

No.

9500241



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Arkansas County Seed Co., Inc.

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 EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

OAT

'Harrison'

*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 eighth day of May, in the year of our Lord two thousand one.*



Attest:

*Alvin K. Post*

Acting Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*W. W. Henderson*

Secretary of Agriculture

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

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

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 APPLICANT(S) (as it is to appear on the Certificate)  Arkansas County Seed Co., Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  87-9	3. VARIETY NAME  Harrison
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  Hwy 79 West PO Box 43 Stuttgart, Ar. 72160		5. TELEPHONE (include area code)  501-673-2706	<b>FOR OFFICIAL USE ONLY</b> PVPO NUMBER 9500241 FILING DATE JUNE 20, 1995 FILING AND EXAMINATION FEE \$2325.00 + \$125.00 RECEIVED DATE 06/20/95 + 07/05/95 CERTIFICATION FEE \$320.00 RECEIVED DATE 4/20/01
6. FAX (include area code)  501-673-2468		6. FAX (include area code)  501-673-2468	
7. GENUS AND SPECIES NAME  Avena sativa	8. FAMILY NAME (Botanical)  Gramineae		
9. CROP KIND NAME (Common name)  Oat			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)  Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION  Arkansas		12. DATE OF INCORPORATION  May 1987	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS  John W. Butler PO Box 43 Stuttgart, Ar. 72160			14. TELEPHONE (include area code)  501-673-2706
			15. FAX (include area code)  501-673-2468

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

- a.  Exhibit A. Origin and Breeding History of the Variety
- b.  Exhibit B. Statement of Distinctness
- c.  Exhibit C. Objective Description of the Variety
- d.  Exhibit D. Additional Description of the Variety
- e.  Exhibit E. Statement of the Basis of the Applicant's Ownership
- f.  Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)
- g.  Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act?)  
 YES (If "yes," answer items 18 and 19 below)       NO (If "no," go to item 20)

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?  
 YES       NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?  
 FOUNDATION     REGISTERED     CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?  
 YES (If "yes," give names of countries and dates)       NO

21. The applicant(s) declare that a viable sample of basic seed of the variety will be 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 applicant(s) is(are) the owner(s) 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 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

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

SIGNATURE OF APPLICANT (Owner(s)) 	SIGNATURE OF APPLICANT (Owner(s))
NAME (Please print or type) John W. Butler	NAME (Please print or type)
CAPACITY OR TITLE President	DATE 06/30/95
	CAPACITY OR TITLE 
	DATE 6/30/95

## INSTRUCTIONS

**GENERAL:** 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; (3) at least 2,500 viable untreated seeds, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in a public repository prior to issuance of a certificate; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (*See Section 97.175 of the Regulations and Rules of Practice.*) Partial applications will be held in the PVPO for not more than 30 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Blvd., 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 check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the Certificate.

Plant Variety Protection Office  
Telephone: (301) 504-5518

RECEIVED  
USDA-AMS-PVPO

- ITEM
- 16a. 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.
- 16b. 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 statistical data for characters expressed numerically and demonstrate that these are clear differences;
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 16c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 16d. 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.
- 16e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employee of the breeder, the owner through purchase or inheritance, etc.
17. 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 labelled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See P.L. 103-349 for additional information.*)
20. See Sections 41, 42, and 43 of the Act and Section 97.175 of the regulations for eligibility requirements.

**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 during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment 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 Regulations and Rules of Practice.*)

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes 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. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Washington, DC 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB No. 0581-0055), Washington, DC 20503.

