No. 9900146

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Grant H. Torrey Jr. for CHS, 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 MARKETING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PERMITTED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) MAY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF 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, COMMON*

*'Albion'*

*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 twenty-third day of March, in the year two thousand and five.*

*Attest:*

*Commissioner*
*Plant Variety Protection Office*
*Agricultural Marketing Service*

*Secretary of Agriculture*

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-005[illegible]

U.S. DEPARTMENT OF AGRI[illegible]URE
AGRICULTURAL MARKETING [illegible]VICE
SCIENCE AND TECHNOLOGY - PLANT VARIE[illegible] PROTECTION OFFICE

# APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

*(Instructions and information collection burden statement on reverse)*

*The following state[illegible]nts [illegible]de in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction A[illegible]PRA) of 1995.*

*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).*

1. NAME OF OWNER
~~Cenex Harvest States-Wheeler Branch~~
~~and~~ Grant H. Torrey, Jr. ~~for~~ CHS, Inc.
MAH 9/27/04

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME: 123-M

3. VARIETY NAME: Albion

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
3132 Road "O" N.E.
Moses Lake, WA. 98837

5. TELEPHONE *(include area code)*: 509-765-3898

6. FAX *(include area code)*:

FOR OFFICIAL USE ONLY

PVPO NUMBER: 9900146

FILING DATE: January 25, 1999

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*: Cooperative

8. IF INCORPORATED, GIVE STATE OF INCORPORATION:

9. DATE OF INCORPORATION:

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Grant H. Torrey, Jr.
c/o Cenex Harvest States-Wheeler Branch
3132 Road "O" N.E.
Moses Lake, WA. 98837

FEES RECEIVED

FILING AND EXAMINATION FEES: $ 2400.00 DATE 12/23/98

CERTIFICATION FEE: $ 432.00 DATE 9/27/2004

11. TELEPHONE *(Include area code)*: 509-765-3898

12. FAX *(Include area code)*: 509-765-8684 n

13. E_MAIL: wheeler@csmwheeler.com

14. CROP KIND *(Common Name)*: Wheat, Common

15. GENUS AND SPECIES NAME OF CROP: Triticum Aestivum

16. FAMILY NAME *(Botanical)*: Gramineae

17. IS THE VARIETY A FIRST GENERATION HYBRID? ☐ YES ☒ NO

18. 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 Variety
- d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
- e. ☒ Exhibit E. Statement of the Basis of the Owner'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 an approved public repository)*
- g. ☐ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☒ YES *(If "yes", answer items 20 and 21 below)* ☐ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☒ YES ☐ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners 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 owner(s) is(are) the owner 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 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

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

| SIGNATURE OF OWNER | | SIGNATURE OF OWNER | |
|---|---|---|---|
| NAME *(Please print or type)*: Grant H. Torrey, Jr. | | NAME *(Please print or type)* | |
| CAPACITY OR TITLE: Seed Plant Manager | DATE: July 13, 2000 | CAPACITY OR TITLE | DATE |

# INSTRUCTIONS

9900146

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) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, 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 an approved public repository; (4) check drawn on a U.S. bank for $2,4 ($300 filing fee and $2,150 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Vari Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, 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 amo of $300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.


Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvp.htm


ITEM

18a. 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

18b. 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 th 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; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. 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.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. 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 labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

U.S.A. sales of Albion in September of 1998.

3. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the ariety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

OTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's epresentative 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 ssignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 7.175(h) of the Regulations and Rules of Practice.)*

o avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, uilding 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 aintaining 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 ducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your ter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.*

*The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status (Not all ohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of ommunications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is equal opportunity employer.*



T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a Replaces STD-470 (03-96) which is obsolete.


2

**Item 16a.**

Albion soft White winter wheat (formally experimental designation 123-M) is a selection from a conventional back-cross of the variety Basin, used as the female, and the variety Stephens, used as the male. The resulting F/1 plant that occurred (Basin height with the waxy, blue green color of Stephens) was used as the female. The pollen from the Pacific Northwest varieties Lewjain, Hill-81, Cashup, Daws and Stephens were introduced into the unique plant on individual heads.

These individual heads were planted separately to produce the F/1 generation. These individual seeds harvested were then again planted into rows to produce the F/2's. This production produced segregation.

The selections were space planted into a research nursery. The selection of 123-M was based on height and the absence of Leaf (Puccinia recondita) and Stripe (Puccinia striiformis) rust that were present on other plants in the plot of 123. These selected plants were space planted to produce the F/3 generation in 1989.

Plants were then selected from the F/4 for bulking purposes and to establish yield and agronomic characteristics.

The resulting F/5 generation segregated and heads from uniform plants were selected to head-row and establish uniformity.

The F/6 generation threw a 6-12" taller plant that headed earlier and not consistent with the majority of the plants. Heads were selected from uniform plants to head-row.

These head-rows were somewhat more stable, but the tall, earlier heading plants were occurring in the F/7 generation at the frequency of 1,600 to 3,200 plants per acre. Selection of heads from uniform plants for head-rowing was done again to produce the F/8 generation. The tall, earlier variant frequency was reduced to 420-800 plants per acre.

The F/9 production was rouged for the tall variant and harvested as the variety 123-M. This seed was bulked and planted in an isolated production field and in research nursery plots in 1996.

The resulting F/10 generation was bulked and sown in a 2.5 acre seed production field and entered into the 1996-97 Washington State Uniform Variety Trials. This seed production field was inspected by the Washington Crop Improvement Association and harvested as Foundation 123-M. 1997 was when the stability and uniformity was established in the variety "Albion". Heads were harvested from this production and supplied to the Foundation Seed Service to produce Breeder's seed for 1998. From this and successive production no variants were observed.

Albion is the selected name for the experimental line 123-M. This name was selected in June 1998 for a small town bearing that name located in the Palouse region of Washington State.

Through the purification process described, Albion has been a stable and uniform variety in its agronomic appearance and performance across the Soft White Winter wheat production areas of the Pacific Northwest since 1997.

Albion is best adapted to the lower (12") to higher (28") rainfall Soft White Winter wheat production areas of the Pacific Northwest.

CHS-Wheeler (formally Cenex Harvest States-Wheeler Branch) and Grant H. Torrey, Jr. will maintain breeder seed and the certified classes shall be: Foundation, Registered and Certified. The "Certified Option" will not be selected.

990014

**Item 16b.**

Albion is a semi-dwarf, white chaffed, common soft white Winter wheat that seed is ovate, rounded and medium in length. The germ is mid-sized and not collared, the brush is medium in length, and the crease is narrow and the depth shallow. 'Albion' is most Similar to 'Daws'.

MAH
8-16-2004

Albion seed most closely resembles the seed of the variety Daws. Albion's germ is oblong versus Daws is large oblong. Albion's has many kernels off center and are white/chalky in color where as Daw's has symmetrical kernel shape with many vitreous kernels. Albion is medium to heavy brush versus Daw's heavy brush.
This description was obtained from Scott J. Cooley, USDA, GIPSA, FGIS, Quality Assurance Specialist for the Washington Federal/State Office. The comparisons was done from seed that was raised on similar production, obtained from the WSCIA Foundation Seed Service

Glumes are white with the shoulder and beak apiculate in shape, medium in length and width. When mature, the heads are hard to distinguish between Albion and Daws as the tapering shape and awn length are very similar.

Albion peduncle length is 16.4 cm, leaf width is 10.3 mm, 1st node @ 18 cm, 2nd node @ 35cm, 3rd node @ 35 cm and the flag leaf length is 17.4 cm. Compared to Daws peduncle length is 17.3 cm, leaf width is 10.3 mm, 1st node @ 10.2 cm, 2nd node @ 23 cm, 3rd node @ 48.5 cm and the flag leaf length is 18.1 cm. Albion is 22 cm shorter than Daws in all productions areas. The measurements represent the primary stalk of each individual plants from the Moses Lake, WA irrigated nurseries.

Albion is similar to Daws in their disease resistance to Cephalosporium Stripe (Cephalosporium gramineum), Dwarf Bunt (T. controversa) and Stripe Rust (Puccinia striiformis). Albion is susceptible to Powdery Mildew (Erysiphe graminis f. sp. Tririci) and where as Daws is resistant.

Albion yields are 12.8% superior with the test weight being 1 pound per bushel less than Daws. Albion is a winter-hardy variety which is similar to Daws (9 out of 10). The emergence of Albion is early to moderate whereas Daws is slow.

Albion is an early maturing, easy threshing, high yielding Soft White winter wheat that is very winter-hardy and best adapted to the production areas of the Pacific Northwest. Albion has acceptable milling and baking qualities.

Form approved - OMB No.0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(*Wheat*)

# OBJECTIVE DESCRIPTION OF VARIETY
## WHEAT (*Triticum* spp.)

**NAME OF APPLICANT(S)**

Cenex Harvest States-Wheeler Branch & Grant H. Torrey, Jr.

**ADDRESS** (*Street and No. or R.F.D. No., City, State, and Zip Code*)

3132 Road "O" N.E.
Moses Lake, Wa. 98837

**FOR OFFICIAL USE ONLY**

**PVPO NUMBER** 9900146

**VARIETY NAME**

Albion

**TEMPORARY OR EXPERIMENTAL DESIGNATION**

123-M

**PLEASE READ ALL INSTRUCTIONS CAREFULLY:** Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. [ ][ ] or [ ] ) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: R.H.S.

