No. 7500093

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Purdue University Agricultural Experiment Station and A.R.S., U.S.D.A.

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. [THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS REQUIRED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

*[Waived]

OAT

'Allen'

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* 18th *day of* March *in the year of our Lord one thousand nine hundred and* seventy-seven

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(12-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY
Allen	Oats	PV NUMBER 7500093
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 5·21·75 / TIME 10 A.M.
Avena sativa	Gramineae	FEE RECEIVED $ 250.00 / BALANCE DUE $ —
	5. DATE OF DETERMINATION	$ 250.00 / $ —
	February 6, 1975	$ 250.00 / $ —

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Purdue University Agricultural Experiment Station	Agricultural Experiment Station Purdue University West Lafayette, IN 47907	317-749-6004

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Division of Land Grant University	Established by Federal Law Hatch Act 1889	1889

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

Dr. B. J. Liska, Director
Agricultural Experiment Station
Purdue University
West Lafayette, IN 47907

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

[X] 13B. Exhibit B, Botanical Description of the Variety

[X] 13C. Exhibit C, Objective Description of the Variety

[X] 13D. Exhibit D, Data Indicative of Novelty

[X] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

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.)* [X] YES [ ] NO

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

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

The applicant declares 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) of this sexually-reproduced novel plant variety believes 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 Protection Act.

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

8/23/76 (DATE) — (SIGNATURE OF APPLICANT)

(DATE) — (SIGNATURE OF APPLICANT)

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12A. Exhibit A. Origin and breeding history of Allen, CI9217.

Allen was developed at the Purdue University Agricultural Experiment Station in cooperation with the Agricultural Research Service, United States Department of Agriculture.

Allen derives crown rust resistance from Clintland and Ceirch du Bach, CI2923. The detailed parentage of Allen is:

Clintford sib/9/Mo 0-205/7/Clinton 59*7/Landhafer/6/Clinton 59*7/Landhafer/5/Clinton 59*7/Landhafer/4/Clinton/2/Boone/Cartier/3/R.L. 2105/8/Tyler/4/Clintland*5/Minn 313/2/Ceirch du Bach, C.I. 2923.

Allen originated from a single F_4 plant following the final cross. One hundred plant selections made in the F_9 generation were grown as head rows and reselected for crown rust resistance and uniformity. Breeders seed in 1975 will be in the F_{15} generation.

Allen has been tested for four years in the Uniform Midseason Oat Performance Nursery, in field plots in four regions in Indiana for five years, and in nursery plots at Lafayette, IN for seven years.

It is recognized that oats are nearly 100% self-fertilized. Stability of Allen is indicated in that during the seed increase generations, aberrant types for plant height, maturity and awnedness did not occur. Also, Allen showed resistant reactions to certain races of crown rust (This would depend on frequencies of various crown rust races in the tests). The breeders seed increase field in 1974 showed no variant plant types as certified by Indiana state inspection.

12B. Exhibit B. Botanical description of Allen.

Allen is a spring oat, Avena sativa L.

The coleoptile is white (lacks pigment).

Culms are generally erect, although they bow somewhat at the base. They are resistant to node bending as described in Agron. J. 49:518-519. The flag leaf is generally upright. The first leaf below the flag leaf is generally drooping. Leaf margins are glabrous. Culms are yellow. The diameter of the uppermost node is 4.0 mm, whereas that of Clintford is 3.5 mm. Ligules are present and wrap tightly around the culm. Average width and length of the first leaf below the flag are 15.9 mm and 28.4 cm, respectively. Average panicle width and length are 10.6 and 15.3 cm. respectively.

The panicle form is equilateral, branches are short and ascending and arise at the lower rachis node. The rachis is flexuous. Awns are absent. The lemma is yellow. Length of the lemma averages 14 mm. Grains are plump and contain 73 to 75% groats. Weight of 1000 kernels is 30 to 31 grams and test weight is generally 34 to 36 pounds per bushel at Lafayette, IN.

