

No.

7800016



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Wisconsin Agricultural Experiment Station

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, 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.

UNITED STATES 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.)

WHEAT

'Argee'

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 20th day of September in the year of our Lord one thousand nine hundred and seventy-eight

Attest

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION Argee		2. KIND NAME Wheat		FOR OFFICIAL USE ONLY PV NUMBER 7800016	
3. GENUS AND SPECIES NAME Triticum aestivum L. em Theil.		4. FAMILY NAME (Botanical) Gramineae		FILING DATE 12-29-77	TIME 10:00 A.M.
		5. DATE OF DETERMINATION August 12, 1976		FEE RECEIVED \$ 250.00	BALANCE DUE \$ 12-29-77
				\$ 250.00	\$ 12-29-77
				\$ 250.00	\$ 9-14-78
6. NAME OF APPLICANT(S) Wisconsin Agricultural Experiment Station R. A. Forsberg, authorized		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Agricultural Hall University of Wisconsin Madison, WI 53706		8. TELEPHONE AREA CODE AND NUMBER 608 - 262-3994 608 - 262-6527	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Wisconsin Agricultural Experiment Station			10. STATE OF INCORPORATION		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. R. A. Forsberg, Dept. of Agronomy, Univ. of Wisconsin, Madison, WI 53706

*Dr. Forsberg's number 608-262-6527
Department Telephone number 608-262-1390*

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, Botanical Description of the Variety

13C. Exhibit C, Objective Description of the Variety

13D. Exhibit D, Data Indicative of Novelty

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.) 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

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.

October 13, 1977
(DATE)

Robert A. Forsberg
(SIGNATURE OF APPLICANT)

(DATE)

(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, 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.



May 12, 1983

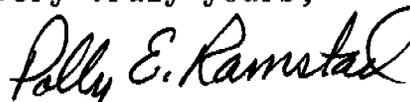
U.S. Plant Variety Protection Office
U.S. Department of Agriculture
Agricultural Marketing Service
Livestock, Poultry, Grain and Seed Division
National Agricultural Library Building
Beltsville, MD 20705

Dear Madam or Sir:

Please send a copy of Plant Variety Certificate 78-00016 for Argee to me at the above-indicated address. Enclosed is the requisite fee of \$16.

Thank you.

Very truly yours,



Polly E. Ramstad
Patent Department

PER/cap
Enclosure

ENTERED



May 12, 1983

U.S. Plant Variety Protection Office
U.S. Department of Agriculture
Agricultural Marketing Service
Livestock, Poultry, Grain and Seed Division
National Agricultural Library Building
Beltsville, MD 20705

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ROHM AND HAAS COMPANY
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13A. Exhibit A, Origin and Breeding History of Argee Wheat.

Argee Soft Red Winter Wheat
Wisconsin selection H671-100-1, C.I. 17606

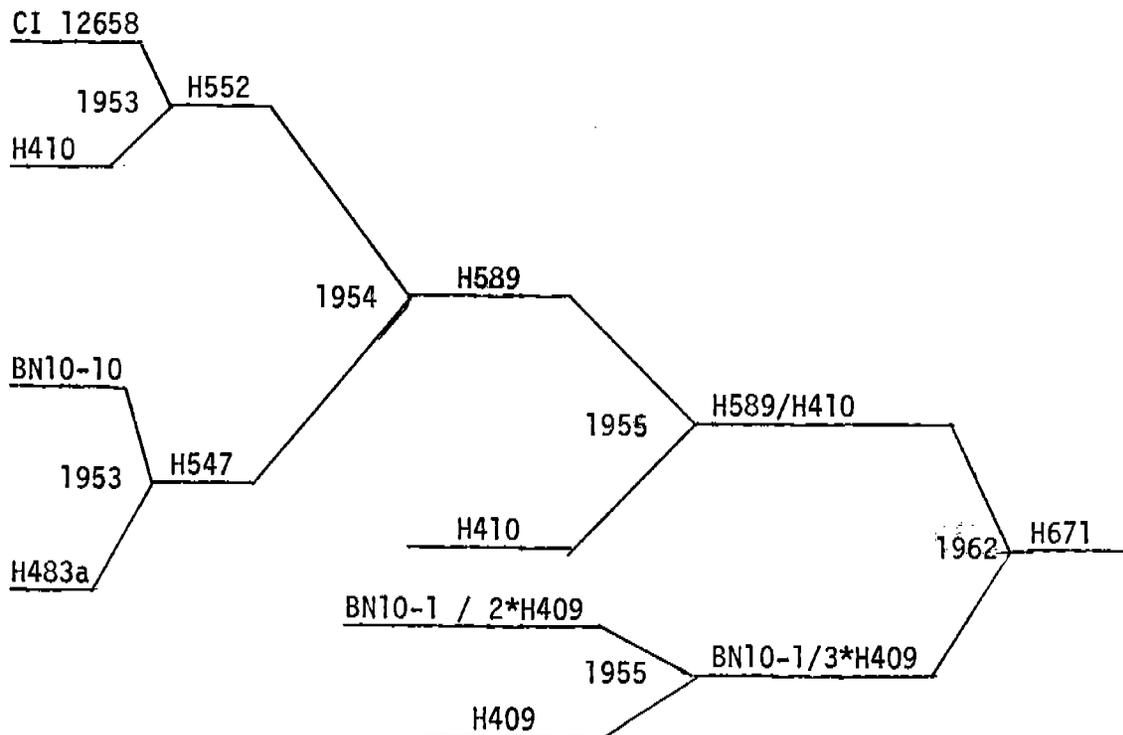
The pedigree of Argee is:

CI 12658/H410/2/BN10-10/H483a/3/H410/4/BN10-1/3*H409

The extended pedigree includes the following varieties or selections:

<u>Line</u>	<u>Parents in Pedigree</u>
CI 12658 (Indiana)	Froncosa, Trumbull, Hope, Hussar.
H410 (Wisconsin)	Michigan Amber, Kawvale, Fultz (CI 11512), Hungarian, Minturki (CI 6155).
H483a (Wisconsin)	Minhardi, CI 13093 (CI 13093 = Illinois No. 1, Chinese Spring, <u>T. timopheevi</u> , Turkey.)
H409 (Wisconsin)	Michigan Amber, Kawvale, Blackhawk

Chronology of Crosses:



Argee was developed through the combined efforts of several workers at the Wisconsin Agricultural Experiment Station. All of the crosses indicated in the above diagram (1953-1962) were made by Dr. R. G. Shands, a long-time cereal breeder at the University of Wisconsin, who died in 1967. The F_1 of the final cross was grown in 1963, the F_2 population in 1964, and F_3 lines from F_2 selections in 1965. One of the 1966 F_4 lines harvested in bulk was further tested as selection H671-100-1, and this selection ultimately became Argee.

Following the death of R. G. Shands, Dr. L. N. Barker harvested H671-100-1 (F_5) in 1967, and Dr. H. L. Shands evaluated the F_6 and F_7 generations in 1968 and 1970, respectively, in preliminary yield trials at Madison, Wisconsin. H. L. Shands and R. A. Forsberg entered H671-100-1 in the main Madison Nursery Performance Trial (four replicates) in 1971, in statewide tests in 1973, in the large drill-plot test at Madison in 1974, and in the Uniform Eastern Soft Red Winter Wheat Nursery in 1975-1977. (H. L. Shands retired in 1974.)

The primary selection criteria in the F_2 population and in F_3 lines were winter hardiness, productive agronomic appearance, resistance to leaf and stem rust, stiff straw, and good soft-wheat grain quality as indicated by endosperm softness.

Monitored closely in all performance trials were grain yield, test weight, winter hardiness, straw strength, response to diseases, and milling and baking quality. Starting with the 1971 crop, seed of H671-100-1 has been submitted annually to the USDA Soft Wheat Quality Laboratory, Wooster, Ohio, for milling and baking tests.

No plant or seed variants were detected in Argee prior to the release of foundation seed. The original foundation seed production fields were inspected by the breeder (R. A. Forsberg) and by foundation program field inspectors. Argee has demonstrated stability for all phenotypic and genotypic characteristics consistent with normal environmental influences. Argee is a typically uniform self-pollinated wheat cultivar.

Breeders seed of H671-100-1 was increased in 1975, foundation seed was produced in 1976, and foundation seed was released to growers of certified seed in Wisconsin in August, 1976. Certified seed of Argee was available for planting by farmers in fall, 1977.

13B. Exhibit B, Botanical Description of the Variety.