**Please answer all questions for your variety; lack of response may delay progress of your application.**

**1. KIND:**

[1] 1=Common 2=Durum 3=Club 4=Other (SPECIFY) _____

**2. VERNALIZATION:**

[2] 1=Spring 2=Winter 3=Other (SPECIFY) _____

**3. COLEOPTILE ANTHOCYANIN:**

[1] 1=Absent 2=Present

**4. JUVENILE PLANT GROWTH:**

[2] 1=Prostrate 2=Semi-erect 3=Erect

**5. PLANT COLOR (boot stage):**

[2] 1 = Yellow-Green 2 = Green 3 = Blue-Green

**6. FLAG LEAF (boot stage):**

[2] 1 = Erect 2 = Recurved [1] 1 = Not Twisted 2 = Twisted

**7. EAR EMERGENCE:**

[0][1] Number of Days Earlier Than Madsen *

[0][3] Number of Days Later Than Stephens *

**8. ANTHER COLOR:**

[1] 1 = YELLOW 2 = PURPLE

**9. PLANT HEIGHT (from soil to top of head, excluding awns):**

[0][5] cm Taller Than Stephens *

[0][2] cm Shorter Than Madsen *

* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

6

A. ANTHOCYANIN

[1] 1= Absent 2=Present

B. WAXY BLOOM

[2] 1=Absent 2=Present

C. HAIRINESS (last internode of rachis)

[1] 1=Absent 2=Present

9900146

D. INTERNODE (SPECIFY NUMBER) 3

[1] 1=Hollow 2=Semi-solid 3=Solid

E. PEDUNCLE

[2] 1=Absent 2=Present

[16] cm Length

HEAD (at Maturity):

A. DENSITY

[2] 1=Lax 2=Middense 3= Dense

B. SHAPE

[1] 1 = Tapering 2= Strap 3 = Clavate 4 = Other (SPECIFY)

C. CURVATURE

[2] 1 = Erect 2 = Inclined 3 = Recurved

D. AWNEDNESS

[4] 1 = Awnless 2 = Apically Awnletted 3 = Awnletted 4 = Awned

GLUMES (at Maturity):

A. COLOR

[1] 1 = White 2 = Tan 3 = Other (SPECIFY)

B. SHOULDER

[6] 1 = Wanting 2 = Oblique 3 = Rounded 4 = Square 5 = Elevated 6 = Apiculate

C. BEAK

[3] 1 = Obtuse 2 = Acute 3 =Acuminate

D. LENGTH

[2] 1 = Short (ca. 7mm) 2 = Medium (ca. 8mm) 3 = Long (ca. 9mm)

E. WIDTH

[2] 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm) 3 = Wide (ca. 4mm)

SEED:

A. SHAPE

[1] 1 = Ovate 2 = Oval 3 = Elliptical

B. CHEEK

[1] 1=Rounded 2=Angular

C. BRUSH

[2] 1=Short 2=Medium 3=Long

[1] 1 = Not Collared 2 = Collared

D. CREASE

1 [~~3~~] 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

[1] 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

MAH 3-12-2004

7

SEED: (continued)

E. COLOR

[1] 1 = White 2 = Amber 3 = Red 4 = Other (SPECIFY) _____

9900146

F. TEXTURE

[2] 1=Hard 2=Soft

G. PHENOL REACTION *(see instructions)*:

[0] 1 = Ivory 2 = Fawn 3 = Light Brown 4 = Dark Brown 5 = Black

14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

Stem Rust *(Puccinia graminis* f. sp. *tritici)*
[4] _____

Stripe Rust *(Puccinia striiformis)*
[3] _____

Tan Spot *(Pyrenophora tritici-repentis)*
[0] _____

Halo Spot *(Selenophoma donacis)*
[0] _____

*Septoria nodorum* (Glume Blotch)
[0] _____

*Septoria avenae* (Speckled Leaf Disease)
[0] _____

*Septoria tritici* (Speckled Leaf Blotch)
[0] _____

Scab (*Fusarium* spp.)
[0] _____

"Black Point" (Kernel Smudge)
[0] _____

Barley Yellow Dwarf Virus (BYDV)
[0] _____

Soilborne Mosaic Virus (SBMV)
[0] _____

Wheat Yellow (Spindle Streak) Mosaic Virus
[0] _____

Wheat Streak Mosaic Virus (WSMV)
[0] _____

Other (SPECIFY) Cephalosporium Stripe
[2] (Cephalosporium gramineum)

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

Leaf Rust *(Puccinia recondita* f. sp. *tritici)*
[3] _____

Loose Smut *(Ustilago tritici)*
[0] _____

Flag Smut *(Urocystis agropyri)*
[0] _____

Common Bunt *(Tilletia tritici* or *T. laevis)*
[0] _____

Dwarf Bunt *(Tilletia controversa)*
[0] _____

Karnal Bunt *(Tilletia indica)*
[0] _____

Powdery Mildew *(Erysiphe graminis* f. sp. *tritici)*
[1] _____

"Snow Molds"
[0] _____

Common Root Rot *(Fusarium, Cochliobolus* and *Bipolaris* spp.)
[0] _____

Rhizoctonia Root Rot *(Rhizoctonia solani)*
[0] _____

Black Chaff *(Xanthomonas campestris* pv. *translucens)*
[0] _____

Bacterial Leaf Blight *(Pseudomonas syringae* pv. *syringae)*
[0] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

9900146

INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

Hessian Fly *(Mayetiola destructor)*
[0] _____

Other (SPECIFY) _____
[ ] _____

Stem Sawfly *(Cephus* spp.)
[0] _____

Other (SPECIFY) _____
[ ] _____

Cereal Leaf Beetle *(Oulema melanopa)*
[0] _____

Other (SPECIFY) _____
[ ] _____

Russian Aphid *(Diuraphis noxia)*
[0] _____

Other (SPECIFY) _____
[ ] _____

Greenbug *(Schizaphis graminum)*
[0] _____

Other (SPECIFY) _____
[ ] _____

Aphids
[0] _____

Other (SPECIFY) _____
[ ] _____

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

**16d.**

The following trail results were performed by Washington State University-Department of Crop and Soil Sciences. These trails were performed by an unbiased entity that tests material for the education and benefit of grower/farmers in the Pacific Northwest.

Each trail location (off-station) nursery is planted near or around the locality it portrays as a testing site. These trials are sown and harvested in a randomized-block design. Each variety is sown by seed count. Each plot is trimmed to 64 sq. feet. Each entry is randomized four (4) times through each trial location.

Analysis of the data is completed by the use of the General Linear Model Procedure.. The measure of the standard deviation is at 90% confidence level for each site as well as the protein and the test weight on the WSU summaries.

The individual trails included add more data as far as lodging and Cephlasporium Stripe are reported as casual observations by the staff. The plant heights recorded are the average height of the four (4) replicated entries in each location.

We used this source for true and unbiased reporting of Albion's yield, test and bushel weights in comparison with the prevalent varieties used in the Pacific Northwest.

