

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:
**Nebraska Agricultural Exp. Station,
USDA, SEA, Agricultural Research**
Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED 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 *seventeen* 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 USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM,] TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. ALL SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS 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.)

[Waived]

ALFALFA

'Baker'

*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
this 16th day of August in
the year of our Lord one thousand nine
hundred and seventy-nine.*

Attest:

Sumner H. Lee
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

[Signature]
Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY N.S. 68	1b. VARIETY NAME Baker	FOR OFFICIAL USE ONLY	
		PV NUMBER 7800024	
2. KIND NAME Alfalfa	3. GENUS AND SPECIES NAME Medicago sativa L.	FILING DATE 1-25-78	TIME 12:00
		FEE RECEIVED \$ 250.00	DATE 1-25-78
4. FAMILY NAME (BOTANICAL) Leguminosae	5. DATE OF DETERMINATION 7-15-70 ^{KE} 1/30/76 ₇₋₁₈₋₇₉	\$ 250.00	1-25-78
		\$ 250.00	1-25-78
		\$ 250.00	5-11-79
6. NAME OF APPLICANT(S) Board of Regents University of Nebraska Agricultural Research Service U.S. Department of Agriculture	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Lincoln, NE 68583 Washington, DC 20250	8. TELEPHONE AREA CODE AND NUMBER 402-472-2811 202-447-3656	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation and U.S. Government Agency		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Nebraska and Washington, DC	11. DATE OF INCORPORATION
12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers: Dr. H. W. Ottoson, Director Agricultural Experiment Station University of Nebraska Lincoln, NE 68583			
Dr. T. W. Edminster Office of Administration Agricultural Research Service - U.S. Dept. of Agric. Washington, DC 20250			

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- 13B. Exhibit B, Novelty Statement.
- 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office. Form GR 470-32)
- 13D. Exhibit D, Additional Description of the Variety.

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? (See Section 83(a). (If "Yes," answer 14B and 14C below.) YES NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? YES NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? FOUNDATION REGISTERED CERTIFIED

15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal? YES NO

16. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

1/3/78
(DATE)

1/23/78
(DATE)

FOR THE BOARD OF REGENTS, Univ. of Nebraska

Miles Tommerassen
(SIGNATURE OF APPLICANT)
Miles Tommerassen, Vice. Chancellor

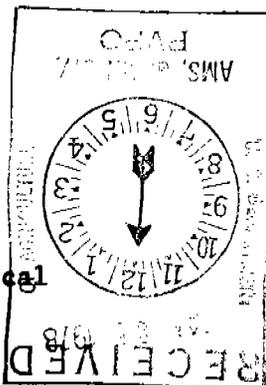
[Signature]
(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and \$250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, National Agricultural Library, Beltsville, Maryland 20705. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a 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), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties; (1) identify these varieties and state all differences objectively; (2) Attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.
- 14A 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 his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)



BAKER ALFALFA

Nebraska Agricultural Experiment Station 7800024

and

U. S. Department of Agriculture
Agricultural Research Service

Item 13A. Exhibits A1 and A2, Origin and Breeding History of the Variety.

The registration statement, accepted for publication in Crop Science, and the official release statement contain pertinent information on (1) genealogy and breeding, and (2) seed multiplication.

Plant-to plant variation (3) is normal for a synthetic variety of alfalfa for such traits as growth habit and rate of recovery. No variants have been observed during reproduction and multiplication.

Stability in performance (4) is evident in Item 13D, Exhibit D1, "Application for Review by the National Certified Alfalfa Variety Review Board". Pea aphid and spotted alfalfa aphid resistance were similar in the Syn-2 and Syn-3 generations. All other data were obtained through use of Syn-2 generation seed since the Syn-2 is recognized as a stable generation indicative of further advanced-generation performance.

FORM GR 470-32
(3/75)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
Alfalfa (*Medicago sativa* L. complex)

NAME OF APPLICANT(S) Board of Regents, University of Nebraska and Agricultural Research Service, U. S. Dept. of Agriculture ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) Lincoln, NE 68583 - Washington, DC 20250	VARIETY NAME OR TEMPORARY DESIGNATION <p style="text-align: center; font-size: 1.2em;">Baker</p>
FOR OFFICIAL USE ONLY	
PVPO NUMBER <p style="font-size: 1.5em;">7800024</p>	