Argee is classified as Triticum aestivum L. em Thell. Plants are intermediate in height and moderately stiff, with intermediate to long leaves consisting of blade, ligule, and sheath, all of which are glabrous. Stems are hollow. Spikes are middense, erect, long, and of uniform width (oblong). Glumes are glabrous, long, and wide with an acuminate beak and an elevated shoulder. The lemma of each floret terminates in a beard, and the caryopsis (seed) threshes free from the lemma and palea. Seeds are large and ovate with rounded cheeks, and a mid-sized to large germ. The crease is midwide, about 65% of kernel width. The crease depth, from the crest of the cheeks to the position where the crease is closed, is shallow. The brush is medium and not collared. Seeds are red and straw is light yellow to white at maturity.

Argee is a soft red winter wheat. It is planted in September and produces 3-5 seedling leaves during a typical Wisconsin fall season. Following vernalization during the winter months, growth resumes in early April with an average heading date of June 8 at Madison and June 12-13 on a statewide basis.

11. HEAD:

1 Density: 1 = LAX 2 = DENSE 4 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) Oblong

4 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

0 9 CM. LENGTH 1 5 MM. WIDTH

12. GLUMES AT MATURITY:

3 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) 3 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)

5 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE 3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR: 1 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN: 1 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

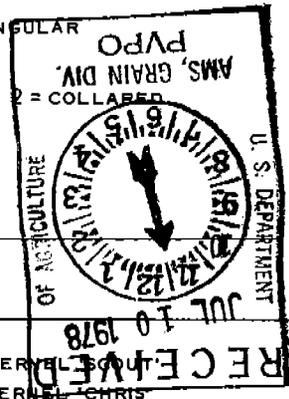
1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL 1 Cheek: 1 = ROUNDED 2 = ANGULAR

2 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG 1 Brush: 1 = NOT COLLARED 2 = COLLARED

5 Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

0 7 MM. LENGTH 0 3 MM. WIDTH (3.5) 3 9 GM. PER 1000 SEEDS



17. SEED CREASE:

2 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

5 Depth: 1 = 20% OR LESS OF KERNEL 'WINOKA' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

2 STEM RUST (Races) 2 LEAF RUST (Races) 0 STRIPE RUST (Races) 2 LOOSE SMUT

0 POWDERY MILDEW 1 BUNT OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

0 SAWFLY 0 APHID (Bydv.) 0 GREEN BUG 0 CEREAL LEAF BEETLE

OTHER (Specify) _____ HESSIAN FLY RACES: 0 GP 0 A 0 B 0 C
 0 D 0 E 0 F 0 G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Timwin	Seed size	Timwin
Leaf size	Timwin	Seed shape	Timwin
Leaf color	Timwin	Coleoptile elongation	Timwin
Leaf carriage	Timwin	Seedling pigmentation	Timwin

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

FORM GR-470-6
(2-15-73)

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

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) Wisconsin Agricultural Experiment Station (R. A. Forsberg, Agent)	FOR OFFICIAL USE ONLY	
	PVPO NUMBER	7800016
	VARIETY NAME OR TEMPORARY DESIGNATION	Argee

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.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify) _____

1 = SOFT 2 = HARD 3 = OTHER (Specify) _____

1 = WHITE 2 = RED 3 = OTHER (Specify) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1/.... KENOSHA ... 1 = ARTHUR 2 = SCOUT 3 = CHRIS

NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head): 1/

CM. HIGH

CM. TALLER THAN TIMWIN 1 = ARTHUR 2 = SCOUT 3 = CHRIS

CM. SHORTER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse): 7. ANTHHER COLOR:

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN 1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT Waxy bloom: 1 = ABSENT 2 = PRESENT

Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT Internodes: 1 = HOLLOW 2 = SOLID

NO. OF NODES (Originating from node above ground) CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (Specify) _____ Flag leaf: 1 = NOT TWISTED 2 = TWISTED

Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

MM. LEAF WIDTH (First leaf below flag leaf) CM. LEAF LENGTH (First leaf below flag leaf):

1/ None of the six listed check cultivars is grown in Wisconsin

13D. Exhibit D, Data Indicative of Novelty. (Revised 3/31/78)

The variety of wheat most similar to Argee is Timwin. Argee differs uniquely and specifically from Timwin as follows:

1. Argee is susceptible to bunt while Timwin is resistant (See data on Exhibit D, page 2).
2. Argee is 6 cm taller than Timwin.
3. Argee is much more winterhardy than Timwin.
4. Argee heads and ripens 2 days later than Timwin.

