

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Northrup, King and Company**

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 PERMITTED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'Kombar'

*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, DC this first day of June in the year of our Lord one thousand nine hundred and seventy-six*

*Attest:*

*S. J. Rollin*

Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service

*Earl L. Butz*  
Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION <b>Kombar</b>	2. KIND NAME <b>Barley</b>	FOR OFFICIAL USE ONLY	
		PV NUMBER <b>7500079</b>	
3. GENUS AND SPECIES NAME <b>Hordeum vulgare L.</b>	4. FAMILY NAME (Botanical) <b>Gramineae</b>	FILING DATE <b>4-14-75</b>	TIME <b>2</b> P.M.
		FEE RECEIVED \$ <b>250</b>	BALANCE DUE \$ <b>—</b>
	5. DATE OF DETERMINATION <b>June, 1973</b>	\$ <b>250</b>	\$ <b>—</b>
		\$ <b>250</b>	\$ <b>—</b>
6. NAME OF APPLICANT(S) <b>Northrup, King &amp; Co.</b>	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>1500 Jackson Street N.E. Minneapolis, Minnesota 55413</b>	8. TELEPHONE AREA CODE AND NUMBER <b>(612) 781-8011</b>	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) <b>Corporation</b>		10. STATE OF INCORPORATION <b>Minnesota</b>	11. DATE OF INCORPORATION <b>1896</b>

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

**Allenby L. White  
Northrup, King & Co.  
1500 Jackson Street N.E.  
Minneapolis, Minn. 55413**

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.

April 9, 1975  
(DATE)

Allenby L. White  
(SIGNATURE OF APPLICANT)

**1**

\_\_\_\_\_  
(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.