# 1999 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

September 24, 1999

## TEST WEIGHT (LB/BU)

| VARIETY NAME | RITZVILLE | COULEE CITY | BICKLETON | ASOTIN | FAIRFIELD | MAYVIEW | POMEROY | LIND DRY | DUSTY | FARMINGTON | REARDAN | CRESTON | ST. JOHN | WALLA WALLA | LAMONT | DAYTON | PULLMAN | VARIETY MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | | | |
| ALBION | 60.4 | 60.7 | 59.7 | 56.9 | 57.6 | 56.0 | 59.4 | 60.2 | 60.4 | 56.5 | 58.2 | 61.3 | 58.9 | 60.1 | 59.4 | 58.0 | 57.8 | 58.9 |
| BU6W93-477 | 58.2 | 59.7 | 59.6 | 58.3 | 58.9 | 57.7 | 61.4 | 61.6 | 61.8 | 55.1 | 56.0 | 61.8 | 59.8 | 62.6 | 60.8 | 59.9 | 58.9 | 59.6 |
| BU6W93-481 | 58.5 | 59.6 | 58.7 | 58.4 | 59.8 | 58.4 | 61.3 | 61.8 | 60.9 | 54.5 | 55.5 | 62.1 | 59.2 | 61.9 | 61.3 | 60.1 | 59.1 | 59.5 |
| CASHUP | 62.4 | 62.3 | 61.4 | 58.2 | 60.0 | 58.7 | 62.1 | 62.0 | 62.9 | 57.1 | 61.0 | 62.5 | 61.3 | 62.2 | 61.4 | 59.3 | 58.7 | 60.7 |
| ELTAN | 62.2 | 62.3 | 60.5 | 58.8 | 59.6 | 58.1 | 59.9 | 61.6 | 62.3 | 58.0 | 59.3 | 61.4 | 60.4 | 60.2 | 59.3 | 59.0 | 58.9 | 60.1 |
| ELTAN-MADSEN | 61.0 | 62.5 | 59.0 | 57.9 | 59.0 | 57.6 | 60.8 | 61.4 | 62.0 | 56.1 | 59.2 | 61.7 | 59.9 | 61.0 | 60.8 | 59.4 | 58.5 | 59.9 |
| HILL 81 | 59.5 | 62.1 | 60.3 | 58.3 | 59.6 | 58.6 | 61.5 | 60.9 | 61.8 | 56.5 | 57.5 | 62.3 | 60.5 | 61.4 | 60.8 | 60.0 | 58.6 | 59.9 |
| ID 10085-5 | 58.8 | 60.1 | 58.8 | 57.1 | 58.7 | 57.3 | 60.4 | 61.0 | 60.9 | 54.8 | 55.3 | 61.3 | 60.2 | 61.5 | 60.5 | 58.8 | 57.9 | 59.0 |
| ID10420A | 60.4 | 62.4 | 60.6 | 57.6 | 59.7 | 58.4 | 61.9 | 61.1 | 62.3 | 57.4 | 57.4 | 61.8 | 60.4 | 61.5 | 60.3 | 59.3 | 58.3 | 60.0 |
| LAMBERT | 60.1 | 59.6 | 60.0 | 57.4 | 58.7 | 57.1 | 60.5 | 60.9 | 60.6 | 56.0 | 57.0 | 60.6 | 60.0 | 61.3 | 60.0 | 58.9 | 58.3 | 59.2 |
| LEWJAIN | 61.7 | 62.8 | 62.5 | 59.3 | 59.4 | 59.1 | 61.5 | 62.3 | 62.3 | 57.8 | 59.0 | 62.6 | 59.7 | 61.0 | 61.0 | 58.2 | 59.5 | 60.5 |
| MACVICAR | 58.3 | 59.5 | 59.1 | 57.1 | 59.5 | 57.1 | 61.5 | 60.9 | 61.8 | 55.0 | 55.4 | 61.8 | 60.0 | 61.4 | 60.3 | 58.8 | 58.6 | 59.2 |
| MADSEN | 58.0 | 60.6 | 59.9 | 57.9 | 58.7 | 58.1 | 61.2 | 60.7 | 62.0 | 55.2 | 55.7 | 62.0 | 60.0 | 60.8 | 60.0 | 59.9 | 58.5 | 59.3 |
| MADSEN .75X#/A | 58.8 | 61.0 | 60.2 | 58.4 | 58.4 | 58.4 | 61.2 | 60.3 | 61.3 | 54.6 | 55.5 | 62.2 | 59.3 | 60.1 | 60.3 | 60.2 | 58.3 | 59.3 |
| MADSEN 1.5X#/A | 58.9 | 61.0 | 60.1 | 57.9 | 58.7 | 58.2 | 61.1 | 60.4 | 61.4 | 54.3 | 56.4 | 61.8 | 60.1 | 60.6 | 60.1 | 59.8 | 58.3 | 59.3 |
| MADSEN-ROD | 59.5 | 61.1 | 59.7 | 57.1 | 58.4 | 57.9 | 60.7 | 60.1 | 61.0 | 54.5 | 57.0 | 61.8 | 59.4 | 60.7 | 59.7 | 59.3 | 58.0 | 59.1 |
| MADSEN-STEPHENS | 58.2 | 59.8 | 59.9 | 57.1 | 58.5 | 57.6 | 61.0 | 61.3 | 61.0 | 55.0 | 56.9 | 61.7 | 59.2 | 60.3 | 60.3 | 59.1 | 58.0 | 59.1 |
| MJ-4 | 56.8 | 58.7 | 58.2 | 57.9 | 57.7 | 58.3 | 59.9 | 60.5 | 59.7 | 55.1 | 54.5 | 60.6 | 59.5 | 58.6 | 59.3 | 58.9 | 58.8 | 58.4 |
| OR939528 | 57.9 | 60.2 | 58.6 | 56.5 | 57.5 | 56.5 | 60.6 | 60.0 | 61.0 | 54.4 | 55.1 | 61.9 | 57.6 | 60.4 | 59.6 | 58.9 | 57.5 | 58.4 |
| Q. HYBRID 7817 | 57.7 | 60.9 | 58.7 | 57.1 | 58.1 | 56.2 | 60.3 | 60.4 | 60.8 | 53.5 | 55.9 | 60.1 | 57.8 | 61.1 | 59.1 | 57.9 | 58.0 | 58.4 |
| Q. HYBRID 95021 | 56.3 | 58.9 | 57.8 | 57.5 | 56.4 | 57.0 | 60.5 | 60.5 | 60.3 | 54.0 | 55.2 | 60.0 | 57.9 | 60.8 | 60.0 | 58.3 | 57.0 | 58.1 |
| ROD | 59.7 | 61.3 | 59.8 | 56.8 | 57.7 | 57.7 | 60.4 | 60.1 | 60.8 | 53.3 | 57.4 | 61.3 | 58.9 | 59.4 | 58.9 | 57.7 | 58.2 | 58.8 |
| STEPHENS | 56.9 | 60.6 | 58.1 | 56.4 | 58.5 | 57.6 | 59.5 | 61.5 | 60.0 | 52.8 | 54.6 | 61.5 | 60.1 | 60.9 | 59.9 | 58.6 | 57.1 | 58.4 |
| WA7813 | 61.9 | 62.8 | 61.7 | 57.8 | 59.9 | 58.3 | 62.1 | 62.4 | 63.0 | 57.5 | 58.9 | 62.6 | 61.7 | 61.9 | 60.7 | 59.5 | 59.0 | 60.7 |
| WA7832 | 58.0 | 60.7 | 59.1 | 57.8 | 59.0 | 57.7 | 60.7 | 60.6 | 60.7 | 55.2 | 57.9 | 61.7 | 61.4 | 61.1 | 60.0 | 60.0 | 59.2 | 59.5 |
| WA7853 | 60.5 | 62.7 | 61.9 | 59.9 | 58.8 | 58.4 | 62.3 | 63.0 | 62.7 | 57.6 | 58.8 | 63.3 | 60.4 | 61.4 | 61.4 | 60.6 | 59.9 | 60.8 |
| WA7870 | 61.2 | 61.9 | 61.3 | 58.0 | 59.6 | 58.2 | 62.0 | 62.0 | 62.2 | 57.0 | 58.1 | 62.6 | 60.4 | 60.8 | 59.6 | 59.0 | 59.6 | 60.2 |
| WEATHERFORD | 58.0 | 60.5 | 59.0 | 57.1 | 58.6 | 57.5 | 60.7 | 60.8 | 61.0 | 55.0 | 55.8 | 62.1 | 59.4 | 60.6 | 60.2 | 59.6 | 58.8 | 59.1 |
| WESTBRED 470 | 62.8 | 63.6 | 63.1 | 60.2 | 60.8 | 61.1 | 63.3 | 63.4 | 64.1 | 59.1 | 61.5 | 64.4 | 63.3 | 63.8 | 62.2 | 61.8 | 60.6 | 62.2 |
| Soft White Club | | | | | | | | | | | | | | | | | | |
| CODA | 60.6 | 62.7 | 61.3 | 58.4 | 61.2 | 59.4 | 62.8 | 61.6 | 62.8 | 58.1 | 59.7 | 63.1 | 61.3 | 61.4 | 61.7 | 60.3 | 59.7 | 60.9 |
| HILLER | 58.3 | 59.9 | 56.4 | 58.0 | 58.8 | 57.9 | 59.9 | 61.2 | 60.6 | 54.8 | 56.2 | 58.7 | 58.9 | 59.8 | 60.0 | 58.2 | 57.1 | 58.5 |
| RELY | 59.6 | 62.0 | 59.2 | 57.6 | 60.0 | 58.4 | 61.0 | 61.7 | 62.1 | 56.8 | 58.1 | 61.0 | 60.2 | 61.2 | 61.1 | 60.0 | 58.4 | 59.9 |
| ROHDE | 61.7 | 62.1 | 61.2 | 58.8 | 59.7 | 59.7 | 61.7 | 63.4 | 63.4 | 58.4 | 59.3 | 62.3 | 61.4 | 62.3 | 61.7 | 60.3 | 58.9 | 61.0 |
| TEMPLE | 59.3 | 61.2 | 59.7 | 58.2 | 60.0 | 59.8 | 60.7 | 61.8 | 62.1 | 56.1 | 59.1 | 61.8 | 61.7 | 62.3 | 61.6 | 60.5 | 58.8 | 60.2 |
| Hard Red Common | | | | | | | | | | | | | | | | | | |
| ESTICA | 55.8 | 58.3 | 57.6 | 53.5 | 54.1 | 54.3 | 59.5 | 58.2 | 59.0 | 50.4 | 52.7 | 59.8 | 57.8 | 59.2 | 57.3 | 57.0 | 54.5 | 56.3 |
| NURSERY MEAN | 59.4 | 61.0 | 59.8 | 57.8 | 58.9 | 58.0 | 61.0 | 61.2 | 61.5 | 55.7 | 57.2 | 61.7 | 60.0 | 61.0 | 60.3 | 59.3 | 58.4 | 59.5 |
| LSD @ .10 | 0.9 | 1.1 | 0.9 | 0.6 | 0.5 | 0.5 | 1.2 | 0.7 | 0.4 | 1.3 | 1.0 | 0.7 | 0.9 | 1.0 | 0.6 | 0.6 | 0.6 | 0.2 |
| CV % | 1.2 | 1.3 | 1.3 | 0.8 | 0.8 | 0.8 | 1.5 | 1.0 | 0.6 | 2.0 | 1.5 | 0.9 | 1.3 | 1.1 | 0.8 | 0.8 | 0.8 | 1.1 |