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

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

1. PRIMARY AREA OF ADAPTATION <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value="2"/> 1 = NORTHWEST</td> <td style="width:33%;">2 = NORTHCENTRAL</td> <td style="width:33%;">3 = NORTHEAST</td> </tr> <tr> <td>4 = SOUTHEAST</td> <td>5 = SOUTHWEST</td> <td>6 = SOUTHERN PLAINS</td> </tr> <tr> <td colspan="3">7 = INTERMOUNTAIN</td> </tr> </table>	<input type="text" value="2"/> 1 = NORTHWEST	2 = NORTHCENTRAL	3 = NORTHEAST	4 = SOUTHEAST	5 = SOUTHWEST	6 = SOUTHERN PLAINS	7 = INTERMOUNTAIN			INDICATE AREA WHERE TEST WAS CONDUCTED. FURTHER EXPLANATION CAN GO IN COMMENTS AT THE END OF THE FORM. <input type="text" value="NC"/> AREA TESTED
<input type="text" value="2"/> 1 = NORTHWEST	2 = NORTHCENTRAL	3 = NORTHEAST								
4 = SOUTHEAST	5 = SOUTHWEST	6 = SOUTHERN PLAINS								
7 = INTERMOUNTAIN										
2. WINTER HARDINESS <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value="7"/> 1 = NON-HARDY (Mesa Sirsa)</td> <td style="width:33%;">3 = INTERMEDIATE NON-HARDY</td> <td style="width:33%;"></td> </tr> <tr> <td>5 = MODERATELY HARDY (Saranac)</td> <td>7 = HARDY (Vernal)</td> <td></td> </tr> <tr> <td colspan="3">9 = EXTREMELY HARDY (Norseman)</td> </tr> </table> <input type="text" value="2"/> SOURCE OF INFORMATION: 1 = ANTICIPATED 2 = MEASURED	<input type="text" value="7"/> 1 = NON-HARDY (Mesa Sirsa)	3 = INTERMEDIATE NON-HARDY		5 = MODERATELY HARDY (Saranac)	7 = HARDY (Vernal)		9 = EXTREMELY HARDY (Norseman)			<input type="text" value="NC"/> AREA TESTED
<input type="text" value="7"/> 1 = NON-HARDY (Mesa Sirsa)	3 = INTERMEDIATE NON-HARDY									
5 = MODERATELY HARDY (Saranac)	7 = HARDY (Vernal)									
9 = EXTREMELY HARDY (Norseman)										
3. FALL GROWTH HABIT <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value="7"/> 1 = ERECT (Mesa Sirsa)</td> <td style="width:33%;">3 = SEMIERECT (DuPuits)</td> <td style="width:33%;"></td> </tr> <tr> <td>5 = INTERMEDIATE (Saranac)</td> <td>7 = SEMIDECUMENT (Vernal)</td> <td></td> </tr> <tr> <td colspan="3">9 = DECUMBENT (Norsement)</td> </tr> </table>	<input type="text" value="7"/> 1 = ERECT (Mesa Sirsa)	3 = SEMIERECT (DuPuits)		5 = INTERMEDIATE (Saranac)	7 = SEMIDECUMENT (Vernal)		9 = DECUMBENT (Norsement)			<input type="text" value="NC"/> AREA TESTED
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5 = INTERMEDIATE (Saranac)	7 = SEMIDECUMENT (Vernal)									
9 = DECUMBENT (Norsement)										
4. RECOVERY AFTER FIRST SPRING CUTTING <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value="5"/> 1 = VERY FAST (Mesa Sirsa)</td> <td style="width:33%;">3 = FAST (Saranac)</td> <td style="width:33%;">5 = INTERMEDIATE</td> </tr> <tr> <td>7 = SLOW (Vernal)</td> <td>9 = VERY SLOW (Norseman)</td> <td></td> </tr> </table>	<input type="text" value="5"/> 1 = VERY FAST (Mesa Sirsa)	3 = FAST (Saranac)	5 = INTERMEDIATE	7 = SLOW (Vernal)	9 = VERY SLOW (Norseman)		<input type="text" value="NC"/> AREA TESTED			
<input type="text" value="5"/> 1 = VERY FAST (Mesa Sirsa)	3 = FAST (Saranac)	5 = INTERMEDIATE								
7 = SLOW (Vernal)	9 = VERY SLOW (Norseman)									
5. FLOWERING DATE (FIRST SPRING GROWTH) <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value="0"/><input type="text" value="3"/> DAYS EARLIER THAN</td> <td style="width:33%;"><input type="text" value="3"/> 1 = MESA SIRSA</td> <td style="width:33%;">2 = LAHONTAN</td> </tr> <tr> <td></td> <td>3 = SARANAC</td> <td>4 = VERNAL</td> </tr> <tr> <td></td> <td>5 = NORSEMAN</td> <td></td> </tr> </table>	<input type="text" value="0"/> <input type="text" value="3"/> DAYS EARLIER THAN	<input type="text" value="3"/> 1 = MESA SIRSA	2 = LAHONTAN		3 = SARANAC	4 = VERNAL		5 = NORSEMAN		<input type="text" value="NC"/> AREA TESTED
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	3 = SARANAC	4 = VERNAL								
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6. CROWN TYPE <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value="7"/> 1 = SPREADING ROOTS</td> <td style="width:33%;">3 = SPREADING RHIZOMES (Teton)</td> <td style="width:33%;"></td> </tr> <tr> <td>5 = BROAD (Vernal)</td> <td>7 = INTERMEDIATE (Saranac)</td> <td></td> </tr> <tr> <td colspan="3">9 = NARROW (Mesa Sirsa)</td> </tr> </table>	<input type="text" value="7"/> 1 = SPREADING ROOTS	3 = SPREADING RHIZOMES (Teton)		5 = BROAD (Vernal)	7 = INTERMEDIATE (Saranac)		9 = NARROW (Mesa Sirsa)			<input type="text" value="NC"/> AREA TESTED
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5 = BROAD (Vernal)	7 = INTERMEDIATE (Saranac)									
9 = NARROW (Mesa Sirsa)										
7. PLANT COLOR <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value="5"/> 3 = DARK GREEN (Weevichek)</td> <td style="width:33%;">5 = GREEN (Vernal)</td> <td style="width:33%;"></td> </tr> <tr> <td colspan="3">7 = LIGHT GREEN (Ranger)</td> </tr> </table>	<input type="text" value="5"/> 3 = DARK GREEN (Weevichek)	5 = GREEN (Vernal)		7 = LIGHT GREEN (Ranger)			<input type="text" value="NC"/> AREA TESTED			
<input type="text" value="5"/> 3 = DARK GREEN (Weevichek)	5 = GREEN (Vernal)									
7 = LIGHT GREEN (Ranger)										
8. HAIRINESS <table style="width:100%; border: none;"> <tr> <td style="width:50%;"><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/> % PLANTS WITH PUBESCENT STEMS</td> <td style="width:50%;"><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/> % PLANTS WITH PUBESCENT PODS</td> </tr> </table>		<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> % PLANTS WITH PUBESCENT STEMS	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> % PLANTS WITH PUBESCENT PODS							
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9. POD SHAPE <p style="text-align: center; font-size: 1.2em;">X Coiled 100%</p> <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/> % PLANTS WITH TIGHT COILS</td> <td style="width:33%;"><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/> % PLANTS WITH LOOSE COILS</td> <td style="width:33%;"><input type="text" value="0"/><input type="text" value="0"/><input type="text" value="0"/> % PLANTS WITH SICKLE PODS (Less than 1 coil)</td> </tr> </table>		<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> % PLANTS WITH TIGHT COILS	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> % PLANTS WITH LOOSE COILS	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> % PLANTS WITH SICKLE PODS (Less than 1 coil)						
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Use center section for NEBGUIDE

REGISTRATION OF BAKER ALFALFA 1/

(Reg. No.)