AUG 3 1976

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, 6525 Belcrest Road, Hyattsville, Maryland 20782. (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 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

FORM APPROVED: OMB NO. 40-R3712

FORM GR-470-35
(1-76)

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

OBJECTIVE DESCRIPTION OF VARIETY
OAT
(*Avena* spp.)

NAME OF APPLICANT(S)	VARIETY NAME OR TEMPORARY DESIGNATION
Purdue University Agricultural Experiment Station	Allen
ADDRESS (*Street and No., or R.F.D. No., City, State, and ZIP Code*)	FOR OFFICIAL USE ONLY
West Lafayette, IN 47907	PVPO NUMBER 75 000 93

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0 8 9] or [0 9]) when number is either 99 or less.

1. SPECIES:

9/13/76 [X] 1 = SATIVA 2 = BYZANTINA 3 = OTHER (*Specify*)_____

2. GROWTH HABIT:

[3] 1 = WINTER 2 = SEMIWINTER 3 = SPRING

[3] JUVENILE GROWTH: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

STANDARD VARIETIES

1 = JAYCEE 2 = CLINTLAND 64 3 = CAYUSE 4 = NORLINE 5 = YANCEY 6 = FLORIDA 501

3. MATURITY (50% flowering):

[0 5] DAYS EARLIER THAN..... [2] STANDARD VARIETY [ ] DAYS LATER THAN..... [ ] STANDARD VARIETY

[3] Season: 1 = VERY EARLY (Jaycee) 2 = EARLY (Nodaway 70) 3 = MIDSEASON (Clintford)
4 = LATE (Lodi) 5 = VERY LATE (Garry) 6 = EXTREMELY LATE (Mackinaw)

4. PLANT HEIGHT (From soil level to top of head):

[9 1] CM. TALL [9] CM. SHORTER THAN ..... [2] STANDARD VARIETY
[ ] CM. TALLER THAN ..... [ ] STANDARD VARIETY

5. STEM:

[2] DIAMETER: 1 = FINE (Kherson) 2 = MEDIUM (Clintford) 3 = COARSE (Nodaway 70)

[1] HAIRINESS AT UPPER CULM NODES: 1 = HAIRLESS 2 = HAIRY

[1] MATURE STEM COLOR: 1 = YELLOW 2 = REDDISH

6. LEAF: (Leaf Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the leaf color of the described variety.)

9/13/76 [2] CARRIAGE: 1 = DROOPING (Random) 2 = ERECT (Walken)

[3] COLOR: 1 = YELLOW GREEN 2 = LT. GREEN 3 = DK. GREEN 4 = BLUE GREEN

[1 6] MM. WIDTH (First leaf below flag leaf) [1] LEAF MARGIN: 1 = GLABROUS 2 = CILIATE

[2] LIGULE: 1 = ABSENT 2 = PRESENT [1] LEAF SHEATH: 1 = HAIRLESS 2 = HAIRY

7. HEAD:

[1] PANICLE SHAPE: 1 = EQUILATERAL 2 = INTERMEDIATE 3 = SIDE PANICLE (Unilateral)

[1] ATTACHMENT OF LOWER WHORL OF BRANCHES: 1 = FIRST NODE 2 = SECOND NODE (False node)

[2] PANICLE SIZE: 1 = SMALL (Yancey) 2 = MEDIUM (Walken) 3 = LARGE (Markton)

[2] PANICLE WIDTH: 1 = NARROW (Gopher) 2 = MIDBROAD (Yancey) 3 = BROAD (Nodaway 70)

[1 5] CM. PANICLE LENGTH [2 1] NUMBER OF BRANCHES [5 to 6] NUMBER OF WHORLS OF BRANCHES

[1] POSITION OF BRANCHES: 1 = ASCENDING (Yancey) 2 = SPREADING (Cayuse) 3 = DROOPING (Markton)
4 = PECTINATE (White Tartar) 5 = CONFUSED (Storm King)

00004

4 of 14

12D. Exhibit D. Data indicative of novelty.