9900146

12

# 1999 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

September 24, 1999

## YIELD (BU/A)

| VARIETY NAME | RITZVILLE | COULEE CITY | BICKLETON | ASOTIN | FAIRFIELD | MAYVIEW | POMEROY | LIND DRY | DUSTY | FARMINGTON | REARDAN | CRESTON | ST. JOHN | WALLA WALLA | LAMONT | DAYTON | PULLMAN | VARIETY MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | | | |
| ALBION | 59.5 | 53.0 | 58.4 | 58.8 | 59.5 | 65.5 | 72.8 | 84.2 | 86.7 | 75.3 | 100.6 | 110.2 | 128.4 | 109.5 | 114.8 | 120.3 | 138.1 | 88.1 |
| BU6W93-477 | 27.0 | 39.3 | 53.2 | 76.4 | 77.9 | 56.8 | 69.6 | 66.9 | 77.2 | 71.1 | 67.9 | 103.2 | 107.5 | 135.7 | 121.8 | 130.7 | 136.9 | 83.4 |
| BU6W93-481 | 20.8 | 28.4 | 35.5 | 62.1 | 56.8 | 45.4 | 65.2 | 66.6 | 65.5 | 50.8 | 26.5 | 76.4 | 81.2 | 106.5 | 101.9 | 129.9 | 133.2 | 67.8 |
| CASHUP | 50.3 | 58.0 | 45.0 | 73.2 | 74.7 | 77.1 | 74.0 | 74.8 | 81.9 | 89.6 | 112.6 | 95.0 | 141.8 | 111.1 | 115.0 | 143.6 | 147.3 | 92.6 |
| ELTAN | 62.5 | 70.7 | 65.6 | 76.7 | 79.7 | 88.4 | 79.1 | 84.5 | 84.0 | 97.8 | 120.3 | 117.9 | 130.1 | 111.4 | 108.5 | 120.3 | 126.4 | 95.7 |
| ELTAN-MADSEN | 53.8 | 63.0 | 59.1 | 74.8 | 78.1 | 77.2 | 76.1 | 74.2 | 85.5 | 90.8 | 99.2 | 108.4 | 133.3 | 112.9 | 124.6 | 129.8 | 121.3 | 92.3 |
| HILL 81 | 38.7 | 52.8 | 44.3 | 64.9 | 78.1 | 68.9 | 70.7 | 59.0 | 74.8 | 86.2 | 78.0 | 100.0 | 127.1 | 104.6 | 125.2 | 116.3 | 137.4 | 84.0 |
| ID 10085-5 | 21.2 | 41.6 | 40.5 | 57.6 | 55.7 | 59.0 | 53.1 | 56.9 | 64.4 | 50.0 | 54.0 | 96.1 | 104.7 | 92.0 | 106.0 | 102.5 | 119.2 | 69.4 |
| ID10420A | 40.0 | 49.9 | 52.8 | 66.7 | 75.3 | 77.7 | 49.8 | 67.3 | 74.1 | 76.6 | 77.9 | 103.3 | 119.3 | 133.8 | 144.6 | 117.0 | 128.1 | 85.2 |
| LAMBERT | 43.1 | 48.0 | 55.2 | 68.6 | 54.1 | 69.6 | 66.5 | 58.5 | 73.8 | 72.0 | 92.2 | 107.8 | 122.2 | 119.2 | 123.3 | 112.0 | 115.2 | 82.6 |
| LEWJAIN | 51.5 | 57.1 | 42.6 | 53.1 | 63.2 | 61.1 | 75.5 | 77.5 | 70.0 | 77.6 | 97.9 | 101.3 | 100.0 | 108.8 | 121.1 | 96.4 | 130.5 | 81.6 |
| MACVICAR | 30.3 | 37.5 | 35.1 | 66.4 | 71.5 | 59.9 | 70.3 | 68.5 | 79.2 | 53.5 | 61.3 | 105.1 | 107.0 | 98.3 | 125.1 | 106.4 | 127.4 | 76.9 |
| MADSEN | 33.0 | 47.8 | 59.6 | 63.0 | 80.3 | 71.5 | 84.1 | 71.5 | 77.1 | 91.0 | 66.7 | 103.4 | 129.0 | 112.1 | 133.3 | 127.0 | 140.9 | 87.6 |
| MADSEN .75X#/A | 35.9 | 51.9 | 48.2 | 62.3 | 73.6 | 67.2 | 76.2 | 70.7 | 65.8 | 80.9 | 70.5 | 103.1 | 107.1 | 138.1 | 112.4 | 128.4 | 116.6 | 81.7 |
| MADSEN 1.5X#/A | 44.0 | 46.8 | 57.8 | 75.3 | 83.8 | 71.0 | 69.3 | 65.7 | 72.2 | 92.5 | 73.4 | 101.0 | 136.6 | 130.7 | 131.8 | 135.4 | 130.2 | 89.3 |
| MADSEN-ROD | 51.0 | 51.6 | 60.5 | 75.9 | 72.9 | 82.2 | 72.5 | 74.8 | 79.9 | 82.3 | 90.7 | 107.5 | 112.4 | 122.6 | 128.1 | 130.8 | 111.8 | 88.7 |
| MADSEN-STEPHENS | 34.9 | 39.3 | 50.7 | 70.7 | 77.0 | 53.4 | 68.4 | 68.1 | 76.7 | 77.5 | 62.3 | 93.4 | 109.9 | 120.3 | 111.1 | 127.4 | 134.4 | 81.7 |
| MJ-4 | 45.2 | 45.9 | 47.5 | 77.0 | 69.1 | 78.6 | 69.8 | 87.6 | 66.9 | 84.0 | 77.7 | 100.4 | 125.9 | 111.9 | 120.5 | 140.5 | 137.6 | 87.7 |
| OR939528 | 28.8 | 35.7 | 43.6 | 63.6 | 65.1 | 53.0 | 78.5 | 62.8 | 70.6 | 65.5 | 53.1 | 100.5 | 85.7 | 113.1 | 108.4 | 118.5 | 124.2 | 74.7 |
| Q. HYBRID 7817 | 44.6 | 52.2 | 54.9 | 71.6 | 71.7 | 62.6 | 56.0 | 74.7 | 76.9 | 76.9 | 88.8 | 97.6 | 117.5 | 137.4 | 121.4 | 115.1 | 144.8 | 85.9 |
| Q. HYBRID 95021 | 21.0 | 33.0 | 20.4 | 53.2 | 24.8 | 30.9 | 66.5 | 50.8 | 50.9 | 53.6 | 40.2 | 52.3 | 74.6 | 128.9 | 85.8 | 108.8 | 127.6 | 59.3 |
| ROD | 56.9 | 55.9 | 67.0 | 76.8 | 72.5 | 78.5 | 86.2 | 89.0 | 85.4 | 78.8 | 106.0 | 108.0 | 139.2 | 125.2 | 137.1 | 127.2 | 152.7 | 96.8 |
| STEPHENS | 27.8 | 39.2 | 43.9 | 57.1 | 58.1 | 55.6 | 75.4 | 65.5 | 67.3 | 51.3 | 48.7 | 91.4 | 109.4 | 105.5 | 113.8 | 110.8 | 115.0 | 72.2 |
| WA7813 | 41.3 | 49.8 | 49.9 | 66.5 | 71.9 | 88.1 | 77.1 | 75.1 | 67.6 | 80.9 | 84.1 | 93.7 | 121.4 | 120.5 | 128.1 | 97.4 | 129.1 | 84.8 |
| WA7832 | 38.2 | 45.6 | 55.7 | 66.5 | 72.2 | 77.6 | 67.5 | 65.4 | 72.3 | 81.3 | 86.6 | 85.2 | 123.9 | 129.5 | 117.8 | 126.7 | 125.8 | 84.5 |
| WA7853 | 49.8 | 57.7 | 62.6 | 68.9 | 61.8 | 63.2 | 78.3 | 80.2 | 75.9 | 80.3 | 83.4 | 99.8 | 103.6 | 102.7 | 109.7 | 118.6 | 142.9 | 84.8 |
| WA7870 | 56.8 | 55.4 | 58.7 | 70.6 | 79.2 | 66.4 | 59.7 | 79.9 | 77.0 | 75.1 | 97.8 | 105.8 | 116.2 | 127.0 | 123.3 | 114.1 | 140.4 | 88.4 |
| WEATHERFORD | 32.4 | 39.1 | 41.7 | 65.8 | 72.4 | 68.8 | 71.8 | 78.9 | 66.0 | 78.1 | 57.7 | 90.7 | 114.3 | 102.5 | 122.0 | 132.2 | 118.7 | 79.5 |
| WESTBRED 470 | 53.1 | 38.7 | 60.4 | 67.5 | 44.3 | 65.4 | 66.9 | 68.6 | 79.7 | 71.1 | 89.1 | 90.1 | 120.3 | 136.1 | 101.5 | 121.7 | 134.9 | 83.0 |
| Soft White Club | | | | | | | | | | | | | | | | | | |
| CODA | 40.3 | 43.7 | 57.6 | 70.1 | 78.3 | 77.3 | 71.0 | 71.4 | 81.4 | 85.4 | 105.9 | 109.2 | 124.1 | 124.1 | 130.9 | 125.5 | 109.7 | 88.7 |
| HILLER | 50.2 | 51.9 | 56.9 | 72.6 | 72.2 | 78.0 | 74.2 | 75.7 | 73.8 | 82.9 | 99.8 | 114.0 | 140.4 | 108.2 | 137.0 | 124.5 | 134.7 | 91.3 |
| RELY | 47.8 | 50.4 | 63.6 | 65.6 | 79.6 | 75.0 | 58.9 | 72.5 | 77.1 | 84.6 | 105.1 | 103.2 | 114.6 | 119.7 | 112.1 | 104.9 | 110.4 | 85.0 |
| ROHDE | 47.7 | 39.3 | 56.6 | 58.5 | 49.1 | 58.3 | 61.1 | 66.3 | 68.4 | 78.7 | 98.2 | 96.2 | 120.2 | 125.3 | 119.3 | 109.4 | 100.1 | 79.5 |
| TEMPLE | 41.1 | 60.4 | 65.4 | 67.2 | 69.1 | 81.6 | 77.5 | 70.0 | 77.0 | 89.0 | 113.3 | 104.3 | 127.4 | 125.9 | 122.8 | 116.0 | 134.8 | 90.9 |
| Hard Red Common | | | | | | | | | | | | | | | | | | |
| ESTICA | 47.6 | 59.8 | 52.7 | 77.2 | 54.4 | 69.4 | 84.1 | 74.6 | 83.0 | 83.3 | 82.4 | 99.0 | 147.2 | 132.0 | 123.5 | 134.9 | 140.9 | 90.8 |
| NURSERY MEAN | 42.0 | 48.3 | 52.1 | 67.5 | 68.0 | 68.0 | 70.7 | 71.4 | 74.5 | 77.0 | 82.0 | 99.3 | 117.8 | 118.7 | 119.5 | 120.6 | 129.1 | 83.9 |
| LSD @ .10 | 6.0 | 8.3 | 11.6 | 8.8 | 10.0 | 10.5 | 14.7 | 7.4 | 7.4 | 14.3 | 9.5 | 10.2 | 16.9 | 26.9 | 16.8 | 13.2 | 25.7 | 3.3 |
| CV % | 12.1 | 12.6 | 19.0 | 11.1 | 12.5 | 13.2 | 16.3 | 8.8 | 8.5 | 15.8 | 9.9 | 8.8 | 12.2 | 15.7 | 12.0 | 9.3 | 16.9 | 13.5 |