W. R. Kehr, G. R. Manglitz, and R. L. Ogden 2/

'Baker' alfalfa (Medicago sativa L.) was developed cooperatively by the Agricultural Research Service, U. S. Department of Agriculture, and the Nebraska Agricultural Experiment Station and jointly released October 1977 with the Kansas and South Dakota Agricultural Experiment Stations. Baker was tested under the experimental designation N.S. 68.

Baker is a seven-clone synthetic cultivar (variety). Parental clones were developed from 3 or 4 cycles of selection for pest resistance and vigor within open-pollinated progenies of Nebraska and other Conference ("C") clones, and experimental Nebraska synthetics. Parentage includes germplasm from 'Atlantic', 'Baltic', 'Cossack', 'Grimm', Kansas Common, 'Ladak', Nebraska Common, 'Ranger', 'Turkestan',

1/ Contribution from cooperative investigations by the Agricultural Research Service, USDA, and the Nebraska Agr. Exp. Sta. Published with the approval of the Director as Paper No. 5400, Journal Series Nebraska Agr. Exp. Sta. Research reported was conducted under Project Numbers 12-005, 17-027, and 15-005. Registered by the Crop Science Society of America. Received _____.

2/ Research Agronomist, Agricultural Research Service, USDA, and Professor of Agronomy; Research Entomologist, ARS, USDA, and Professor of Entomology; and Assistant Professor of Biochemistry, University of Nebraska, Lincoln, NE 68583.

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1 and 'Vernal'; Medicago falcata L. and M. sativa var. glutinosa M.B.
2 selections; and three Plant Introductions, P.I. 107298 (Turkey),
3 P.I. 206278 (Turkey) and P.I. 234205 (Iran). Clonal selection was
4 based on clonal and open-pollinated progeny data for the principal
5 traits.

6 Baker is a winterhardy persistent cultivar. It has high
7 resistance to pea aphids (Acyrtosiphon pisum Harris), spotted alfalfa
8 aphids collected in Nebraska (Therioaphis maculata Buckton), and
9 bacterial wilt (Corynebacterium insidiosum (McCull) H. L. Jens.);
10 moderate resistance to downy mildew (Peronospora trifoliorum deBary)
11 and potato leafhopper yellowing (Empoasca fabae Harris); low resistance
12 to anthracnose (Colletotrichum trifolii Bain), and is susceptible to
13 Phytophthora root rot (Phytophthora megasperma Drechs.) in comparison
14 with check varieties in standard tests. Reaction to stem nematode
15 (Ditylenchus dipsaci [Kühn] Filipjiv) is unknown. Spring and fall
16 growth habits and rate of recovery after cutting are similar to those
17 of 'Dawson' and Vernal. The flowers are purple, variegated, and blue.
18 Baker is adapted to the North Central region. The anticipated usage is
19 for short- and long-term hay production and in rotationally grazed
20 pastures. In 20 tests at 13 North Central locations, forage yields of
21 Baker were superior or equal to those of Dawson and Vernal. Seed yields
22 were comparable to those of Ranger in California and to Vernal in Idaho.
23 The forage quality of Baker was similar to that of Dawson and Vernal
24 in dry matter, protein, carotene, and fiber contents.

25 Seed increase is on the limited generation basis with one

Use center section for NEBGUIDE

1 generation each of breeder, foundation and certified seed classes.
2 Breeder and foundation seed are the Syn-2 and Syn-3 generations,
3 respectively, grown in the Northern Region of Adaptation. Certified
4 seed may be grown only from breeder or foundation seed. The length of
5 stand, including the year of establishment, shall not exceed the
6 following: (a) breeder seed, 2 years; (b) foundation seed, 3 years,
7 with a fourth year option dependent on breeder approval; (c)
8 certified seed, 6 years, both inside and outside of the area of
9 adaptation. Breeder seed will be maintained by the Nebraska Agri-
10 cultural Experiment Station. Foundation seed is available from the
11 Nebraska Foundation Seed Division, University of Nebraska, Lincoln, NE
12 68583.

13 Baker was favorably reviewed by the National Certified Alfalfa
14 Variety Review Board in December 1976. Application will be made for
15 Plant Variety Protection under the certification provision.
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Baker is the only alfalfa variety known with the combination of traits listed in the release and registration statements. Baker and Dawson have resistance to some of the same insects and diseases but differ in level of resistance as summarized in detail in Item 13D, Exhibit D1 but condensed here.

(1) Pea aphid resistance scores and percent.

	<u>1971</u>	<u>1972</u>	<u>1975</u>	<u>1976</u>
Baker	1.3	1.3	69%	62-74%
Dawson	1.7	2.0	57%	59%
Vernal	-	5.0	0.2%	0%

(2) Spotted alfalfa aphid resistance scores and percent.

	<u>1971</u>	<u>1975</u>	<u>1976</u>	<u>1976</u>
Baker	1.0	1.0	1.0	63-68%
Dawson	1.7	1.8	1.8	38%
Vernal	-	5.0	5.0	0%

(3) Potato leafhopper yellowing scores.

	<u>1971</u>	<u>1972</u>	<u>1973</u>
Baker	4.9	3.5	2.7
Dawson	6.5	6.2	3.4
Vernal	4.3	3.8	2.6

(4) Bacterial wilt resistance in percent.

	<u>1972</u>	<u>1973</u>	<u>1975</u>
Baker	57	36	49
Ranger	33	15	30
Vernal	57	37	50

(Dawson was not included in these tests but has a level of resistance similar to Ranger).

(5) Downy mildew scores.

	<u>1973</u>	<u>1974</u>
Baker	3.8	1.0
Dawson	5.8	2.3
Vernal	4.5	1.5

*Dawson most closely resembles Baker,
RE per letter
of 2-21-78*

(6) Anthracnose score.

	<u>1974</u>	<u>1975</u>
Baker	1.8	2.9
Arc	1.2	1.3
Dawson	3.2	-
Saranac	3.2	3.7
Vernal	1.8	-

7800024

Item 13D. Exhibits D1, D2, and D3, Additional Description of the Variety.

Attachments include (D1) "Application for Review of Alfalfa Varieties for Certification" as submitted to the National Certified Alfalfa Variety Review Board in 1976; (D2) and (D3) are pages from the 1975 and 1976 Reports of the Central Alfalfa Improvement Conference, respectively, that present complete data on Baker (N.S. 68) in comparison with other varieties. Information in D2 and D3 were condensed in the Review Board Application (D1).