Allen most closely resembles Clintford and Noble.

Allen is novel in that:

It is resistant to races of crown rust prevalent in Indiana whereas Clintford and Noble are susceptible (Table 1). It shows symptoms to barley yellow dwarf virus (BYDV) infection more severely than Clintford or Noble. Allen shows a level of BYDV resistance similar to that of Stout. Allen is generally more resistant to current field races of crown rust than Stout (Allen has the Ceirch du bach source of resistance whereas Stout has the PI 174544 source of resistance). The general plant type of Allen is similar to that of Clintford and Noble; Stout is shorter and has a more compact panicle.

Allen has slightly darker lemmas (on the average) than Clintford at maturity (Fig. 1). Also, its lemmas have a slight tinge of yellow whereas those of Clintford have a whiter, more bleached appearance (most easily distinguished when seed is not weathered). The lemmas of Noble are a brownish yellow. The lemmas of Allen are fluorescent, those of Noble do not fluoresce.

Allen has a moderately high test weight, is very resistant to lodging, has a yield potential similar to that of Stout, heads about one day earlier than Clintford, has a moderately high groat protein percentage and has a very high groat percentage relative to other commercially grown varieties (Tables 2 through 4).

Figure 1. Seeds of Clintford (Left) and Allen (Right). Color for seeds of Clintford most closely resemble 10YR8/4 to 10YR8/6; those for Allen resemble 10YR7/4 to 10YR7/6 (Munsell Color Code).

8. RACHIS:

[2] 1 = RECURVED (Yancey) 2 = ERECT (Walken)

[1] SECOND FLORET RACHILLA SEGMENT: 1 = HAIRLESS 2 = HAIRY

[3.0] MM. SECOND FLORET RACHILLA SEGMENT LENGTH

[ ] RACHILLA HAIRS: 1 = SHORT 2 = LONG

9. SPIKELET:

[3] SPIKELET SEPARATION BY: 1 = ABSCISSION 2 = SEMIABSCISSION 3 = FRACTURE

[1] FLORET SEPARATION BY: 1 = DISARTICULATION 2 = HETEROFRACTURE 3 = BASIFRACTURE

[2.02] FLORETS PER SPIKELET (mean no.)

10. GLUMES: (Glume Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described variety.)

[7] MM. WIDTH [19] MM. LENGTH [9] NO. OF VEINS ON GLUMES [1] COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = STRIPED

11. LEMMA: (Lemma Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described variety.)

[14] MM. LENGTH

[1] HAIRINESS OF DORSAL SURFACE: 1 = HAIRLESS 2 = HAIRY

[2] COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = GRAY 5 = BLACK

12. AWN (First floret):

[1] OCCURENCE: 1 = ABSENT (Walken) 2 = INFREQUENT (Yancey) 3 = COMMON (Chilocco) 4 = FREQUENT (Random)

[ ] TYPE: 1 = NON-TWISTED 2 = TWISTED 3 = TWISTED GENICULATE

[ ] MM. AWN LENGTH

13. SEED:

[1] FLORESCENCE UNDER ULTRAVIOLET LIGHT: 1 = FLORESCENT 2 = NON-FLORESCENT

[1] BASAL HAIR: 1 = ABSENT (Florida 501) 2 = ABSENT TO FEW (Yancey) 3 = FEW TO SEVERAL (Lee) 4 = SEVERAL TO NUMEROUS (Florilee) 5 = NUMEROUS (Red Rustproof)

[ ] MM. BASAL HAIR LENGTH

[300] GMS. PER 1,000 SEEDS

[17.8] % GROAT PROTEIN

[21] MG. GROAT WEIGHT (each)