**EXHIBIT A:**  
**ORIGIN AND BREEDING HISTORY, HARRISON OATS**

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- 1979            The original cross, designated as X390 was made in Hartsville, SC. By Howard F. Harrison (deceased), Director of Small Grain Breeding, Coker's Pedigreed Seed Co. (Northrup-King). The parentage of Harrison oats is as follows:
- Coker 234/74C70//Florida 502
- Coker 234 is PVP# 7500008.  
Florida 502 was released by the University of Florida and is currently grown.  
74C70 was a breeding line tested in the 1974 C yield nursery as entry no. 70.
- 1980-81        The F1 labeled as X390-1 was grown and harvested as a bulk of several plants in the greenhouse facilities of Coker's Pedigreed Seed Company
- 1982-83        The F2 populations was grown in the field and designated as X390-1-B. Panicles were harvested from selected plants within the bulk to form the F3 population.
- 1983 summer    The F3 population was grown in Aberdeen, Idaho, at the USDA-ARS facilities under the direction of Dr. Darrel Wesenberg. The F3 population was designated as X390-1-B2 was grown in row 83Ab73. Selected panicles were harvested and bulked.
- 1983-84        F4 seed harvested in the fall at Aberdeen were planted in the space-planted oat nursery at Hartsville, SC as SPO 1081. The F4 population was designated as X390-1-B3. Selection was carried out for plant type, growth habit, crown rust resistance, and other characteristics, on a single plant basis. Selected panicles were harvested individually and sent to the USDA-ARS facilities at Aberdeen, ID for summer generation advance and seed increase as F4:5 headrows.
- 1984 summer    The 8th panicle harvested in this manner was designated as X390-1-B3-8. The F5 headrow was selected based on disease resistance, plant type, lodging resistance, and yield potential; and harvested as a unit to provide seed for preliminary yield trials.
- 1984-85        X390-1-B3-8, as an F5:6 line was tested as entry no. 137 in the B Oat yield nursery at Hartsville, SC.
- 1985-86        X390-1-B3-8, as an F5:7 line was tested as entry no. 107 in the more advanced, A Oat yield nursery at Hartsville, SC.
- 1986-87        X390-1-B3-8, as an F5:8 line was tested as entry no. 21 in the main oat yield trial at Hartsville, SC.
- 1987-88        X390-1-B3-8, as an F5:9 line was tested in as entry no. 4 in the uniform advanced oat nursery and as entry no. 6 in the Strong Straw Oat nurseries at Hartsville, SC; and as entry no. 15 in the Coker Oat tests of Northrup-King Seed Co. At Bay, AR.
- 1988-89        Not tested.

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Prepared by:

Dr. Stephen A. Harrison  
Agronomy Dept. - LSU, Baton Rouge, LA 70803

- 1989-90 X390-1-B3-8, as an F5:10 line was tested as entry no. 12 in the Northrup-King Oat test 402 at Bay, AR.
- 1990-91 X390-1-B3-8, as an F5:11 line was tested as entry no. 7 in the Northrup-King Oat test 402 at Bay, AR. A breeder seed increase and purification block was also grown at Bay, AR.

### Selection and Observed Characters

Pure line selection was carried out based on uniformity of plant type, standability, reaction to crown and stem rust, culm rot resistance, and maturity. Field evaluations confirm that this variety is more resistant than other commercially available varieties to new races of crown rust that were prevalent throughout the southern US in 1994 and 1995. The variety has been shown to be stable and true-breeding across multiple generations. The variety has very dark seed under most environmental conditions. Under conditions of low humidity and rainfall, seed color may be considerably lighter. Seed color of this variety is influenced by the environment, which controls expression of certain pigments.

### Variants

The variety has a low frequency of offtypes that include:

- 1) Shorter, hull-less types
- 2) Shorter plants with a more compact head type
- 3) Taller plants.

The total frequency of offtypes is less than 1%.

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Prepared by:

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Agronomy Dept. - LSU, Baton Rouge, LA 70803

## Supplement to Exhibit A for 'HARRISON' OAT, PVP No. 9500241

Exhibit A states that "The variety has been shown to be stable and true-breeding across multiple generations". Multiple generations can be replaced with "since production of the initial breeder seed in 1991, a period of five years.

The corrected version would be: The variety has been shown to be stable and true-breeding since production of the initial breeder seed in 1991, a period of five years.

The type and number of variants are stated on the original application. Exhibit A states that the variety has less than 1% offtypes and includes three distinct variants. These occur in about equal frequency such that each occurs at a frequency of less than 1/2 of 1%.

Exhibit A lists the pedigree of HARRISON as: Coker 234/74C70//Florida 502. Both Florida 502 and Coker 234 are well documented and widely grown oat varieties. The third parent, 74C70 was used as a parent in numerous crosses but was not released.

The pedigree of 74C70 is Coker69-26/Coker70-12//Coker66-22\*2/Coker66-25/Ora.  
Ora is the only released variety from this group.

**EXHIBIT B**  
**NOVELTY STATEMENT**  
**HARRISON OATS**

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HARRISON is most similar to Florida 502, which was the male parent in the final cross and contributes 50% of the genome. Harrison averages 6 inches taller than Florida 502 and heads about 5 days later (table below). Harrison also has greater winter-hardiness, a darker seed and higher yield potential.