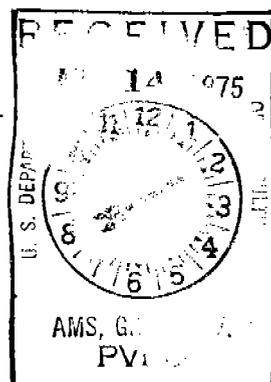


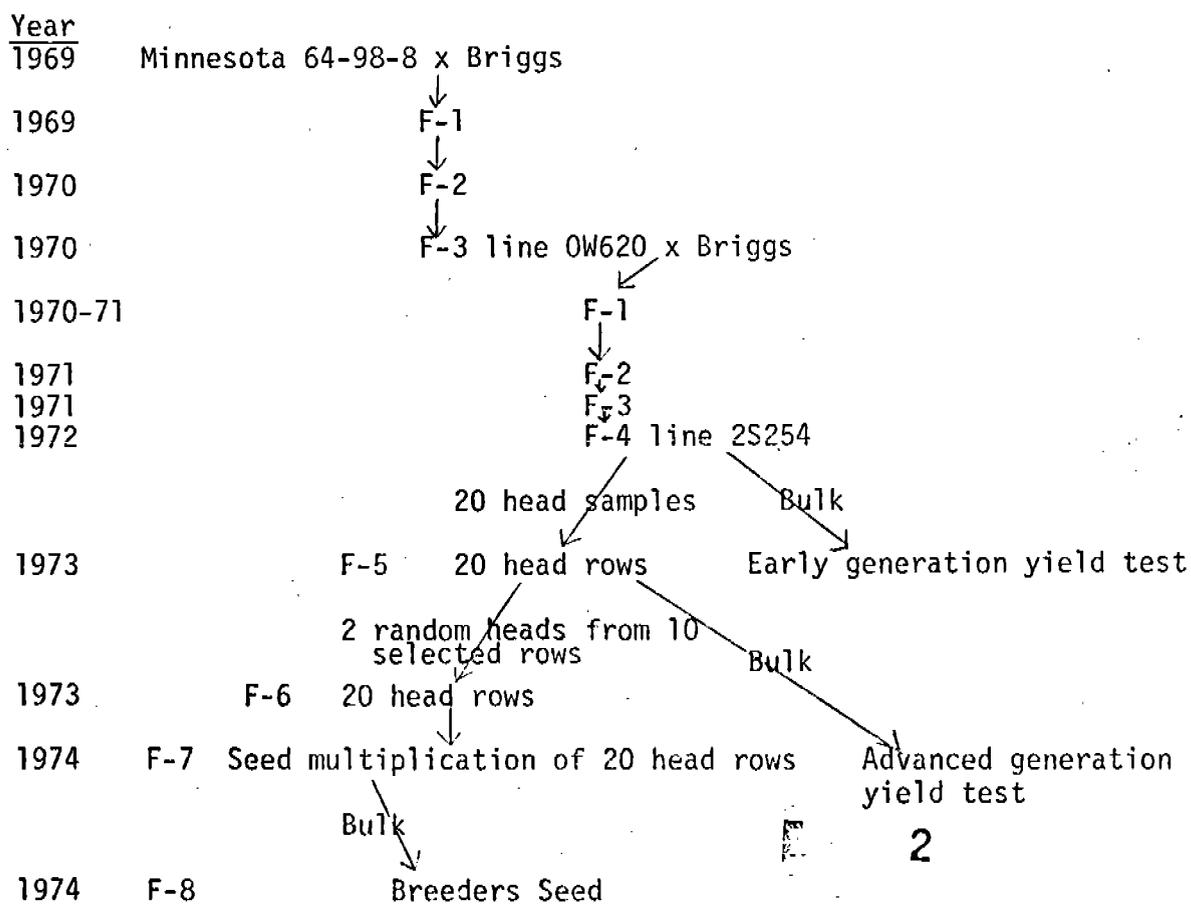
EXHIBIT A

Origin and Breeding History of 314\* Barley

314\* originated in Woodland, California from the cross of Minnesota selection 64-98-8 with the public variety Briggs. Pedigree, single plant selection was followed until the F-3 generation whereupon a backcross was again made to the variety Briggs. Subsequent to this, pedigree selection was again followed. Individual plant selections were made from the F<sub>2</sub> to the F<sub>4</sub> generations. Line 2S254 was bulked as an F<sub>4</sub> line. In addition to bulking, 20 heads were selected at random within this same line. Bulk F-5 seed was used in yield tests and individual F-5 head rows were advanced to maintain purity. Seed bulked from 10 of the most uniform head rows was used to carry on yield tests the following year. Additionally, two heads were selected at random from each of the 10 head rows to maintain the line integrity of this selection. These 20 individual lines have been advanced one additional generation and bulked to give breeders seed. The pedigree of selection 314 can be denoted as follows: Minnesota 64-98-8/2 Briggs. Breeders seed is of a uniform type and genetically in the F-8 generation.

No variants have been identified in 314.\*

Schematically, the parentage and generation advance for 314\*barley is presented below:



\* Now called Kombar.

EXHIBIT B

Botanical Description

The kernels of Kombar barley are from 9.0-10.5 m.m. long and from 3.0-3.5 m.m. wide. The 1,000 kernel weight is approximately 50 grams. The hull is slightly wrinkled and without any hairs on the ventral furrow. The aleurone is colorless.

Kombar is of spring growth habit exhibiting a juvenile semiprostrate type of growth. Plant color during early growth to boot stage is, using the Lewis Robert's PMS Color Matching System, PMS 364 (10 parts yellow; 6 parts process blue; and 2 parts black). Leaf sheaths, blades and auricles are glabrous with anthocyanin absent. The flag leaf is upright. A waxy bloom is present on the flag leaf sheath and peduncle. The stem is hollow with 5 nodes found above the node at ground level. The neck or peduncle curves downward at maturity.

The spike is 6 rowed and lax with the kernels overlapping at the tip. Long hairs are found on the rachis edges and the glumes. The lemma possesses long semismooth awns and long rachilla hairs. The glumes have rough awns which are longer than the glume length.

Kombar, being of spring growth habit, is well adapted to the high yield areas of California and Arizona. Kombar is a mid-season to late variety, with a maturity 3-7 days later than the variety Briggs. The heading date of Kombar is typically 5-8 days later than Briggs.

Kombar is approximately 5 cm. shorter than Briggs and possess a stiffer, stronger straw. Resistance to lodging is very good. Shatter resistance is equal to or greater than that exhibited by other Coast barleys.

Kombar is susceptible to the commonly occurring races of Rhynchosporium secalis and Pyrenophora teres in California. It is moderately tolerant to the barley yellow dwarf virus.

The measurement data presented in Exhibit C were determined, analyzing plants obtained from a November 1974 planting date in Woodland, California. A planting rate of 90 kg/ha was used, and the fields received adequate fertilizer under natural rainfall.