Table 3. Average forage yields of Baker and other varieties for 1974-75 in a North Central regional test seeded at 10 locations in 1973.

Variety	Yield (tons/acre) total season									
	Ill.	Ind.	Kan.	Mich.	Minn.	Mo.	Neb.	N. Dak.	Okla.	S. Dak.
Baker	4.76	5.29	8.64	6.60	5.48	4.50	7.45	4.48	2.71	4.04
Agate	4.33	5.77	7.59	6.96	5.41	4.36	7.24	3.98	2.68	3.38
Arc	4.87	6.46	8.54	--	5.32	4.50	7.45	4.09	2.78	3.38
Dawson										
DCC72	4.36	5.26	7.18	6.92	5.34	4.12	6.90	4.35	2.77	3.25
Kanza										
KCC72	4.46	4.98	8.82	6.56	5.18	4.34	6.71	4.25	2.74	3.32
Ramsey	4.31	5.08	8.26	6.39	5.14	4.14	7.02	4.24	2.57	3.18
Saranac										
SCC72	4.34	5.16	7.93	7.42	5.58	4.62	6.53	4.30	2.41	3.69
Vernal										
VCC72	4.62	4.88	8.10	6.71	5.22	4.94	6.96	4.36	2.75	3.42

Table 4. Seedling vigor, spring and fall growth habits, and rate of recovery after cutting of Baker and other varieties, Mead, Nebraska.

Variety	Seedling vigor 1973 ^{1/}	Growth habit ^{2/}		Rate of recovery ^{5/} 1973-75
		Spring 1974 ^{3/}	Fall 1972-75 ^{4/}	
Baker Syn-2	2.8	4.2	5.9	4.8
Dawson	2.5	3.5	5.6	3.4
Kanza	2.0	2.8	3.8	3.0
Saranac	2.2	1.8	4.2	2.6
Vernal	2.8	3.5	5.4	4.2

1/ Seeded 4/27/73. Visual scores 6/13/73: 1 = best, 9 = poorest.

2/ Visual scores: 1 = erect, 9 = prostrate.

3/ Seeded 4/27/73

4/ Average of 4 tests

5/ Visual scores: 1 = most rapid, 9 = least rapid. Average of 4 tests.

Table 5. Pea aphid resistance of Baker and other varieties in the seedling stage in the greenhouse, Lincoln, Nebraska.

Variety	: : 1971 ^{1/} :	: : 1972 ^{1/} :	: : 1975 ^{1/} :	: Percent : resistant : 1975	: : 1976 ^{1/} :	: Percent : resistant : 1976
Baker Syn-2	1.3	1.3	1.8 ab ^{2/}	69 ac	1.0 a	62 ac
Baker Syn-3	-	-	-	-	1.0 a	74 ab
Buffalo	5.0	5.0	5.0 d	0.0 i	5.0 c	0 e
Dawson	1.7	2.0	1.8 ab	57 cf	1.2 ab	59 bc
Kanza	2.0	1.3	1.8 ab	58 bf	1.0 a	47 c
Ranger	5.0	4.7	-	-	-	-
Vernal	-	5.0	5.0 d	0.2 i	5.0 c	0 e
LSD at .05	1.0	0.6				

^{1/} Visual scores: 1-2 = resistant, 3 = intermediate, 4-5 = susceptible.

^{2/} Means followed by the same letter within a test do not differ at the 5% level according to Duncan's multiple range test.

Table 6. Spotted alfalfa aphid resistance of Baker and other varieties in the seedling stage in the greenhouse, Lincoln, Nebraska.

Variety	: : 1971 ^{1/} :	: : 1972 ^{1/} :	: : 1975 ^{1/} :	: Percent : resistant : 1975	: : 1976 ^{1/} :	: Percent : resistant : 1976
Baker Syn-2	1.0	1.3	1.0 a ^{2/}	47 ab	1.0 a	68 a
Baker Syn-3	-	-	-	-	1.2 ab	63 ab
Buffalo	5.0	5.0	5.0 g	0 d	5.0 e	0 f
Dawson	1.7	1.3	1.8 bd	40 ab	1.8 bd	38 ce
Kanza	1.7	2.0	2.2 d	44 ab	2.2 d	50 bd
Ranger	5.0	4.7	-	-	-	-
Vernal	-	5.0	5.0 g	0 d	5.0 e	0 f
LSD at .05	1.0	0.7				

^{1/} Visual scores: 1-2 = resistant, 3 = intermediate, 4-5 = susceptible.

^{2/} Means followed by the same letter within a test do not differ at the 5% level according to Duncan's multiple range test.

Table 7. Potato leafhopper resistance of Baker and other varieties in seeded field plots at Mead, Nebraska and Ames, Iowa.

Variety	Potato leafhopper yellowing scores		
	Mead, Neb.	Ames, Ia.	Ames, Ia.
	6/29/72 ^{1/}	7/14/71 ^{2/}	7/6/73 ^{3/}
Baker Syn-2	3.5	4.9	2.7
Arc	-	-	3.0
Dawson	6.2	6.5	3.4
Kanza	4.5	6.2	2.7
Saranac	5.0	-	3.4
Vernal	3.8	4.3	2.6

- 1/ Seeded 4/14/72, 5-row plots. Visual scores: 1 = least, 1-3 = resistant, 9 = most yellowing.
- 2/ Seeded 4/22/71, 6-row plots. Visual scores: 1 = none, 5 = medium, 9 = severe yellowing.
- 3/ Seeded 4/28/73, 6-row plots. Visual scores: 1 = least, 5 = most yellowing.

Table 8. Bacterial wilt resistance of Baker and other varieties in the field at Rosemount, Minnesota, and in the greenhouse^{1/} at Lincoln, Nebraska.

Variety	Percent resistant		Percent healthy	
	Rosemount, Minn.		Lincoln, Neb.	
	1973	1972	1972	1975
Baker	36	57	49	
DuPuits	--	6	0.7	
F.D. 100	--	3	--	
Narragansett AS4	0	6	8	
Ranger AR132	15	33	30	
Vernal F.C. 33696	37	57	50	

- 1/ Root ball soak method.