990014

# 1998 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

September 1, 1998

YIELD (BU/A)

| VARIETY | BICKLETON | COULEE CITY | ST. JOHN | LIND DRY | RITZVILLE | DAYTON | LAMONT | WALLA WALLA | DUSTY | CRESTON | REARDAN | FAIRFIELD | ASOTIN | PULLMAN | MAYVIEW | FARMINGTON | MOSES LAKE | VARIETY MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | | | |
| 123-T | 28.7 | 45.1 | 40.4 | 63.3 | 62.4 | 56.8 | 80.1 | 76.7 | 73.4 | 94.7 | 97.6 | 106.7 | 101.8 | 74.2 | 82.5 | 117.4 | 141.4 | 79.0 |
| ALBION (123-M) | 38.6 | 48.5 | 69.8 | 79.0 | 79.9 | 80.0 | 91.0 | 88.6 | 115.3 | 108.8 | 108.4 | 112.3 | 104.4 | 120.1 | 112.7 | 130.2 | 120.9 | 94.6 |
| BASIN | 33.9 | 36.5 | 54.8 | 50.3 | 63.4 | 70.0 | 76.9 | 99.4 | 91.9 | 81.3 | 107.6 | 103.0 | 104.4 | 107.4 | 116.9 | 135.2 | 134.4 | 86.3 |
| BRUNDAGE | 33.5 | 51.3 | 62.2 | 40.3 | 73.3 | 83.8 | 99.5 | 60.3 | 114.5 | 121.1 | 102.6 | 74.1 | 107.3 | 109.3 | 114.4 | 121.6 | 153.2 | 89.5 |
| CASHUP | 27.7 | 39.2 | 71.2 | 55.3 | 65.9 | 84.4 | 83.7 | 101.4 | 110.0 | 100.0 | 118.6 | 100.5 | 105.3 | 100.8 | 115.3 | 138.7 | 138.7 | 91.6 |
| DAWS | 32.2 | 43.4 | 58.0 | 46.9 | 61.0 | 72.3 | 69.4 | 84.0 | 75.4 | 92.3 | 103.7 | 105.6 | 98.9 | 90.8 | 106.1 | 120.6 | 117.3 | 81.1 |
| ELTAN | 26.6 | 54.2 | 35.2 | 53.2 | 56.0 | 64.4 | 75.2 | 79.0 | 54.5 | 105.5 | 118.1 | 87.2 | 115.4 | 54.9 | 88.4 | 86.2 | 99.6 | 73.7 |
| ELTAN-MADSEN 50-50 | 35.5 | 50.6 | 45.6 | 62.1 | 78.6 | 79.7 | 79.9 | 99.3 | 85.0 | 99.8 | 110.6 | 110.3 | 110.2 | 116.1 | 106.5 | 131.0 | 136.3 | 90.4 |
| HILL 81 | 34.6 | 42.1 | 52.4 | 59.7 | 59.1 | 78.6 | 72.9 | 105.4 | 92.1 | 97.0 | 105.3 | 113.2 | 102.3 | 99.5 | 122.8 | 145.0 | 143.4 | 89.7 |
| ID10420A | 27.4 | 44.7 | 42.0 | 64.1 | 60.0 | 68.6 | 69.9 | 100.8 | 85.0 | 88.2 | 107.0 | 105.5 | 93.1 | 113.0 | 103.1 | 132.5 | 156.8 | 86.0 |
| LAMBERT | 41.9 | 52.2 | 55.3 | 70.0 | 68.8 | 82.4 | 93.7 | 93.5 | 96.3 | 112.2 | 107.3 | 106.0 | 101.9 | 101.2 | 112.7 | 121.4 | 139.7 | 91.6 |
| LEWJAIN | 35.1 | 46.9 | 28.5 | 58.8 | 60.6 | 60.7 | 77.1 | 74.7 | 72.3 | 95.1 | 108.8 | 82.2 | 104.9 | 55.2 | 89.4 | 93.2 | 105.3 | 73.5 |
| MACVICAR | 16.8 | 31.2 | 49.2 | 66.5 | 63.8 | 85.7 | 58.9 | 96.1 | 93.7 | 86.3 | 83.1 | 90.3 | 76.1 | 94.3 | 120.3 | 135.3 | 124.8 | 80.7 |
| MADSEN | 45.0 | 44.5 | 63.7 | 71.6 | 70.3 | 87.0 | 99.5 | 113.3 | 91.3 | 105.7 | 102.9 | 108.5 | 105.8 | 142.8 | 118.5 | 146.2 | 132.2 | 97.0 |
| MADSEN-ROD 50-50 | 38.7 | 42.3 | 55.4 | 71.1 | 72.0 | 84.9 | 84.8 | 101.9 | 84.9 | 104.8 | 103.8 | 120.8 | 110.4 | 111.0 | 120.7 | 142.0 | 152.8 | 94.3 |
| MADSEN-STEPHENS 50-50 | 39.6 | 46.5 | 61.8 | 68.1 | 74.6 | 83.7 | 78.7 | 99.5 | 97.5 | 100.5 | 84.6 | 112.6 | 101.0 | 129.1 | 117.7 | 146.5 | 131.6 | 92.6 |
| NUGAINES | 35.2 | 41.1 | 42.5 | 56.6 | 53.3 | 78.8 | 71.2 | 82.9 | 88.0 | 93.5 | 98.3 | 100.6 | 107.2 | 84.5 | 95.9 | 108.8 | 106.8 | 79.1 |
| OR870082 | 26.8 | 25.2 | 77.3 | 68.3 | 74.3 | 90.5 | 91.3 | 58.5 | 118.5 | 93.0 | 95.0 | 82.3 | 103.9 | 123.5 | 115.5 | 133.5 | 147.2 | 89.7 |
| Q.HYBRID 1019 | 32.4 | 48.3 | 55.9 | 59.4 | 70.5 | 88.1 | 84.7 | 85.7 | 104.1 | 106.5 | 96.9 | 95.5 | 102.1 | 117.0 | 123.8 | 138.3 | 154.7 | 92.0 |
| ROD | 35.0 | 44.7 | 44.4 | 61.1 | 65.3 | 72.9 | 82.7 | 84.0 | 81.3 | 101.7 | 111.4 | 107.2 | 103.6 | 92.0 | 116.7 | 122.5 | 120.3 | 85.1 |
| ROD-WESTBRED 470 50-50 | 40.2 | 40.9 | 48.7 | 62.5 | 76.0 | 88.7 | 80.5 | 72.1 | 86.1 | 98.2 | 105.1 | 111.4 | 111.7 | 116.6 | 117.2 | 144.9 | 148.3 | 91.1 |
| STEPHENS | 35.9 | 44.8 | 48.0 | 67.1 | 70.8 | 89.3 | 86.0 | 86.2 | 103.3 | 97.0 | 78.0 | 103.0 | 97.9 | 95.5 | 126.2 | 132.6 | 124.6 | 87.4 |
| WA7853 | 44.7 | 52.4 | 42.6 | 61.2 | 73.2 | 76.9 | 78.0 | 99.8 | 90.3 | 106.4 | 108.2 | 96.0 | 112.4 | 105.3 | 115.3 | 125.4 | 143.8 | 90.1 |
| WEATHERFORD (OR898120) | 35.6 | 35.6 | 53.6 | 69.6 | 66.8 | 83.7 | 84.1 | 106.3 | 105.6 | 87.6 | 94.5 | 114.4 | 96.6 | 126.5 | 122.8 | 147.3 | 156.8 | 93.4 |
| WESTBRED 470 | 43.4 | 39.9 | 58.3 | 58.7 | 71.2 | 91.6 | 95.1 | 50.2 | 92.0 | 111.2 | 92.1 | 97.5 | 101.5 | 111.1 | 120.1 | 136.5 | 150.4 | 89.5 |
| WESTBRED 481 | 39.4 | 43.1 | 57.7 | 56.5 | 66.0 | 91.0 | 97.8 | 49.9 | 93.3 | 96.1 | 85.1 | 112.9 | 104.2 | 115.9 | 130.6 | 149.3 | 132.7 | 89.5 |
| Soft White Club | | | | | | | | | | | | | | | | | | |
| CODA (WA7752) | 36.4 | 44.6 | 43.0 | 60.9 | 68.0 | 69.8 | 92.7 | 82.5 | 80.4 | 93.0 | 108.3 | 113.2 | 102.7 | 82.9 | 103.2 | 97.1 | 112.8 | 81.9 |
| HILLER | 39.9 | 40.6 | 43.9 | 73.1 | 75.2 | 75.2 | 97.4 | 91.4 | 94.6 | 103.3 | 103.4 | 92.0 | 103.6 | 88.0 | 114.6 | 116.0 | 127.5 | 87.1 |
| RELY | 34.6 | 45.7 | 40.7 | 65.4 | 71.3 | 64.7 | 83.0 | 81.1 | 60.9 | 97.0 | 99.7 | 102.9 | 98.0 | 65.4 | 106.6 | 95.3 | 118.1 | 78.3 |
| ROHDE | 30.7 | 38.9 | 40.1 | 57.8 | 62.3 | 69.0 | 87.9 | 75.0 | 65.3 | 86.0 | 94.9 | 99.8 | 95.2 | 82.4 | 107.4 | 105.9 | 130.3 | 78.2 |
| TEMPLE (OR920054) | 37.5 | 36.5 | 58.1 | 68.8 | 74.8 | 82.9 | 89.7 | 71.1 | 66.2 | 91.4 | 103.6 | 105.5 | 96.1 | 85.1 | 112.3 | 102.1 | 91.7 | 80.8 |
| TRES | 31.4 | 40.2 | 38.0 | 56.1 | 67.4 | 50.4 | 84.1 | 74.9 | 53.8 | 93.9 | 99.2 | 96.2 | 93.0 | 67.2 | 92.1 | 88.1 | 98.7 | 72.0 |
| Hard Red Common | | | | | | | | | | | | | | | | | | |
| ESTICA | 42.5 | 47.7 | 57.7 | 75.8 | 89.1 | 79.0 | 89.9 | 116.4 | 120.4 | 108.2 | 107.9 | 106.8 | 118.4 | 121.4 | 117.8 | 158.0 | 170.7 | 101.6 |
| NURSERY MEAN | 35.1 | 43.3 | 52.9 | 62.4 | 68.6 | 78.4 | 84.8 | 86.1 | 90.0 | 98.7 | 101.2 | 101.6 | 102.6 | 103.0 | 111.9 | 126.9 | 136.5 | 88.6 |
| CV % | 14.1 | 14.2 | 27.3 | 13.0 | 11.8 | 8.6 | 12.8 | 10.3 | 14.4 | 9.5 | 8.3 | 12.4 | 7.6 | 13.0 | 5.6 | 7.9 | 9.9 | 26.4 |
| LSD @ .10 | 6.1 | 7.2 | 17.0 | 9.6 | 9.5 | 8.1 | 12.7 | 12.1 | 15.1 | 11.0 | 9.8 | 14.8 | 9.1 | 15.8 | 7.3 | 11.8 | 15.8 | 8.0 |