OBJECTIVE DESCRIPTION OF VARIETY  
BARLEY (*HORDEUM VULGARE*)

INSTRUCTIONS: See Reverse.  
NAME OF APPLICANT(S)

Northrup, King & Co.  
ADDRESS (Street and No. or R. F. D. No., City, State, and ZIP Code)  
1500 Jackson Street N.E.  
Minneapolis, Minnesota 55413

FOR OFFICIAL USE ONLY

PVPO NUMBER  
7500079  
VARIETY NAME OR TEMPORARY DESIGNATION  
Kombar

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

1. GROWTH HABIT:

1 = SPRING 2 = FACULTATIVE WINTER 3 = WINTER  Early Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

2. MATURITY (50% Flowering):

1 = EARLY (California Mariout) 2 = MIDSEASON (Betzes) 3 = LATE (Frontier)

No. of days Earlier than .....  } 1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON  
 No. of days Later than .....  } 5 = PIROLINE 6 = PRIMUS 7 = UNITAN

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

1 = SEMIDWARF 2 = SHORT (California Mariout) 3 = MEDIUM TALL (Betzes) 4 = TALL (Conquest)  
*1/22/76 ex (telephone communication)*

Cm. Shorter than .....  } 1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON  
  Cm. Taller than .....  } 5 = PIROLINE 6 = PRIMUS 7 = UNITAN 8 = BR166S  
*ex 1/20/76*

4. STEM:

Exertion (Flag to spike at maturity): 1 = 0 - 3 cm. 2 = 3 - 10 cm.  Anthocyanin: 1 = ABSENT 2 = PRESENT  
3 = 10 - 15 cm.

NO. OF NODES (Originating from node above ground)

Collar Shape: 1 = CLOSED 2 = V-SHAPED 3 = OPEN  Shape of Neck: 1 = STRAIGHT 2 = SNAKY  
4 = MODIFIED CLOSED OR OPEN 3 = OTHER (Specify) curves downward

5. LEAF:

Basal leaf sheath (seedling): 1 = GLABROUS 2 = PUBESCENT  Position of flag leaf (at boot stage): 1 = DROOPING  
 Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY   MM. WIDTH (First leaf below flag leaf) 2 = UPRIGHT  
3 = WAXY

CM. LENGTH (First leaf below flag leaf)  Anthocyanin in leaf sheath: 1 = ABSENT 2 = PRESENT

6. HEAD:

Type: 1 = TWO-ROWED 2 = SIX-ROWED  Density: 1 = LAX 2 = ERECT (Not dense)  
3 = ERECT (Dense)  
 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE  Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY  
4 = OTHER (Specify) 3 = WAXY

Lateral Kernels Overlap: 1 = NONE 2 = AT TIP  Rachis (Hair on edge): 1 = LACKING 2 = FEW 3 = COVERED  
3 = 1/4 - 1/2 OF HEAD

7. GLUME:

Length: 1 = 1/3 OF LEMMA 2 = 1/2 OF LEMMA  Hairs: 1 = NONE 2 = SHORT 3 = LONG  
3 = MORE THAN 1/2 OF LEMMA

Hair covering: 1 = NONE 2 = RESTRICTED TO MIDDLE 3 = CONFINED TO BAND 4 = COMPLETELY COVERED

Awns: 1 = LESS THAN EQUAL TO LENGTH OF GLUMES 2 = EQUAL TO LENGTH OF GLUMES  
3 = MORE THAN EQUAL TO LENGTH OF GLUMES

Awn Surface: 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

4

*Letter d'd 11/13/76*

EXHIBIT D

Data Indicative of Novelty

Kombar Barley is most similar to the variety Briggs. It differs from Briggs in that it flowers an average of 7 days later; is 5 cm. shorter; has stronger straw; is more resistant to lodging; has longer, more drooping heads, and has bright white kernels whereas those of Briggs are yellow.