Table 9. Downy mildew and Summer Blackstem resistance of Baker and other varieties in seeded field plots at Manhattan, Kansas and Mead, Nebraska.

Variety	Downy mildew		Summer Blackstem
	Manhattan, Kan. 1973 ^{1/}	Mead, Neb. 6/21/74 ^{2/}	Manhattan, Kan. 9/11/73 ^{1/}
Baker	3.8	1.0	5.0
Arc	4.0 ^{459/73}	-	4.7
Dawson	5.8	2.3	6.0
Kanza	5.0	2.0	4.0
Saranac	2.8	1.3	5.0
Team	4.0	-	4.2
Vernal	4.5 ⁷³	1.5	5.0
LSD at .05	0.7		0.9

^{1/} Seeded 4/17/73. Visual scores: 1 = least, 9 = most.

^{2/} Seeded 4/14/72. Visual scores: 1 = least, zero to trace; 5 = most.

Table 10. Anthracnose resistance of Baker and other varieties in seeded field plots at Manhattan, Kansas and Mead, Nebraska and in a seedling laboratory test at Beltsville, Maryland.

Variety	Manhattan,	Mead,	Beltsville,
	Kan. 8/1/73 ^{1/}	Neb. 9/4/74 ^{2/}	Md. 4/15/75 ^{3/}
Baker	4.2	1.8	2.9
Arc	2.8	1.2	1.3
Dawson	4.2	3.2	-
Kanza	4.0	1.2	-
Saranac	5.2	3.2	3.7
Team	4.5	-	-
Vernal	4.5	1.8	-
LSD at .05	0.8		

^{1/} Seeded 4/17/73. Visual scores: 1 = least, 9 = most.

^{2/} Seeded 4/27/73. Visual scores: 1 = least, 5 = most.

^{3/} Seeded 3/14/75. Inoculated 3/28/75.

Table 11. Phytophthora root rot resistance of Baker and other varieties in the field, St. Paul, Minnesota.

Variety	Percent resistant	
	1971	1973
Baker Syn-2	1.2	4.1
Agate (MN P-A2)	54.0	47.5
Agate (MN P-A2)	57.9	
Dawson	1.2	10.8
Kanza	5.2	-
Saranac	2.0	2.3
Vernal	0.8	4.9

Table 12. Persistence of Baker and other varieties in Iowa, Nebraska, North Dakota and South Dakota.

Variety	Percent stand						
	Ames, Ia. ^{1/}	Concord, Neb. ^{2/}	Mead, Neb.	Fargo, N. Dak. ^{5/}	Brookings, S. Dak.		
	5/10/74	1975	6/3/74 ^{3/}	7/16/75 ^{4/}	4/15/75	1975 ^{6/}	1975 ^{7/}
Baker Syn-2	89	96	88	92	81	95	96
Dawson	87	99	92	86	83	95	82
Kanza	89	94	92	93	81	96	93
Saranac	--	98	81	78	80	97	97
Vernal	84	94	90	88	83	97	96

^{1/} Seeded 4/22/71.
^{2/} Seeded 4/17/73.
^{3/} Seeded 4/14/72.
^{4/} Seeded 4/27/73.

^{5/} Seeded 5/31/73.
^{6/} Seeded 5/16/72.
^{7/} Seeded 4/24/73.

Table 13. Dry matter content of Baker and other varieties at about 1/10 bloom in 1972 in a test seeded in 1971, Mead, Nebraska.

Variety	Percent dry matter					
	1st cut	2nd cut	3rd cut	4th cut	4-cut average	
Baker Syn-2	17.7	18.5	20.1	19.5	19.8	
Dawson	18.9	19.2	22.6	21.2	20.5	
Vernal	18.6	18.8	22.4	20.0	20.0	
LSD at .05	N.S.	N.S.	1.6	1.3	N.S.	

Minnesota

Table 2. Six year forage yields from 1971 Alfalfa Variety Yield Trial, Rosemount, Minnesota^{1/}