[6.5] % GROAT OIL

14. INSECTS: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

[1] CEREAL LEAF BEETLE [0] BLUEGRASS BILLBUG [0] GRAIN BUG (C. Sayi) [0] NEMATODE (Type) ____

[0] GREEN BUG (Biotype) ____ OTHER *(Specify)* ____

15. DISEASE: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

[0] HALO BLIGHT [0] POWDERY MILDEW [0] SEPTORIA LEAF BLOTCH [0] SOIL-BORNE MOSIAC

[0] HELMINTHOSPORIUM LEAF BLOTCH [1] YELLOW DWARF VIRUS [0] VICTORIA BLIGHT [ ] OTHER *(Specify)* ____

SPECIFY RACES TESTED:

		RACES SUSCEPTIBLE	RACES RESISTANT
2	CROWN RUST.....		216, 239, 290
2	STEM RUST.....		US72, US19
0	COVERED SMUT.....		
2	LOOSE SMUT.....		~~Those prevalent in IN~~

16. INDICATE VARIETY YOU BELIEVE MOST CLOSELY TO RESEMBLE THAT SUBMITTED:

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT TILLERING	Noble	LEAF COLOR	Clintford
LEAF SIZE	Clintford	LEAF CARRIAGE	Clintford
SEED COLOR	Clintford	SEED SHAPE	Clintford

COMMENTS:

00005

5 of 14

Table 1. Summary of crown rust readings in field nurseries*.

	Allen	Stout	Noble	Clintford
1971				
Lafayette	5MS**	5MS	30S	30S
Madison				
Pustule Size†	.7	.8	--	
% leaf covered	1	8	--	
St. Paul	50MS-S	70MS	70MS-S	
Ames	20R	20MR	--	
1972				
Lafayette	--	--	--	
Madison	5	15	25	
St. Paul	20HR-MS	40R-MS	100S	
Ames				
% severity	56	11	60	
% yield reduction	24	29	47	
1973				
Lafayette	Tr MR-MS	2MR-MS	20S	20S
Madison	8.0	18.5	47.5	
St. Paul	30MR-MS	70MR-S	100S	
1974				
Lafayette	5-10MR-MS	Tr-2MR-MS	20S	20S
Madison	12	15	50	
St. Paul	40MR	40MR-MS	100S	
Ames	40S	20S	20MS-S	

* Sample size includes hill plots, 1 meter rows, and 4-row yield plots.

** Numbers indicate % of leaf area covered with pustules, Tr=trace, MS=medium susceptible, MR=medium resistant, HR=highly resistant, S=susceptible, R=resistant reaction types.

† 0.1 = small to 1.0 = large.

Table 2. Uniform Midseason Nursery (1971-1973).*

Variety	Yield, bu/A	Test weight, lb/bu	Percent lodged	Headed, days after April 30	Height, in.	% protein	% groat
Allen	77.7	35.9	17	47.0	33.2	18.1	75.1
Noble	84.6	35.0	17	49.9	33.4	18.0	70.3
Stout	80.4	34.2	16	47.8	32.1	17.5	73.5
Clintland 64	77.8	34.9	17	49.8	36.7	19.2	--
lsd (.05)	3.2	.5	7	.8	.8	.4	1.4

* Number of year-location tests: yield, 51; test weight, 51; percent lodged, 40; date headed, 44; height, 45; % protein, 36; % groat, 28.

Table 3. Advanced yield nursery plots at Lafayette, 4 replications, 1968-1974.

Variety	Yield, bu/A	Test weight, lb/bu	1000 kernel weight, g	Straw*	Headed, June	Height, in.
Allen	123.1	34.8	30.5	3.9	13.4	36.1
Noble	128.4	34.3	29.8	4.0	15.3	36.5
Stout	124.4	32.7	30.6	3.1	14.0	33.2
Clintford	119.8	36.4	30.3	4.2	14.5	35.8
lsd (.05)	7.8	1.1	1.8	.8	1.0	1.7

* 0 = erect to 9 = lodged flat.