Analysis Method - General Linear Models Proceedure



9900146

# 1999 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

September 24, 1999

## PROTEIN (%)

| VARIETY NAME | RITZVILLE | COULEE CITY | BICKLETON | ASOTIN | FAIRFIELD | MAYVIEW | POMEROY | LIND DRY | DUSTY | FARMINGTON | REARDAN | CRESTON | ST. JOHN | WALLA WALLA | LAMONT | DAYTON | PULLMAN | VARIETY MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | | | |
| ALBION | 11.4 | 10.4 | 9.4 | 11.2 | 11.4 | 10.6 | 12.2 | 12.2 | 11.0 | 11.4 | 9.9 | 8.2 | 10.2 | 12.6 | 11.1 | 9.5 | 8.4 | 10.6 |
| BU6W93-477 | 12.8 | 10.6 | 8.2 | 9.8 | 10.9 | 10.2 | 10.9 | 12.9 | 10.9 | 11.7 | 11.6 | 7.9 | 10.7 | 11.6 | 11.5 | 9.3 | 8.4 | 10.6 |
| BU6W93-481 | 12.6 | 11.3 | 9.4 | 10.4 | 11.0 | 10.4 | 10.4 | 12.4 | 11.2 | 12.7 | 12.8 | 8.6 | 11.7 | 11.9 | 11.5 | 9.8 | 8.6 | 10.9 |
| CASHUP | 12.7 | 10.6 | 9.7 | 10.1 | 10.7 | 10.4 | 11.9 | 12.3 | 11.8 | 11.1 | 10.3 | 8.7 | 11.4 | 12.1 | 11.5 | 9.7 | 8.6 | 10.8 |
| ELTAN | 11.7 | 10.0 | 8.5 | 9.8 | 10.5 | 10.1 | 9.7 | 11.5 | 10.9 | 11.2 | 10.6 | 8.1 | 10.2 | 13.0 | 12.0 | 9.6 | 8.2 | 10.3 |
| ELTAN-MADSEN | 12.7 | 10.0 | 8.0 | 10.4 | 10.4 | 10.5 | 11.3 | 12.4 | 10.9 | 10.9 | 8.8 | 7.9 | 11.4 | 12.6 | 11.3 | 9.6 | 8.4 | 10.5 |
| HILL 81 | 12.9 | 10.4 | 9.2 | 10.6 | 10.7 | 10.9 | 10.9 | 12.8 | 11.5 | 12.0 | 10.9 | 8.6 | 11.2 | 13.0 | 11.1 | 9.9 | 8.5 | 10.9 |
| ID 10085-5 | 13.8 | 11.9 | 10.0 | 10.4 | 11.5 | 10.5 | 11.7 | 13.5 | 12.4 | 12.6 | 11.5 | 8.6 | 11.2 | 13.0 | 11.7 | 10.8 | 8.9 | 11.4 |
| ID10420A | 13.9 | 11.9 | 8.6 | 10.5 | 10.7 | 10.6 | 11.6 | 12.9 | 11.6 | 11.6 | 10.9 | 8.7 | 10.7 | 12.9 | 11.3 | 9.8 | 8.6 | 11.0 |
| LAMBERT | 12.3 | 10.8 | 8.9 | 9.9 | 11.0 | 9.9 | 10.6 | 12.7 | 11.5 | 12.1 | 10.5 | 7.8 | 9.8 | 12.1 | 10.7 | 9.8 | 8.7 | 10.5 |
| LEWJAIN | 12.3 | 11.1 | 10.2 | 10.7 | 11.4 | 10.5 | 11.5 | 12.3 | 11.7 | 12.5 | 10.7 | 8.4 | 9.5 | 12.6 | 11.8 | 10.9 | 8.4 | 11.0 |
| MACVICAR | 12.8 | 11.1 | 9.1 | 10.6 | 10.8 | 10.2 | 10.4 | 12.8 | 11.1 | 12.7 | 11.4 | 8.5 | 9.9 | 11.4 | 11.1 | 9.9 | 8.1 | 10.7 |
| MADSEN | 13.7 | 12.0 | 9.0 | 10.1 | 10.8 | 10.8 | 10.3 | 12.8 | 11.2 | 12.0 | 12.2 | 8.8 | 11.5 | 11.8 | 11.5 | 10.5 | 8.6 | 11.0 |
| MADSEN .75X#/A | 13.7 | 10.8 | 10.2 | 10.4 | 10.8 | 10.8 | 10.4 | 13.2 | 11.8 | 12.2 | 12.0 | 8.6 | 11.7 | 12.0 | 11.9 | 9.9 | 8.6 | 11.1 |
| MADSEN 1.5X#/A | 12.3 | 10.8 | 8.3 | 10.1 | 10.6 | 10.8 | 10.9 | 13.3 | 11.5 | 11.8 | 11.2 | 8.1 | 10.5 | 11.4 | 11.4 | 10.4 | 8.7 | 10.7 |
| MADSEN-ROD | 12.1 | 11.0 | 8.9 | 10.1 | 10.6 | 10.4 | 10.5 | 12.6 | 11.1 | 11.5 | 10.8 | 8.2 | 10.9 | 12.1 | 11.4 | 9.8 | 8.0 | 10.6 |
| MADSEN-STEPHENS | 12.6 | 11.3 | 9.5 | 10.8 | 11.2 | 10.7 | 10.3 | 13.1 | 11.3 | 12.2 | 11.2 | 8.2 | 11.1 | 12.7 | 11.4 | 10.0 | 8.3 | 10.9 |
| MJ-4 | 13.0 | 11.3 | 9.0 | 10.3 | 10.9 | 10.5 | 11.6 | 11.9 | 11.3 | 11.2 | 11.2 | 7.4 | 10.0 | 11.8 | 11.4 | 10.0 | 8.7 | 10.7 |
| OR939528 | 13.2 | 11.4 | 9.2 | 10.8 | 10.9 | 10.5 | 11.2 | 12.8 | 11.8 | 12.3 | 11.8 | 8.5 | 10.6 | 12.1 | 11.5 | 10.1 | 8.5 | 11.0 |
| Q. HYBRID 7817 | 11.5 | 10.2 | 7.9 | 10.4 | 10.7 | 10.4 | 10.5 | 11.4 | 11.2 | 11.8 | 10.6 | 7.3 | 9.6 | 11.4 | 10.9 | 9.8 | 9.0 | 10.3 |
| Q. HYBRID 95021 | 12.9 | 11.6 | 10.0 | 11.4 | 11.6 | 10.4 | 10.8 | 12.1 | 11.5 | 11.9 | 12.8 | 9.7 | 11.8 | 11.8 | 11.6 | 9.6 | 8.5 | 11.2 |
| ROD | 12.0 | 9.9 | 7.9 | 9.4 | 10.8 | 10.4 | 10.9 | 11.7 | 10.8 | 11.4 | 10.1 | 7.7 | 10.2 | 11.5 | 11.0 | 9.4 | 8.2 | 10.2 |
| STEPHENS | 12.9 | 9.8 | 9.2 | 10.3 | 10.9 | 10.4 | 11.5 | 12.7 | 12.0 | 12.4 | 12.5 | 8.2 | 11.4 | 13.0 | 11.4 | 9.9 | 8.7 | 11.0 |
| WA7813 | 13.2 | 12.1 | 8.5 | 10.0 | 11.4 | 10.7 | 10.8 | 13.0 | 11.8 | 11.9 | 11.0 | 8.6 | 11.8 | 12.6 | 11.4 | 10.2 | 8.5 | 11.0 |
| WA7832 | 13.0 | 11.5 | 9.5 | 10.8 | 11.4 | 10.9 | 11.0 | 13.8 | 12.4 | 12.4 | 11.3 | 7.6 | 10.6 | 13.0 | 11.3 | 10.7 | 9.5 | 11.2 |