TEST	HEIGHT. (IN)		HEADING DAY MO-DAY		YIELD (BU/ACRE)	
	HARRISON	FL 502	HARRISON	FL 502	HARRISON	FL502
Keiser, AR 1993	38	32	502	427	133	107
Tifton, GA 1993	49	43	418	412	83	48
M0arianna, FL 1993	42	36			69	60
Quincy, FL 1993	46	39			91	49
Plains, GA 1993	53	44	428	429	120	82
Midville, GA 1993	45	38			80	57
Baton Rouge, LA 1993			420	412	85	58
Bossier City, LA 1993	52	46			75	61
Winnsboro, LA 1993	46	40	412	412	65	66
Blackville, SC 1994	49	41			126	150
Florence, SC 1994	45	43			107	95
Clemson, SC 1994	46	41	414	407	109	110
Mississippi State, MS 1994	46	42	428	425	129	100
Raymond, MS 1994	48	44	411	406	127	92
Newton, MS 1994	41	36	413	411	43	33
Midville, GA 1994	38	36			112	107
Plains, GA 1994	42	32	417	408	121	115
Tifton, GA 1994	60	51	414	406	79	65
Baton Rouge, LA 1994			405	326	64	41
Bossier City, La 1994	39	40	413	405	93	83
<b>MEANS</b>	<b>46</b>	<b>40</b>	<b>417</b>	<b>412</b>	<b>96</b>	<b>79</b>

## Supplement to Exhibit B for 'HARRISON' OAT, PVP No. 9500241

TEST	HEIGHT (IN)		HEADING DAY MONTH - DAY		YIELD (BU/ACRE)	
	HARRISON	FL 502	HARRISON	FL 502	HARRISON	FL 502
Keiser, AR 1993	38	32	502	427	133	107
Tifton, GA 1993	<b>49*</b>	43	<b>418*</b>	412	<b>83*</b>	48
Marianna, FL 1993	42	36			69ns	60
Quincy, FL 1993	46	39			<b>91*</b>	49
Plains, GA 1993	<b>53*</b>	44	428ns	429	<b>120*</b>	82
Midville, GA 1993	<b>45*</b>	38			<b>80*</b>	57
Baton Rouge, LA 1993			<b>420*</b>	412	<b>85*</b>	58
Bossier City, LA 1993	<b>52*</b>	46			<b>75*</b>	61
Winnsboro, LA 1993	<b>46*</b>	40	412ns	412	65ns	66
Blackville, SC 1994	<b>49*</b>	41			126*	<b>150</b>
Florence, SC 1994	45ns	43			107ns	95
Clemson, SC 1994	46	41	414	407	109ns	110
Mississippi State, MS 1994	<b>46*</b>	42	428	425	<b>129*</b>	100
Raymond, MS 1994	48	44	411	406	<b>127*</b>	92
Newton, MS 1994	41	36	413	411	<b>43*</b>	33
Midville, GA 1994	<b>38*</b>	36			112ns	107
Plains, GA 1994	<b>42*</b>	32	<b>417*</b>	408	<b>121*</b>	115
Tifton, GA 1994	<b>60*</b>	51	<b>414*</b>	406	79	65
Baton Rouge, LA 1994			405	326	<b>64*</b>	41
Bossier City, LA 1994	39ns	40	<b>413*</b>	405	93ns	83
<b>MEANS</b>	<b>46</b>	<b>40</b>	<b>417</b>	<b>412</b>	<b>96</b>	<b>79</b>

\* Indicates that the means are significantly at the 90% probability level using Fischer's guarded LSD and based on a randomized complete block design with four replications. Bolding is used to indicate the variety with the significantly higher value. ns indicates non-significant at the 90% probability level using Fischer's guarded LSD and based on a randomized complete block design with four replications.

Lack of a significance designation indicates that one was not provided by the testing agency. This is frequently because data was collected on only one replication for height and heading day, which are qualitative traits that show very little variation across replications.

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**PVP Application 9500241 'Harrison' oat**  
**Exhibit 'B' Novelty Statement**  
 revised Monday, July 17, 2000

HARRISON is most similar to Florida 502, which was the male parent in the final cross and contributes 50% of the genome. Harrison is taller than Florida 502 and heads earlier, as shown in tables 1-3. An easily distinguishable characteristic between Harrison and Florida 502 is leaf carriage, which in Harrison is uniquely erect and very distinct. Leaf carriage of Florida 502 is somewhat upright, but much less so than in Harrison and more typical of southern oat varieties.