Variety	Forage Yield (Tons DM/A)									6 year total T/A	% Stand 10-15-76	
	1971 ^{2/}	1972	1973	1974	1975	1976			Season Total			
						6/7	7/19	8/26				
Agate (Br.)	2.09	4.65	4.47	4.65	5.54	2.13	1.57	1.20	4.90	26.30	103	65
Anchor	1.99	4.92	4.74	4.87	5.60	2.28	1.70	1.16	5.14	27.26	107	60
ATRA 55	2.16	5.18	4.71	4.71	5.78	1.96	1.52	1.05	4.53	27.07	106	47
Durastan	1.94	4.73	4.47	4.48	5.62	2.01	1.47	1.21	4.69	25.93	102	48
Kanza	1.74	4.63	4.57	4.84	5.45	1.95	1.37	1.12	4.44	25.67	101	65
Marathon	2.08	5.27	4.84	4.67	5.54	1.54	1.25	1.07	3.86	26.26	103	33
MSB-11	2.02	5.04	4.56	3.77	4.77	0.55	0.34	0.67	1.56	21.72	85	5
Baker (NS68)	2.28	4.92	4.91	5.17	5.98	2.30	1.68	1.21	5.19	28.45	112	73
N.S. 69	1.95	4.55	4.58	4.77	5.78	2.04	1.56	1.16	4.76	26.39	103	66
Promor	2.02	4.98	4.79	4.76	5.41	1.54	1.16	1.07	3.77	25.73	101	35
Ranger	2.00	4.57	4.55	4.73	5.43	1.97	1.51	1.16	4.64	25.92	102	56
Saranac	2.18	4.99	4.68	4.85	5.50	1.94	1.46	1.12	4.52	26.72	105	55
Superstan	1.86	4.76	4.71	4.69	5.60	1.85	1.43	1.20	4.48	26.10	102	53
SX-10	2.26	4.77	4.39	4.55	5.79	1.99	1.39	1.04	4.42	26.18	103	43
Team	2.18	5.04	4.56	4.49	5.14	1.19	0.90	0.69	2.78	24.19	95	19
Tempo	1.94	4.85	4.72	4.58	5.54	1.45	1.05	0.80	3.30	24.93	98	31
Thor	2.16	5.21	4.74	4.76	5.59	2.02	1.54	0.94	4.50	26.96	106	62
Titan	2.19	4.84	4.55	4.45	5.58	1.96	1.41	1.12	4.49	26.10	102	50
Victoria	2.01	4.82	4.76	4.73	5.81	1.98	1.35	1.04	4.37	26.50	104	48
Weevlchek	1.99	5.04	4.80	4.70	5.67	1.69	1.19	1.17	4.05	26.25	103	36
WL210	2.11	4.96	4.80	4.65	5.72	1.98	1.39	0.97	4.34	26.58	104	41
WL214	2.07	4.95	4.67	4.83	5.56	1.94	1.48	1.27	4.69	26.77	105	55
WL215	1.93	4.83	4.81	4.81	5.67	2.06	1.59	1.11	4.76	26.81	105	50
WL216	2.30	5.16	4.82	4.77	5.77	1.87	1.43	1.21	4.51	27.33	107	42
WL217	2.23	4.99	4.74	4.91	5.70	2.01	1.48	1.22	4.71	27.28	107	47
WL306	2.04	5.03	4.77	4.85	5.72	1.89	1.47	1.23	4.59	27.00	106	38
WL307	2.28	5.16	4.75	4.79	5.77	2.19	1.70	1.08	4.97	27.72	109	62
WL309	2.29	5.39	5.01	5.01	5.84	1.98	1.48	1.06	4.52	28.06	110	43
123	2.15	5.03	4.87	4.81	5.64	1.89	1.50	1.16	4.55	27.05	106	53
153	2.06	4.88	4.86	4.73	5.22	0.83	0.50	0.60	1.93	23.68	93	8
520	2.37	5.31	5.10	5.30	5.95	2.30	1.71	1.24	5.25	29.28	115	68
Exp. # 2477	1.95	4.98	4.77	4.30	5.30	1.34	1.02	0.93	3.29	24.59	96	19
Exp. # 2471	2.19	5.05	4.63	4.83	5.27	1.18	0.89	0.81	2.88	24.85	97	23
Exp. # 2470	2.05	5.04	4.73	4.50	5.43	1.35	1.01	0.80	3.16	24.91	98	26
Vernal ^{3/}	2.12	4.72	4.46	4.40	5.65	1.40	1.28	0.97	4.15	25.50	100	48
LSD (.05)	.31	.33	.27	.26	.16	.24	.21	.34	.56			9
CV (%)	11.9	5.4	4.6	4.5	5.7	10.5	12.5	25.5	10.7			16.5

^{1/} Seeded 4/26/71 3# EPTC/A, 50 viable seeds/sq. ft., 6' x 20' plot size with 5 replications.

^{2/} Two harvests during year of seeding (7/9/71 and 8/19/71), three harvests per year thereafter.

^{3/} Average of 2 plots per replication.

7800024 NOT FOR PUBLICATION

Nebraska Agricultural Experiment Station

Location: Mead, Nebraska
 Design: Randomized block
 Method of seeding: V-belt drill
 Soil type: Sharpsburg silty-clay loam

Plot size: 5 rows, 3' x 15'
 Planting date: 4/27/73
 Reps: 4
 Years: 1974-76

Entry	% stand 6/1/76	Frost Injury 5/14/76	Forage yield			
			Tons/acre dry matter		Relative ^{1/}	
			1974-75 average	1976 ^{2/}	1974-75 average	1976 ^{2/}
Agate	90	2.0	7.24	2.04	107	103
Americana	80	2.0	7.32	1.78	108	90
Arc	86	4.2	7.45	2.09	110	106
A37	82	2.8	7.41	2.06	109	104
Aztec	83	3.0	7.38	1.80	109	91
Citation	82	1.8	7.22	2.14	106	108
Dawson DCC72	82	2.0	6.90	2.00	102	101
DeKalb 131	85	2.0	7.31	2.02	108	102
Iowa 72-1	90	1.0	7.15	2.34	105	118
Kanza KCC72	89	1.5	6.71	1.93	99	97
Klondike	78	2.2	7.21	1.97	106	99
Kodiak	77	2.8	7.28	1.81	107	91
KO-203	74	2.8	6.57	1.74	97	88
K1-10	79	4.0	7.39	1.77	109	89
K1-11	72	2.2	6.65	1.85	98	93
K1-18	82	2.5	6.63	1.75	98	88
KS30	95	1.2	7.58	2.02	112	102
KS43	89	1.2	7.81	2.14	115	108
N.S. 49 Syn-3	86	1.0	6.79	2.04	100	103
N.S. 63 Syn-2	85	1.0	6.86	2.22	101	112
N.S. 64 Syn-2	87	1.0	6.74	2.34	99	118
N.S. 68 Syn-2) BAKER	87	1.0	7.45	2.57	110	130
N.S. 69 Syn-2	89	1.0	7.54	2.45	111	124
N.S. 72 Syn-2	90	1.2	7.33	2.46	108	124
N.S. 73 Syn-2	90	1.0	7.40	2.40	109	121
N.S. 74 Syn-2	90	1.2	7.44	2.39	110	121
N.S. 75 Syn-2	90	1.2	7.42	2.30	109	116
N.S. 76 Syn-2	89	1.8	6.89	1.99	102	100
N.S. 77 Syn-2	81	1.5	7.12	2.03	105	102
N.S. 79 Syn-2	91	1.0	7.32	2.25	108	114
Nuggett	84	3.2	7.35	2.08	108	105
Pacer	86	2.0	7.71	2.04	114	103
Ramsey	88	1.5	7.02	2.03	104	102
Saranac SCC72	76	3.0	6.53	1.75	96	88
S.D. Brookings I	81	1.5	6.83	2.23	101	113
S.D. LFC II	81	1.0	6.65	2.35	98	119
S.D. 70-4-1 II	78	1.5	6.75	1.90	100	96
Superstan	79	2.8	7.11	1.82	105	92
T3X-206	86	3.8	7.62	1.72	112	87
T4X-201	76	2.8	7.22	1.87	106	94
Valor	84	1.2	7.50	2.51	111	127
Vernal VCC72	82	1.2	6.96	2.24	103	113
WL219	84	2.0	7.48	1.95	110	98
WL310	83	1.8	7.30	1.94	108	98
WL311	87	2.2	7.53	1.95	111	98
C.V.			6.3 %	9.8 %		
L.S.D. at .05			0.64	0.28		
L.S.D. at .01			0.84	0.38		

^{1/} Percent of the average of Dawson, Kanza, Saranac, and Vernal.