| WA7853 | 12.4 | 10.6 | 8.6 | 10.3 | 11.2 | 10.7 | 10.2 | 11.5 | 11.0 | 11.6 | 10.5 | 8.0 | 10.8 | 12.5 | 11.2 | 9.6 | 8.4 | 10.6 |
| WA7870 | 11.8 | 11.0 | 8.6 | 9.3 | 10.8 | 10.5 | 10.4 | 11.9 | 11.2 | 11.8 | 10.7 | 7.4 | 10.4 | 11.6 | 10.6 | 9.8 | 8.1 | 10.4 |
| WEATHERFORD | 13.6 | 11.4 | 8.9 | 11.3 | 11.3 | 10.9 | 10.6 | 12.6 | 11.9 | 12.1 | 12.2 | 8.2 | 11.9 | 13.0 | 12.0 | 10.3 | 8.9 | 11.2 |
| WESTBRED 470 | 12.5 | 12.9 | 9.9 | 11.7 | 12.4 | 11.3 | 12.3 | 14.7 | 11.9 | 12.7 | 11.1 | 9.3 | 11.8 | 12.8 | 13.0 | 10.5 | 9.1 | 11.7 |
| Soft White Club | | | | | | | | | | | | | | | | | | |
| CODA | 12.9 | 10.5 | 9.1 | 10.5 | 10.6 | 10.1 | 11.0 | 13.3 | 11.2 | 11.6 | 11.1 | 8.2 | 10.8 | 12.1 | 11.9 | 9.5 | 8.9 | 10.8 |
| HILLER | 11.2 | 10.3 | 8.1 | 9.2 | 10.1 | 9.4 | 10.1 | 11.7 | 11.3 | 11.4 | 9.8 | 7.0 | 10.5 | 11.9 | 10.2 | 9.4 | 8.2 | 10.0 |
| RELY | 11.5 | 10.6 | 8.6 | 9.3 | 11.0 | 9.7 | 10.1 | 11.9 | 10.9 | 11.6 | 10.1 | 7.7 | 10.3 | 11.9 | 10.8 | 9.3 | 8.2 | 10.2 |
| ROHDE | 12.4 | 11.7 | 9.3 | 10.9 | 11.2 | 10.3 | 11.0 | 13.1 | 12.1 | 11.7 | 11.2 | 7.8 | 11.4 | 12.8 | 11.2 | 10.2 | 9.0 | 11.0 |
| TEMPLE | 12.3 | 10.5 | 8.1 | 9.4 | 11.3 | 9.6 | 11.2 | 12.9 | 11.3 | 11.7 | 9.8 | 8.4 | 10.8 | 12.1 | 10.8 | 9.8 | 8.5 | 10.5 |
| Hard Red Common | | | | | | | | | | | | | | | | | | |
| ESTICA | 12.2 | 10.1 | 9.0 | 10.5 | 12.0 | 11.1 | 10.0 | 11.9 | 10.7 | 12.3 | 11.7 | 8.1 | 10.2 | 11.9 | 11.3 | 10.2 | 9.3 | 10.7 |
| NURSERY MEAN | 12.6 | 11.0 | 9.0 | 10.3 | 11.0 | 10.5 | 10.8 | 12.6 | 11.4 | 11.9 | 11.1 | 8.2 | 10.8 | 12.3 | 11.4 | 9.9 | 8.6 | 10.8 |
| LSD @ .10 | 0.8 | 1.2 | 1.2 | 0.6 | 0.5 | 0.3 | 1.0 | 0.6 | 0.5 | 0.6 | 0.8 | 0.7 | 1.1 | 0.9 | 0.5 | 0.7 | 0.6 | 0.2 |
| CV % | 5.3 | 8.0 | 11.0 | 5.2 | 3.6 | 2.1 | 7.3 | 3.8 | 4.0 | 4.0 | 6.2 | 7.2 | 8.5 | 5.3 | 3.4 | 5.9 | 5.7 | 5.9 |

14

9901140

9900146

# 1999 WSU HARD RED WINTER WHEAT VARIETY TRIAL SUMMARY

October 29, 1999

USDA APR

| VARIETY NAME | YIELD (BU/A) HORSE HEAVEN | CONNELL | BICKLETON | COUGEE CITY | DUSTY | PULLMAN LATE | VARIETY MEAN |
|---|---|---|---|---|---|---|---|
| **Hard Red Common** | | | | | | | |
| BLIZZARD | 16.0 | 34.8 | 50.2 | 56.7 | 74.8 | 83.1 | 54.2 |
| BOUNDARY | 16.6 | 21.2 | 60.2 | 63.2 | 82.5 | 92.4 | 57.7 |
| BUCHANAN | 21.2 | 27.8 | 54.2 | 54.6 | 70.8 | 80.6 | 52.8 |
| ESTICA | 16.5 | 22.8 | 48.0 | 47.3 | 89.0 | 106.1 | 56.6 |
| FINLEY | 23.4 | 37.1 | 49.3 | 54.0 | 69.5 | 77.3 | 53.0 |
| HARD 13 | 20.9 | 31.5 | 51.4 | 63.2 | 75.0 | 87.3 | 56.4 |
| HARD 5 | 19.0 | 19.9 | 38.9 | 39.9 | 66.2 | 84.8 | 45.9 |
| HATTON | 22.2 | 34.0 | 55.0 | 54.1 | 83.5 | 74.5 | 55.3 |
| N9500603 | 18.4 | 27.3 | 52.8 | 65.1 | 92.9 | 110.5 | 63.0 |
| N9502901 | 17.2 | 20.3 | 48.1 | 47.5 | 71.2 | 74.6 | 47.8 |
| N9504001 | 18.3 | 23.1 | 55.7 | 42.4 | 67.2 | 85.9 | 50.1 |
| N9504301 | 16.8 | 27.5 | 60.9 | 52.6 | 84.9 | 84.4 | 56.1 |
| N9504306 | 18.5 | 24.4 | 63.1 | 57.6 | 80.5 | 89.5 | 57.2 |
| N9602702 | 20.5 | 33.4 | 50.4 | 60.6 | 67.0 | 92.7 | 55.6 |
| Q. HYB. 542 | 20.0 | 34.2 | 54.6 | 61.9 | 86.7 | 98.1 | 61.0 |
| Q. HYB. 7424 | 17.2 | 20.0 | 49.2 | 50.3 | 72.5 | 112.6 | 55.2 |
| Q. HYB. 7510 | 16.2 | 20.2 | 48.2 | 50.8 | 78.9 | 106.6 | 55.1 |
| SYMPHONY | 12.5 | 27.0 | 49.8 | 57.2 | 91.5 | 101.7 | 58.5 |
| TX91D-6913 | 10.5 | 16.8 | 38.3 | 52.4 | 74.9 | 94.0 | 49.4 |
| WA7868 | 18.4 | 29.8 | 52.4 | 59.3 | 81.7 | 90.5 | 57.0 |
| WA7869 | 23.2 | 27.0 | 51.8 | 55.1 | 63.2 | 83.5 | 51.8 |
| WANSER | 17.7 | 26.6 | 49.5 | 49.2 | 65.7 | 77.1 | 48.9 |
| WESTON | 16.3 | 24.6 | 49.6 | 52.5 | 68.9 | 70.9 | 48.5 |
| WPB 703 | 10.1 | 15.6 | 36.6 | 25.4 | 62.7 | 56.9 | 35.6 |
| **Soft White Common** | | | | | | | |
| ELTAN | 20.3 | 30.4 | 47.9 | 66.8 | 95.8 | 99.6 | 61.9 |
| NURSERY MEAN | 17.9 | 26.3 | 50.6 | 53.6 | 76.7 | 88.6 | 53.8 |
| LSD @ .10 | 6.1 | 5.1 | 12.5 | 6.7 | 12.6 | 6.9 | 3.7 |
| CV % | 24.7 | 16.0 | 20.9 | 10.6 | 13.9 | 6.6 | 14.1 |