**Heading date and height differences**

Table 1. LAES oat performance trial across Louisiana for 1994 (from LAES Mimeo Series 90, table 47)	
Entry	Head day (of year)
Harrison	102
Florida 502	91
Mean of 24 entries	101
Range of 24 entries	91-107
CV%	2
LSD (0.05)	4.8
Data from Alexandria, Bossier City, Baton Rouge, and Winnsboro, LA in 1994.	

Table2. LAES oat performance trial across Louisiana for three years, 1992-1994 (from LAES Mimeo Series 90, table 45)	
Entry	Head day (of year)
Harrison	104
Florida 502	95
Mean of 5 entries	102
Range of 5 entries	95-105
CV%	2
LSD (0.05)	3.6
Data from 10 Louisiana environments (year-locations).	

Table 3. LAES oat performance trial across Louisiana for two years, 1992-1993 (from 1993 LAES Mimeo Series table 39)	
Entry	Plant height (in)
Harrison	47
Florida 502	43
Mean of 9 entries	44
Range of 9 entries	39-48
CV%	6
LSD (0.05)	3.6
Data from 6 Louisiana environments (year-locations).	

OBJECTIVE DESCRIPTION OF VARIETY

OAT  
 (*Avena* spp.)

NAME OF APPLICANT(S)  Arkansas County Seed Co., Inc.	VARIETY NAME OR TEMPORARY DESIGNATION  Harrison
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)  PO Box 43 Stuttgart, Ar. 72160	FOR OFFICIAL USE ONLY PVPO NUMBER  9500241

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.

1. SPECIES:

1 = SATIVA                      2 = BYZANTINA                      3 = OTHER (Specify) \_\_\_\_\_

2. GROWTH HABIT:

1 = WINTER                      2 = SEMIWINTER                      3 = SPRING  
 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): 5 Days later than Florida 502

DAYS EARLIER THAN  STANDARD VARIETY                        DAYS LATER THAN  STANDARD VARIETY  
 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): 15 CM Taller than Florida 502

CM. TALL                        CM. SHORTER THAN  STANDARD VARIETY  
      CM. TALLER THAN  STANDARD VARIETY

5. STEM:

DIAMETER:                      1 = FINE (Kherson)                      2 = MEDIUM (Clintford)                      3 = COARSE (Nodaway 70)  
 HAIRINESS AT UPPER CULM NODES:                      1 = HAIRLESS                      2 = HAIRY  
 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.)

CARRIAGE:                      1 = DROOPING (Random)                      2 = ERECT (Walken)  
 COLOR: RHS 137A-1B YELLOW GREEN                      2 = LT. GREEN                      3 = DK. GREEN                      4 = BLUE GREEN  
  (20±3) MM. WIDTH (First leaf below flag leaf)                       LEAF MARGIN:    1 = GLABROUS                      2 = CILIATE  
 LIGULE:                      1 = ABSENT                      2 = PRESENT                       LEAF SHEATH:    1 = HAIRLESS                      2 = HAIRY

7. HEAD:

PANICLE SHAPE:                      1 = EQUILATERAL                      2 = INTERMEDIATE                      3 = SIDE PANICLE (Unilateral)  
 ATTACHMENT OF LOWER WHORL OF BRANCHES:    1 = FIRST NODE                      2 = SECOND NODE (False node)  
 PANICLE SIZE:                      1 = SMALL (Yancey)                      2 = MEDIUM (Walken)                      3 = LARGE (Markton)  
 PANICLE WIDTH:                      1 = NARROW (Gopher)                      2 = MIDBROAD (Yancey)                      3 = BROAD (Nodaway 70)  
  CM. PANICLE LENGTH                        NUMBER OF BRANCHES                        NUMBER OF WHORLS OF BRANCHES  
 POSITION OF BRANCHES:    1 = ASCENDING (Yancey)                      2 = SPREADING (Cayuse)                      3 = DROOPING (Markton)  
    4 = PECTINATE (White Tartar)                      5 = CONFUSED (Storm King)

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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:

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

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

2  0 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.)

0  6 MM. WIDTH  1  7 MM. LENGTH  0  9 NO. OF VEINS ON GLUMES  2 COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = STRIPED

RHS 162 A

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.)