^{2/} First cutting only, no added data.



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
Livestock, Poultry, Grain & Seed Division
National Agricultural Library
Beltsville, Maryland 20705

March 13, 1979

PLANT VARIETY PROTECTION OFFICE

Gentlemen:

Subject: Application No. 7800024
Variety and Kind - Alfalfa 'Baker'

As provided in section 83(a) of the Plant Variety Protection Act, 7 U.S.C. 2321, we request that the Certificate on the above variety be issued with a notation on each Certificate that the right to exclude others from selling, offering for sale, reproducing, importing or exporting the variety covered by this Certificate, or using it in producing a hybrid or different variety is waived.

It has been agreed that the certificate should be issued in the name(s) of:

Nebraska Agricultural Experiment Station

Science and Education Administration, Agricultural Research, USDA

March 15, 1979

(Date)

W. P. Kehr

(Signature)

FORM GR 470-32
(3/75)U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782OBJECTIVE DESCRIPTION OF VARIETY
Alfalfa (*Medicago sativa* L. complex)NAME OF APPLICANT(S) Board of Regents, University of Nebraska
and Agricultural Research Service, U. S. Dept. of AgricultureVARIETY NAME OR TEMPORARY
DESIGNATION
BakerADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code)
Lincoln, NE 68583 - Washington, DC 20250FOR OFFICIAL USE ONLY
PVPO NUMBER

7800024

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

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

1. PRIMARY AREA OF ADAPTATION

<input type="text" value="2"/>	1 = NORTHWEST	2 = NORTHCENTRAL	3 = NORTHEAST
	4 = SOUTHEAST	5 = SOUTHWEST	6 = SOUTHERN PLAINS
	7 = INTERMOUNTAIN		

INDICATE AREA WHERE TEST WAS
CONDUCTED. FURTHER EXPLANATION
CAN GO IN COMMENTS AT THE END
OF THE FORM. AREA TESTED

2. WINTER HARDINESS

<input type="text" value="7"/>	1 = NON-HARDY (Mesa Sirsa)	3 = INTERMEDIATE NON-HARDY
	5 = MODERATELY HARDY (Saranac)	7 = HARDY (Vernal)
	9 = EXTREMELY HARDY (Norseman)	

 AREA TESTED SOURCE OF INFORMATION: 1 = ANTICIPATED 2 = MEASURED

3. FALL GROWTH HABIT

<input type="text" value="7"/>	1 = ERECT (Mesa Sirsa)	3 = SEMIERECT (DuPuits)
	5 = INTERMEDIATE (Saranac)	7 = SEMIDECUMENT (Vernal)
	9 = DECUMBENT (Norseman)	

 AREA TESTED

4. RECOVERY AFTER FIRST SPRING CUTTING

<input type="text" value="5"/>	1 = VERY FAST (Mesa Sirsa)	3 = FAST (Saranac)	5 = INTERMEDIATE
	7 = SLOW (Vernal)	9 = VERY SLOW (Norseman)	

 AREA TESTED

5. FLOWERING DATE (FIRST SPRING GROWTH)

<input type="text" value="0"/> <input type="text" value="3"/>	DAYS EARLIER THAN	<input type="text" value="3"/>	1 = MESA SIRSA	2 = LAHONTAN
	DAYS LATER THAN		3 = SARANAC	4 = VERNAL
			5 = NORSEMAN	

 AREA TESTED

6. CROWN TYPE

<input type="text" value="7"/>	1 = SPREADING ROOTS	3 = SPREADING RHIZOMES (Teton)
	5 = BROAD (Vernal)	7 = INTERMEDIATE (Saranac)
	9 = NARROW (Mesa Sirsa)	

 AREA TESTED

7. PLANT COLOR

<input type="text" value="5"/>	3 = DARK GREEN (Weevichek)	5 = GREEN (Vernal)
	7 = LIGHT GREEN (Ranger)	

 AREA TESTED

8. HAIRINESS

 % PLANTS WITH PUBESCENT STEMS % PLANTS WITH PUBESCENT PODS

9. POD SHAPE

X Coiled 100%

 % PLANTS WITH TIGHT COILS % PLANTS WITH LOOSE COILS% PLANTS WITH SICKLE
PODS (Less than 1 coil)

10. GIVE ITEM LENGTH FREQUENCY DISTRIBUTION FOR SUBMITTED AND 1 TO 5 STANDARD VARIETIES 1/

VARIETY NAME	STEM LENGTH FREQUENCY DISTRIBUTION 2/											AVERAGE STEM LENGTH
	0 - 5 mm. %	6 - 10 mm. %	11 - 15 mm. %	16 - 20 mm. %	21 - 30 mm. %	31 - 40 mm. %	41 - 50 mm. %	51 - 60 mm. %	61 - 70 mm. %	71 - 80 mm. %	81 + mm. %	

11. FLOWER COLOR 3/ (DETERMINE COLOR ON FRESHLY OPENED FLOWERS)

Blue + % PURPLE
 % VARIEGATED
 % YELLOW
 % CREAM
 % WHITE

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

DISEASE	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION 4/
BACTERIAL WILT	(SUBMITTED)	36			University of Minnesota 1973 Rosemount, Minnesota
	(RES. CK.) VERNAL	37			
	(SUS. CK.) NARRAGANSETT	0			
ANTHRACNOSE	(SUBMITTED)		2.9		U.S. Dept. of Agric.-ARS 1975 Beltsville, MD
	(RES. CK.) ARC		1.3		
	(SUS. CK.) SARANAC		3.7		
COMMON LEAF SPOT	(SUBMITTED)				
	(RES. CK.) RAMSEY				
	(SUS. CK.) RANGER				
DOWNY MILDEW	(SUBMITTED)		3.8		Kansas State University 1973 Manhattan, Kansas
	(RES. CK.) SARANAC		2.8		
	(SUS. CK.) KANZA		5.0	0.7	
PHYTOPHTHORA ROOT ROT	(SUBMITTED)	4			University of Minnesota 1973 St. Paul, Minnesota
	(RES. CK.) AGATE	48			
	(SUS. CK.) SARANAC	2			
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				

1/ Preferred standards: Saranac, Vernal, Norseman, Lahontan, Mesa Sirsa. Twelve hours light at 25° C with 20,000 lux of cool white florescent; 2,000 lux of incandescent filament light and twelve hours darkness at 5°C.