Table 4. Field plots at four locations in Indiana.*

Variety	Yield, bu/A	T. W., lb/bu	Lodging, %	Plant height, in	Date headed, June
Allen County, northern, 5-year average, 1970-1974					
Allen	102.2	36.9	22	37	
Noble	104.3	36.5	27	38	
Stout	100.4	36.2	15	33	
Clintford	103.3	39.6	24	37	
LSD (.05)	5.4	.4			
Tippecanoe County, west central, 5-year average, 1970-1974					
Allen	98.6	33.7	8	37	15
Noble	112.2	33.9	25	37	16
Stout	105.1	32.4	10	34	15
Clintford	98.7	35.0	11	37	15
LSD (.05)	2.9	.4			
Randolph County, east central, 3-year average, 1971, 1973-74					
Allen	93.8	33.8	0	36	
Noble	102.3	33.4	3	37	
Stout	88.6	32.2	1	31	
Clintford	95.0	35.2	1	35	
LSD (.05)	6.1	.8			
Rush, Decatur, Bartholomew Counties, southern, 3-year average, 1971, 1973-74					
Allen	79.5	30.3	17	36	
Noble	78.1	32.4	33	37	
Stout	79.1	31.9	24	32	
Clintford	66.2	32.4	30	36	
LSD (.05)	11.3	1.2			

* From data of K.M. Day and O.W. Luetkemeier in Purdue University Agricultural Experiment Station Bulletin No. 56, 1974.

PURDUE UNIVERSITY
DEPARTMENT OF AGRONOMY
LIFE SCIENCE BUILDING
WEST LAFAYETTE, INDIANA 47907

August 13, 1976

Larry W. Dosier
Examiner, Plant Variety
Protection Office
Grain Division
National Agricultural Library
Beltsville, MD 20705

Dear Mr. Dosier:

Enclosed are revised copies of applications No. 7400063 (Noble), No. 7400064 (Stout) and No. 7500093 (Allen).

The respective new forms, not available when the applications were originally submitted, are included. Most revisions suggested in your letter of March 4, 1976 are included. Comments on specific suggestions are included below.

Grain percent protein can be helpful in characterization when the varieties are grown under similar conditions. Note that percent protein is requested on the new form for objective description. However, percent protein varies significantly with certain environmental factors including fertility level.

Statistical analyses have been included.

Relative heading date among cultivars varies somewhat in different environments. For example, assume cultivar A to have headed on June 1. If cool, rainy weather was experienced beginning on June 1, then cultivar B which probably would have headed on June 2 may be delayed in heading. Thus the statement in Application No. 7400063 "1-2 days later".

The compact panicle and unique, short stiff culms of Stout are easily observed in the photographs (photographs included with Application No. 7400064).

Panicle width was measured as the diameter of the panicle near the base.

Application No. 7500093, Table 1, field nurseries are usually inoculated with a mixture of rust races (natural infections in the field also represent a mixture of races). The reaction types of the cultivars with resistance to one or more races will vary from test to test or from year to year within a location depending on the particular races and in what proportions they are present. The important fact to note is that Noble and Clintford essentially always develop a susceptible reaction type whereas Allen shows various levels of resistance.

Note that in tests for resistance to specific races (Objective Description) Allen is resistant to races 216, 239, and 290. Noble and Clintford are susceptible to these specific races.

The Munsell Color Code is referred to for seed color features for Allen.

Sincerely,

B. J. Liska, Director
Purdue University,
Agricultural Experiment Station

Enclosures
BJL/cam

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
14th and Independence Avenue, Rm. 1634

WASHINGTON, D.C. 20250

PLANT VARIETY PROTECTION OFFICE

Gentlemen:

Subject: Application No. 7500093
Variety and Kind - 'Allen' -- Oat

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:

The Purdue University Agricultural Experiment Station and ARS-USDA

6/3/76 (Date)

(Signature) Director

*except that this waiver shall not apply to (a) breeder seed, (b) foundation seed, (c) labeling requirements, and (d) blending limitations.

REVISED EXHIBIT E: STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

Purdue University Agricultural Experiment Station and the Agricultural Research Service, United States Department of Agriculture, are joint owners of 'Allen' oat.

9/15/76

B. J. Liska, Director
Purdue University Agricultural Experiment Station