1  8 MM. LENGTH  COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = GRAY 5 = BLACK

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

164C-----200A See Supplement C

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

3 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)

3  0 MM. BASAL HAIR LENGTH

2  9  0 GMS. PER 1,000 SEEDS  2  2 MG. GROAT WEIGHT (each)

% GROAT PROTEIN  % GROAT OIL

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

0 CEREAL LEAF BEETLE  0 BLUEGRASS BILLBUG  0 GRAIN BUG (C. Sayi)  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  0 YELLOW DWARF VIRUS  0 VICTORIA BLIGHT  0 OTHER (Specify) \_\_\_\_\_

SPECIFY RACES TESTED:

	RACES SUSCEPTIBLE	RACES RESISTANT
<input type="checkbox"/> CROWN RUST.....	MN273, MN263 (see suppl. C)	CA147, TX55
<input type="checkbox"/> STEM RUST.....	NA27, NA28, NA30, NA55	
<input type="checkbox"/> COVERED SMUT.....		
<input type="checkbox"/> LOOSE SMUT.....		

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

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT TILLERING	Florida 502	LEAF COLOR	Florida 502
LEAF SIZE	Florida 502	LEAF CARRIAGE	Florida 502
SEED COLOR		SEED SHAPE	811

COMMENTS: Florescence is variable under differing levels of weathering and between analyst. Up to 5% may be non-florescent at any time.

**EXHIBIT C SUPPLEMENT**

3. HARRISON is 5 days later than Florida 502.
4. HARRISON is 15 cm taller than Florida 502.
6. Leaf color is Royal Horticultural Society 137 A-B.
  
15. HARRISON had significantly greater resistance to races of crown rust that were prevalent during the spring of 1994 across the southeast than any other commercially grown variety in the area. These races produced a compatible (susceptible) reaction type on the following varieties at Baton Rouge in 1995. Brooks, Coker 716, Coker 227, Florida 501, Citation, Florida 502, Southern States 76-30, 811, and Mitchell. HARRISON was resistant to this crown rust. The varieties Ogle, Don, and Troy (not grown in the south) were also susceptible.

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The crown rust in Baton Rouge during 1995 was virulent on the following single gene differentials, as determined from field reaction of isolates grown at Baton Rouge.

Virulent (susceptible reaction): Pc14, Pc35, Pc36 - D515, Pc40, Pc45, Pc50, Pc51 - X434, Pc54, Pc56, Pc57 - D640, Pc58 - TAM301, Pc59 - TAM312, Pc60 - Coker227, Pc61 - Coker 234,

Intermediate reaction: Pc38, Pc39, Pc46, Pc 53 - H441, Pc67,

Avirulent (resistant reaction): Pc48, Pc52 - X421, Pc55, Pc62, Pc63, Pc64, Pc68, Pc70 - H547, Pc71 - Y345,

Screening by the USDA-ARS Cereal Rust Lab at St. Paul, MN indicated that HARRISON is susceptible to crown rust isolates MN273, and MN263; resistant to TX55 and VA147; and showed an intermediate reaction to MN271 and GA16.

CA147 per letter of 9/16/1995 msh

**EXHIBIT D**  
**ADDITIONAL DESCRIPTION OF VARIETY**  
**HARRISON OATS**

HARRISON is a tall, medium maturity, semi-winter oat variety. HARRISON is similar to Florida 502, which comprises half of its parentage, but differs in that it is taller, has greater crown rust resistance, and is more winter hardy.

Growth habit is semi-prostrate and semi-winter. Leaf color is RHS 137 A-B. The leaves are erect, the leaf sheaths are hairless, and ligules are present.

The panicle is equilateral, midbroad, medium sized, and has ascending branches. The rachis is erect and the glumes approximate RHS162 A at maturity. Awns are absent.

HARRISON is susceptible to stem rust, but possesses excellent crown rust resistance. It is adapted to southern oat growing regions, particularly where crown rust frequently occurs.

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**EXHIBIT E**  
**STATEMENT OF THE BASIS OF APPLICANT'S**  
**OWNERSHIP**

Harrison (experimental name 87-9) was originated and developed by Howard F. Harrison (deceased), longtime wheat and oat breeder with Coker's Pedigreed Seed Co., which was purchased by the Northrup King Seed. Co. Northrup-King has granted exclusive rights to the variety Harrison to Arkansas County Seed Co., Inc., Stuttgart, Ar., due to purchase by Arkansas County Seed Co. of all seed stocks and all rights to said variety. Arkansas County Seed Co. is to maintain and increase all seed stocks and the variety will be known as "Harrison" with Arkansa County Seed Co. as the owner.

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