2/ From cotyledonary node to tip of stem 20 days after planting.

3/ For further clarification consult USDA Agricultural Handbook No. 424.

4/ Give: The institution in charge of test, (2) year, and (3) location of test. Describe test procedure if it differs from procedure suggested in ARS-NC-19, September 1974.

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

DISEASE	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				
INSECT	CULTIVAR	% SEEDLING SURVIVAL	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
PEA APHID	(SUBMITTED)	62-74			University of Nebraska 1976 Lincoln, Nebraska
	(RES. CK.) KANZA	47			
	(SUS. CK.) XXXXX Vernal	0			
SPOTTED ALFALFA APHID	(SUBMITTED)	63-68			University of Nebraska 1976 Lincoln, Nebraska
	(RES. CK.) KANZA	50			
	(SUS. CK.) XXXXX Vernal	0			
INSECT	CULTIVAR	% DEFOLIATION	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
ALFALFA WEEVIL	(SUBMITTED)				
	(RES. CK.) ARK				
	(SUS. CK.) VERNAL				
INSECT	CULTIVAR	% RESISTANT PLANTS	EMERGED ADULTS PER PLANT	EMERGED LSD .05	TEST, YEAR & LOCATION ^{4/}
ALFALFA SEED CHALCID	(SUBMITTED)				
	(RES. CK.) LAHONTAN				
	(SUS. CK.) SONORA				
INSECT	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
POTATO LEAF-HOPPER	(SUBMITTED)		3.5		University of Nebraska 1972 Mead, Nebraska
	(RES. CK.) Vernal		3.8		
	(SUS. CK.) Dawson		6.2		
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				

^{4/} Give: The institution in charge of test, (2) year, and (3) location of test. Describe test procedure if it differs from procedure suggested in ARS NC-19, September 1974.

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

INSECT	CULTIVAR	% RESISTANT PLANTS	AVG. SEVERITY INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				
NEMATODE	CULTIVAR	% RESISTANT PLANTS	INDEX (ASI)	ASI LSD .05	TEST, YEAR & LOCATION ^{4/}
STEM NEMATODE	(SUBMITTED)				
	(RES. CK.) LAHONTAN				
	(SUS. CK.) RANGER				
NORTHERN ROOT KNOT NEMATODE	(SUBMITTED)				
	(RES. CK.) NEV. SYN. XX				
	(SUS. CK.) LAHONTAN				
SOUTHERN ROOT KNOT NEMATODE	(SUBMITTED)				
	(RES. CK.) MOAPA 69				
	(SUS. CK.) LAHONTAN				
OTHER	(SUBMITTED)				
	(RES. CK.)				
	(SUS. CK.)				

13. INDICATE A VARIETY THAT MOST CLOSELY RESEMBLES THE VARIETY SUBMITTED FOR THE FOLLOWING CHARACTERS:

CHARACTER	VARIETY	CHARACTER	VARIETY
AREA OF ADAPTATION	Dawson	PLANT HEIGHT	Dawson
RECOVERY AFTER CUTTING	Dawson	WINTER HARDINESS	Dawson

REFERENCES

- Barnes, D.K., and C.H. Hanson, An Illustrated Summary of Genetic Traits in Tetraploid and Diploid Alfalfa, ARS Technical Bul. 1370.
- Barnes, D.K., et al, Standard Tests to Characterize Pest Resistance in Alfalfa Varieties. ARS-NC-19, September 1974.
- Nittler, L.W., G.W. McKee, and J.L. Newcomer, Principles and Methods of Testing Alfalfa Seed for Varietal Purity. New York Agricultural Experiment Station Bul. 807.
- USDA Agricultural Handbook No. 424.

COMMENTS:



United States
Department of
Agriculture

Agricultural
Research
Service

Northern Plains Area
National Seed
Storage Laboratory

1111 South Mason Street
Fort Collins, CO 80521-4500
Telephone: 970 495-3200
Fax: 970 221-1427

February 14, 1997

Marian R. Minnifield, Secretary
Plant Variety Protection Office
NAL Building, Room 500
10301 Baltimore Boulevard
Beltsville, Maryland 20705-2351

Subject: Expired PVPO's; disposition of

1. The following expired PVPO's have been transferred to the NPGS. Our records have been changed accordingly.

Serial Number	PVP Number
101862	01 PVP 7800029
102219	01 PVP 7800010
102675	01 PVP 7800088
102676	01 PVP 7400011
103506	01 PVP 7800084
103507	01 PVP 7900016
103508	01 PVP 7800082
103840	01 PVP 7900017
103842	01 PVP 7900067
104549	01 PVP 7700106
104551	01 PVP 7100046
314988	01 PVP 9500276
101863	01 PVP 7800026
102222	01 PVP 7800078
102226	01 PVP 7800091
101854	01 PVP 7200134
102214	01 PVP 7605014
102216	01 PVP 7900011
102217	01 PVP 7800095
102218	01 PVP 7800093
102220	01 PVP 7800097
102221	01 PVP 7800042

97 FEB 25 11 5
USDA



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102673	01 PVP 7800059
103502	01 PVP 7800096
103503	01 PVP 7800074
103509	01 PVP 7900044
103510	01 PVP 7900047
103838	01 PVP 7500042
103843	01 PVP 7300101
101859	01 PVP 7200132
102227	01 PVP 7700085
103511	02 PVP 7800028
103839	01 PVP 7900049
103845	01 PVP 7900048
104548	02 PVP 7800057
104550	01 PVP 7800024 ✓

97 FEB 25 11 5
USDA

Sincerely,

GENE KEYS
Data Coordinator