Data supporting these differences between Argee and Timwin and between Argee and several other soft red winter wheats are presented below.

Yield, agronomic, and disease data for Argee and several other soft red winter wheat cultivars evaluated in Wisconsin statewide tests in 1974, 1975, and 1976 are summarized below:

Cultivar	Yield		Bu.Wt. Lbs.	Head date June	Ripe date July	Plant ht.		Lodging %	Leaf rust %	Bunt %	Winter survival %
	B/A					in.	cm.				
No. of sta. yrs.	20	17	17	13	9	13		5	2	2	6
Argee	37.2	34.8	58.5	11.8	20.2	34.7	86.7	6.5	12.0	21.8	69.4
Kenosha	32.3	30.4	58.8	11.8	20.6	40.3	100.8	16.1	15.8	5.4	73.6
Timwin	32.0	29.0	58.6	9.6	18.4	32.3	80.8	5.8	0.3	1.8	62.7
Oasis	28.8	27.7	59.6	7.2	18.2	33.9	84.8	6.8	0.3	8.5	56.2
Stoddard	--	29.6	59.2	7.5	18.1	36.0	90.0	4.3	0.3	15.8	56.5

Argee is 14 cm shorter than Kenosha and 6 cm taller than Timwin. The shorter, stiffer straw of Argee results in less lodging compared to Kenosha. Argee heads and ripens 2 days later than Timwin, and Argee is later in maturity than typical soft red winter wheats developed at Indiana or Missouri, e.g., Argee heads 4 days later than Oasis or Stoddard.

Argee is considerably more winter hardy than Timwin. For example, Argee had a winter survival of 90% in the 1976 Madison nursery trial compared to only 72% for Timwin. (Differences of this magnitude are reduced when values from tests in which no winterkilling occurred are included in the average, as in the tabulation above.)

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Argee is susceptible to bunt, while Timwin is resistant and Kenosha moderately resistant. Infection readings in artificial tests at Madison are tabulated below:

Bunt Infection (%)			
	Argee	Kenosha	Timwin
1971, 73, 75	45.7	15.6	2.8
1975, 76	21.8	5.4	1.8
Mean (4 tests)	36.8	11.9	2.1

Argee has consistently outyielded Kenosha, Timwin, and other cultivars in Wisconsin tests. Mean yields of Argee have exceeded those of Kenosha and Timwin by 4-5 B/A and those of Oasis, Stoddard, Abe, and others by 4-7 B/A or more.

Grain Quality. Tests conducted by the USDA Soft Wheat Quality Laboratory indicate that Argee has excellent soft wheat milling and baking quality, as do Kenosha and Timwin. These data (not shown) are summarized in annual reports prepared by the Wooster laboratory. Quality grades assigned are tabulated below:

	<u>Large drill-plot samples</u>			<u>Nursery samples</u>		
	<u>Milling</u>	<u>Baking</u>	<u>Overall</u>	<u>Milling</u>	<u>Baking</u>	<u>Overall</u>
1971				Good	Good	Good
1972				Good	Good	Good
1973				Good	Good	Good
1974	Good	Good	Good	Good	Good	Good
1975	Good	Good	Good	Good	Good	Good
1976	A	A	A	A	A	A

The superior quality of Argee is further demonstrated by its No. 1 ranking for quality over all Uniform Nursery locations and entries in 1975 and again in 1976 (summaries enclosed).

7800016

Uniform Nursery Tests. Argee was an entry in the 1975, 1976, and 1977 Uniform Eastern Soft Wheat Nurseries. This nursery is grown in 14 different states including several southern and eastern states (e.g., Florida and Maryland). We are concerned with the performance of Wisconsin-developed cultivars only in neighboring, upper midwest states.

The performances of Argee and other named cultivars in Wisconsin, Missouri, Illinois, and Indiana in 1975-77 are compared below:

	Grain yield (B/A) and Rank					
	Wisconsin (Madison)			Illinois (Urbana)		
	1975 ^{1/}	1976	1977	1975	1976	1977
Argee	35.6(17)	46.4(1)	70.0(1)	76.0(6)	54.7(1)	54.7(24)
Abe	38.4(13)	28.9(14)	--	63.9(14)	23.1(22)	--
Beau	38.8(12)	30.6(9)	40.1(24)	64.0(13)	35.9(13)	78.7(7)
Double Crop	31.3(20)	25.5(17)	--	58.2(21)	37.0(11)	--
Oasis	43.2(8)	29.8(11)	42.3(21)	61.4(19)	34.6(14)	71.7(19)
Ruler	32.2(19)	36.4(4)	--	63.6(15)	30.5(17)	--
Sullivan	--	29.4(13)	35.2(26)	--	29.1(18)	71.0(20)
No. of entries	23	22	25	23	22	25
LSD ₀₅	--	5.6	9.2	8.4	7.9	11.8
	Missouri (Columbia)			Indiana (Lafayette)		
	1975	1976	1977	1975	1976	1977 ^{2/}
	1975	1976	1977	1975	1976	1977 ^{2/}
Argee	42.4(12)	55.6(5)	46.2(21)	63.7(11)	66.5(12)	
Abe	43.0(10)	37.7(17)	--	70.1(2)	69.0(9)	--
Beau	43.3(9)	55.9(4)	54.0(11)	62.3(13)	75.7(4)	
Double Crop		20.9(22)	--	57.6(18)	57.6(19)	--
Oasis	44.3(8)	51.0(8)	61.4(3)	59.4(17)	74.0(6)	
Ruler	35.2(22)	36.5(19)	--	59.5(16)	50.2(21)	--
Sullivan	--	36.7(18)	54.7(9)	--	62.2(16)	
No. of entries	23	22	25	23	(22)	
LSD ₀₅	4.3	10.4	--	8.1	13.4	

^{1/} Data less reliable due to complete winter killing in certain areas of the test.

^{2/} Data not available.

Winterhardiness is essential for superior performance in Wisconsin. Under conditions of stress, Argee ranked No. 1 at Madison in 1976 and 1977, No. 6 and No. 1 at Urbana in 1975 and 1976, respectively, and No. 5 at Columbia in 1976.

Summary.

In summary, Argee is uniquely different from Kenosha and Timwin in several traits:

Plant height	Argee is shorter than Kenosha, taller than Timwin.
Winter hardiness	" " nearly equal to Kenosha, more hardy than Timwin.
Heading date	" " equal to Kenosha, later than Timwin.
Bunt	" " susceptible, Kenosha moderately resistant Timwin highly resistant.
Yield	" outyields both Kenosha and Timwin.
Lodging	" is stiffer than Kenosha, equally as stiff as Timwin.

UNIVERSITY OF WISCONSIN—MADISON

DEPARTMENT OF AGRONOMY

1575 Linden Drive
Madison, Wisconsin 53706
608-262-1390



DATE: August 12, 1976

TO: Agronomy Department Chairmen, North Central Region, and
Soft Red Winter Wheat Cooperators.

FROM: J. W. Pendleton, Chairman, Department of Agronomy
University of Wisconsin, Madison.

Subject: Release of soft red winter wheat H671-100-1 (Argee), C.N. 17606.

The Wisconsin Agricultural Experiment Station plans to release soft red winter wheat selection H671-100-1 for planting by certified seed growers this current fall (1976). Plans for this release and a data summary were distributed one year ago. Although all 1976 tests results are not available, H671-100-1 performed as expected and we are proceeding with the release. The name "Argee" has been proposed, after the late R. G. Shands who made the cross from which H671-100-1 was ultimately derived. H. L. Shands was instrumental in the selection and testing of H671-100-1.

The pedigree of Argee is:-

C.I.12658/H410/2/BN10-10/H483a/3/H410/4/BN10-1/H409*3.

Components of the extended pedigree include Blackhawk, Brevor-Norin selections, Minturki, Kawvale, Frondosa, Trumbull, Hope, Husar, Fultz, Hungarian, Michigan Amber, Turkey, and selection H139 from the cross Ill. No. 1/Chinese//Triticum timopheevi.

Under Wisconsin conditions Argee has high grain yields (Table 1), good standability, very good winter hardiness, and good soft wheat milling and baking quality. It is intermediate in plant height, about 6 inches shorter than Kenosha and 2 inches taller than Timwin. Argee is slightly irregular in plant height. It is resistant to prevalent races of leaf rust but shows moderate susceptibility to bunt in artificial tests.

We expect to be able to meet all requests for seed but amounts allocated will depend upon requests. Please address seed requests to reach Roger K. Smith of this Department by September 1, 1976. Questions about Argee may be addressed to R. A. Forsberg. Application for variety protection of Argee via seed certification is planned.

