agriculture	2. Temporary Designation or Experimental Name LC01602300R	3. Variety Name Avondale
4. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

5. Is the applicant a U.S. national or a U.S. based entity? If no, give name of country. YES NO

6. Is the applicant the original owner? YES NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
 YES NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
 YES NO If no, give name of country

7. Additional explanation on ownership (*Trace ownership from original breeder to current owner. Use the reverse for extra space if needed*):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.