1973-74 Barley Replicated Yield Trial Data - Pacific Division  
Top 10 Entries  
Trial I

Woodland, Calif.			Five Points, Calif.			Bakersfield, Calif.		
Entry	Yield (Kg/Ha)	% check	Entry	Yield (Kg/Ha)	% check	Entry	Yield (Kg/Ha)	% check
Briggs	3299	100	Cm67	3421	100	Cm67	4595	100
312	5040*	153	215	3933	116	214	6743*	147
214	4947*	150	312	3922	116	215	6613*	144
121	4935*	150	408	3878	114	314-L	6369*	139
215	4871*	148	409	3856	114	320	6297*	137
212	4783*	145	Numar	3844	114	502	6134*	133
323	4746*	144	414	3745	110	314**	5980*	130
314**	4691*	142	121	3691	109	314-M	5947*	129
408	4594*	139	415	3616	106	312	5844*	127
414	4520*	137	314**	3563	105	121	5835*	127
320	4501*	136	206	3486	102	221	5500	120
C.V. = 14% L.S.D. = 751			C.V. = 15% L.S.D. = 664			C.V. = 15% L.S.D. = 1058		
Comments: Briggs shattered badly due to extensive North winds just prior to harvest.			Comments: Excessive winter rain caused standing water. Late spring was dry giving moisture stress conditions.			Comments: High yield trial which showed potential of NK experimental barleys.		

\* Significant difference in yield.

Lodging Degree (1-5) 1 = no lodging

Briggs	2	Cm 67	4	5
314**	2	Numar	2	2
214	1	314**	1	1
		214	2	1

\*\* Now called Kombar.

8. LEMMA:

5 Awn: 1 = AWNLESS 2 = AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS  
 3 = SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 = SHORT (less than equal to length of spike)  
 5 = LONG (longer than spike) 6 = HOODED

3 Awn Surface: 1 = AWNLESS 2 = SMOOTH 3 = SEMISMOOTH 4 = ROUGH

2 Teeth: 1 = ABSENT 2 = FEW 3 = NUMEROUS  1 Hair: 1 = ABSENT 2 = PRESENT

1 Shape of base: 1 = DEPRESSION 2 = SLIGHT CREASE  2 Rachilla Hairs: 1 = SHORT 2 = LONG  
 3 = TRANSVERSE CREASE

9. STIGMA:

2 Hairs: 1 = FEW 2 = MANY

10. SEED:

2 Type: 1 = NAKED 2 = COVERED  1 Hairs on Ventral Furrow: 1 = ABSENT 2 = PRESENT

4 Length: 1 = SHORT (8.0 mm.) 2 = SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 = MIDLONG (8.5 - 9.5 mm.)  
 4 = MIDLONG TO LONG (9.0 - 10.5 mm.) 5 = LONG (10.0 mm.)

2 Wrinkle of hull: 1 = NAKED 2 = SLIGHTLY WRINKLED 3 = SEMIWRINKLED 4 = WRINKLED

1 Aleurone Color: 1 = COLORLESS (White or Yellow) 2 = BLUE

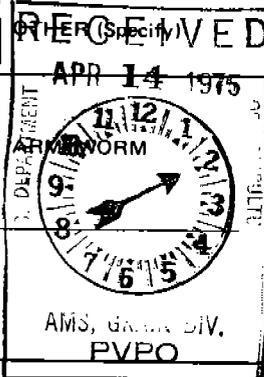
0  0 PERCENT ACHITIVE  5  0 GMS. PER 1000 SEEDS

11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = tolerant

<input type="checkbox"/> 0 SEPTORIA	<input type="checkbox"/> 0 NET BLOTCH	<input type="checkbox"/> 0 SPOT BLOTCH	<input type="checkbox"/> 0 POWDERY MILDEW
<input type="checkbox"/> 0 LOOSE SMUT	<input type="checkbox"/> 0 BACTERIAL BLIGHT	<input type="checkbox"/> 0 COVERED SMUT	<input type="checkbox"/> 0 FALSE LOOSE SMUT
<input type="checkbox"/> 0 STEM RUST	<input checked="" type="checkbox"/> 1 LEAF RUST	<input type="checkbox"/> 0 SCAB	<input type="checkbox"/> 1 SCALD
<input type="checkbox"/> 0 AY	<input type="checkbox"/> 0 BSMV	<input type="checkbox"/> 3 BYDV	<input type="checkbox"/> 0 OTHER (Specify)

12. INSECT: (0 = Not tested, 1 = Susceptible 2 = Resistant)

<input type="checkbox"/> 0 GREEN BUG	<input type="checkbox"/> 0 ENGLISH GRAIN APHID	<input type="checkbox"/> 0 CHINCH BUG	<input type="checkbox"/> 0
<input type="checkbox"/> 0 GRASS HOPPERS	<input type="checkbox"/> 0 CERIAL LEAF BETTLE	<input type="checkbox"/> 0 OTHER (Specify)	
HESSIAN FLY RACES	<input type="checkbox"/> 0 GP	<input type="checkbox"/> 0 A	<input type="checkbox"/> 0 B
	<input type="checkbox"/> 0 D	<input type="checkbox"/> 0 E	<input type="checkbox"/> 0 F
		<input type="checkbox"/> 0 C	<input type="checkbox"/> 0 G