Table 1. Summary of yield, agronomic, and disease data for Argee (H671-100-1) and soft red winter wheat cultivars Kenosha, Timwin, and Abe in Wisconsin tests, 1973-74-75.

Entry	Yield		Bu. wt. Lbs.	Head date June	Ripe date July	Plant ht. in.	Lodging %	Winter surv. %	Leaf rust %	Bunt % 1/
	B/A	1973-74:1973-75								
No. of tests	12	17	17	14	11	15	3	6	3	3
H671-100-1	46.2	41.0	58.4	13.5	21.6	34.5	5.4	84.4	5.1	45.7
Kenosha	40.8	37.7	59.1	13.2	21.7	40.7	18.0	82.2	16.5	15.6
Timwin	40.9	35.9	58.5	11.8	19.7	32.6	3.2	77.9	4.4	2.8
Abe	41.8									

1/ Results from artificially inoculated tests at Madison.

FROM THE SOFT WHEAT QUALITY LABORATORY REPORT
 DATED AUGUST, 1977. (1976 CROP)

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(PART OF EXHIBIT D)

Table 7. Rankings for combined quality of entries of the Uniform Eastern Soft Red Winter Wheat Nursery for 1976, 1975, 1974, 1973, and 1972.

Entry	Combined Quality Rankings				
	1976	1975	1974	1973	1972
Wis H671-100-1	1	1			
Wis X932-1	2	9	2-	7	3
Oh TN 1640	3	11	12		
Oh TN 1679	4				
Knox 62	5	6	5	2	7
Il 71-5662	6				
Il 70-4126	7	4	2-	8-	
Pur 6922A1-16	8				
Ruler	9	8	6	5-	11
Ar 38-1	10	7			
Mo 8998	11				
Beau	12	19			
Pur 68283A1-11	13				
Mo 8993	14				
Trumbull	15	23	19	21	30
Abe	16	18	14-	17-	17-
Oasis	17	20	7	8-	15
Il 71-5241	18	21-			
Mo 9033	19				
Doublecrop	20				
Mo 8656	21	21-			
Il 71-5246	22				

Note: - = 1/2.

(PART OF EXHIBIT D)

FROM THE SOFT WHEAT QUALITY LABORATORY REPORT
 DATED AUGUST, 1976 (1975 CROP).

Table 11. Varietal rankings for combined quality, by term: Eastern Soft Red Winter Wheat Nursery Series, 1975 crop, and combined quality rankings, 1974, 1975, 1972, and 1971 crops.

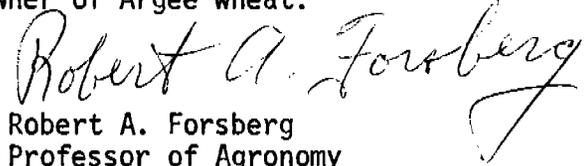
Lab. No.	Entry	Quality Ranking		Rank Sum	Combined Quality Rank				
		Milling	Baking		1975	1974	1973	1972	1971
75322	MG71-100-1	1	2	3					
323	Funk 1A22	4	1	5	1	1			
309	Ark 39-1	3	3	6	2				
317	111 70-4126	5	6	11	4	2-	8-		
318	111 70-2227	2	12	14	5				
302	Knox 62	7	8	15	6	5	2	7	7
308	Ark 38-1	6	13	19	7				
313	TN 1542	13	7	20	8	6	5-	11	9
321	X932-1	14	9	23	9	2-	7	3	
303	Arthur 71	8	16	24	11	8	10	22-	27
315	TN 1640	19	5	24	11	12			
320	W265	20	4	24	11	4	4	4-	1
314	TN 1584	10	15	25	13	11			
316	111 69-1751	11-	14	25-	14	18	16	13	
307	Arthur 6	15	11	26	15				
310	Mo W8072	17-	10	27-	16	10			
311	Mo W8780	9	19	28	17				
304	Abe	11-	18	29-	18	14-	17-	17-	21
306	Pur 6559B5-6	16	17	33	19				
305	Oasis	17-	23	40-	20	7	8-	15	19
312	Mo W8656	22	20	42	21-				
319	111 71-5241	21	21	42	21-				
301	Trumbull	23	22	45	23	19	21	30	28

Note: - = 1/2.

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

"This is to certify that I have been duly appointed as agent of the applicant. The applicant, the Wisconsin Agricultural Experiment Station, is the sole owner of Argee wheat."



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