13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

0 DDT  OTHER (Specify)

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Briggs	Seed size	CM67
Leaf size	Briggs	Coleoptile elongation	Briggs
Leaf color	Briggs	Seedling pigmentation	Briggs
Leaf carriage	Briggs		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

1. Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
2. Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
3. Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

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

1973-74 Barley Replicated Yield Trial Data - Pacific Division  
 Top 10 Entries  
 Trial I

Yuma, Arizona		
Entry	Yield (Kg/Ha)	% check
Arivat	4978	100
214	7826*	157
314**	7452*	150
320	6838*	137
303	6831*	137
209	6720*	135
105	6689*	134
311	6673*	134
211	6535*	131
117	6445*	129
108	6315*	127

C.V. = 16%  
 L.S.D. = 1275

Comments: High yield trial.  
 314\*production field (20 Ac.)  
 yielded identically to the  
 above small plot data.

∞ \* Significant difference in yield.

(1-9) Lodging Score

Arivat	9
Cm 67	9
314**	5
214	5

\*\* Now called Kombar.

Year 1973

Location - Woodland, Calif.

<u>Entry</u>	<u>Heading Date</u>	<u>Plant Height</u>	<u>Lodging Degree (1 = no lodging)</u>
314 **	4-23-73	75 cm.	1
Briggs	4-16-73	80 cm.	3

Location - Yuma, Arizona

314 **	4-01-73	98 cm.	3
Cm67	3-14-73	85 cm.	8

Year 1974

Location - Woodland, Calif.

<u>Entry</u>	<u>Heading Date</u>	<u>Plant Height</u>	<u>Lodging Degree (1 = no lodging)</u>
314 **	4-05-74	90 cm.	2
Briggs	3-31-74	95 cm.	3

Location - Bakersfield, Calif.

314 **	4-15-74	96 cm.	1
Briggs	4-07-74	104 cm.	4

Location - Yuma, Arizona

314 **	3-01-74	95 cm.	5
Briggs	2-23-74	87 cm.	9

\*\* Now called Kombar.

1974 University of Calif. Barley Rep. Trial Data

Entry	Yield (lbs/Ac)	Shatter	Yellow dwarf rating	Scald	Mildew	Lodging
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Location: West Side Field Station

Briggs	4736	0				100%
Numar	3719	1.25				100%
Cm67	3703	0				100%
Cal Mariout	3910	0				100%
Sutter						
UC Signal (Holt)						
UC 566						
Cm72						
<u>NK 314</u> **	6141	5				60%
C.V.	12.7%					
L.S.D.	904					

U.C. Davis

Briggs	2758		8.0	1.6	5.3	
Numar	3070		6.3	6.0	5.3	
Cm67	3515		2.3	4.0	5.0	
Cal Mariout						
Sutter						
UC Signal (Holt)	3284		6.7	3.7	4.7	
UC566	3487		2.7	6.7	6.0	
Cm72	3677		2.7	5.7	0	
<u>NK 314</u> **	3999		5.3	5.0	2.0	
C.V.	14.0%					
L.S.D.	858					

Sutter Co. (Meridian)

Briggs	2968	70	6.5	5.0	1.0	0
Numar	1586	80	4.2	8.0	4.2	1.5
Cm67	1568	80	1.2	4.0	2.8	1.8
Cal Mariout	1457	84	4.8	6.0	3.8	2.8
Sutter	1945	88	1.2	1.0	2.2	0
UC Signal (Holt)	1316	89	5.0	4.8	3.0	1.2
UC 566	1813	82	1.0	7.8	2.8	0
Cm72	1562	66	1.5	6.5	0	0
<u>NK 314</u> **	3379	55	4.2	4.0	4.2	2.7
C.V.	17.2%					
L.S.D.	653					

\*\* Now called Kombar.

EXHIBIT E

Statement of the Basis of Applicant's Ownership

Northrup, King & Co. is the sole and original breeder of Kombar Barley which was developed by the means outlined in Exhibit A, Origin and Breeding History of 314\* Barley.

\* Now called Kombar.