# 1998 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

September 1, 1998

## TEST WEIGHT (LBS/BU)

| VARIETY | BICKLETON | COULEE CITY | ST. JOHN | LIND DRY | RITZVILLE | DAYTON | LAMONT | WALLA WALLA | DUSTY | CRESTON | REARDAN | FAIRFIELD | ASOTIN | PULLMAN | MAYVIEW | FARMINGTON | MOSES LAKE | VARIETY MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | | | |
| 123-T | 55.6 | 61.7 | 54.3 | 60.6 | 60.4 | 59.6 | 60.1 | 60.3 | 60.7 | 61.4 | 59.0 | 60.9 | 59.0 | 56.6 | 61.1 | 59.6 | 61.1 | 59.6 |
| ALBION (123-M) | 56.0 | 60.9 | 54.2 | 60.3 | 59.8 | 59.4 | 59.7 | 57.3 | 60.2 | 60.9 | 58.6 | 60.0 | 59.1 | 57.5 | 59.5 | 59.1 | 56.0 | 58.8 |
| BASIN | 56.7 | 61.9 | 52.6 | 61.8 | 59.9 | 60.7 | 61.1 | 60.3 | 61.5 | 61.9 | 59.8 | 61.3 | 60.0 | 58.0 | 61.2 | 59.5 | 60.9 | 60.0 |
| BRUNDAGE | 56.4 | 62.0 | 54.5 | 63.1 | 60.5 | 61.5 | 61.2 | 55.1 | 62.2 | 62.8 | 60.3 | 61.7 | 60.1 | 59.0 | 62.1 | 59.7 | 61.1 | 60.2 |
| CASHUP | 56.9 | 61.5 | 56.8 | 61.6 | 60.2 | 60.7 | 60.8 | 60.5 | 61.9 | 62.3 | 60.6 | 61.2 | 59.9 | 58.9 | 61.3 | 60.7 | 61.1 | 60.4 |
| DAWS | 58.0 | 62.2 | 55.2 | 62.5 | 60.9 | 61.1 | 59.8 | 59.2 | 60.8 | 61.7 | 60.2 | 61.3 | 59.7 | 56.0 | 61.0 | 60.1 | 59.6 | 60.0 |
| ELTAN | 55.2 | 60.6 | 53.3 | 61.6 | 59.8 | 59.8 | 59.5 | 58.1 | 59.2 | 61.1 | 58.9 | 57.4 | 57.5 | 51.4 | 58.1 | 52.7 | 57.5 | 57.8 |
| ELTAN-MADSEN 50-50 | 55.1 | 61.0 | 53.1 | 61.6 | 60.3 | 60.5 | 59.2 | 59.8 | 60.4 | 60.9 | 59.1 | 59.9 | 58.3 | 58.5 | 60.6 | 58.6 | 60.3 | 59.3 |
| HILL 81 | 56.0 | 60.8 | 54.4 | 62.3 | 60.3 | 60.6 | 58.5 | 60.6 | 60.8 | 61.6 | 59.4 | 61.0 | 58.6 | 59.1 | 61.6 | 60.9 | 61.6 | 59.9 |
| ID10420A | 56.4 | 61.6 | 52.1 | 61.4 | 60.3 | 60.4 | 58.9 | 60.1 | 60.3 | 61.1 | 59.3 | 60.6 | 58.2 | 58.7 | 61.1 | 59.8 | 60.6 | 59.5 |
| LAMBERT | 55.4 | 60.2 | 53.3 | 60.8 | 58.8 | 59.1 | 58.2 | 57.3 | 59.8 | 60.7 | 58.4 | 60.8 | 58.6 | 58.1 | 60.3 | 59.5 | 60.4 | 58.8 |
| LEWJAIN | 57.0 | 61.9 | 54.1 | 63.1 | 61.8 | 61.2 | 61.2 | 57.3 | 60.3 | 61.6 | 59.5 | 57.2 | 58.7 | 52.7 | 57.3 | 54.3 | 58.7 | 58.7 |
| MACVICAR | 53.6 | 60.4 | 51.7 | 64.6 | 59.9 | 60.8 | 58.0 | 57.0 | 60.7 | 60.4 | 57.0 | 58.1 | 55.5 | 52.4 | 59.0 | 57.7 | 57.9 | 57.9 |
| MADSEN | 56.4 | 60.4 | 56.3 | 61.2 | 60.1 | 60.5 | 59.9 | 60.0 | 60.7 | 61.1 | 59.2 | 60.0 | 58.5 | 59.8 | 61.3 | 60.5 | 60.5 | 59.8 |
| MADSEN-ROD 50-50 | 56.1 | 60.1 | 53.4 | 60.8 | 59.4 | 59.9 | 59.3 | 59.2 | 60.4 | 60.7 | 58.5 | 60.2 | 58.6 | 58.5 | 60.5 | 59.1 | 59.7 | 59.1 |
| MADSEN-STEPHENS 50-50 | 55.4 | 60.1 | 54.4 | 60.6 | 59.6 | 59.5 | 58.4 | 56.3 | 60.3 | 60.5 | 57.9 | 60.6 | 58.7 | 59.5 | 61.0 | 60.4 | 60.4 | 59.0 |
| NUGAINES | 57.5 | 62.3 | 52.0 | 62.7 | 61.0 | 61.4 | 61.1 | 60.3 | 62.5 | 63.4 | 60.3 | 61.2 | 59.5 | 57.8 | 60.8 | 58.0 | 59.9 | 60.1 |
| OR870082 | 54.4 | 58.9 | 55.7 | 62.8 | 60.8 | 60.5 | 60.2 | 58.1 | 61.8 | 62.4 | 58.9 | 61.7 | 60.3 | 61.0 | 62.3 | 61.1 | 62.0 | 60.2 |
| Q.HYBRID 1019 | 56.3 | 61.0 | 55.9 | 62.9 | 60.9 | 62.1 | 60.4 | 60.2 | 61.7 | 62.8 | 58.4 | 62.3 | 60.8 | 62.2 | 62.1 | 61.8 | 62.5 | 60.9 |
| ROD | 55.4 | 60.3 | 52.3 | 61.2 | 59.1 | 59.9 | 58.4 | 56.4 | 58.7 | 60.6 | 57.9 | 58.2 | 57.3 | 55.2 | 59.4 | 57.9 | 58.7 | 58.1 |
| ROD-WESTBRED 470 50-50 | 57.7 | 62.1 | 52.6 | 63.1 | 61.3 | 61.9 | 60.6 | 57.2 | 61.8 | 62.2 | 58.8 | 61.4 | 60.8 | 59.4 | 61.9 | 60.8 | 61.7 | 60.3 |
| STEPHENS | 54.5 | 59.9 | 52.9 | 60.5 | 58.5 | 59.1 | 57.6 | 54.6 | 60.2 | 60.3 | 55.9 | 60.1 | 58.0 | 58.3 | 60.9 | 59.8 | 58.3 | 58.2 |
| WA7853 | 58.2 | 61.6 | 55.3 | 62.7 | 61.6 | 61.9 | 61.4 | 60.5 | 61.6 | 62.6 | 60.0 | 59.6 | 59.8 | 56.9 | 60.4 | 58.7 | 60.9 | 60.2 |
| WEATHERFORD (OR898120) | 55.9 | 60.1 | 53.1 | 61.5 | 60.2 | 60.7 | 59.4 | 59.4 | 60.6 | 61.3 | 58.0 | 60.9 | 58.3 | 59.8 | 61.6 | 60.9 | 61.6 | 59.6 |
| WESTBRED 470 | 59.2 | 63.0 | 55.3 | 63.4 | 62.2 | 63.0 | 62.1 | 57.7 | 62.9 | 63.5 | 59.6 | 63.2 | 62.1 | 62.5 | 62.9 | 61.9 | 63.5 | 61.7 |
| WESTBRED 481 | 58.1 | 62.9 | 55.3 | 64.2 | 62.1 | 60.8 | 62.2 | 56.9 | 61.4 | 60.3 | 58.0 | 61.2 | 59.7 | 59.9 | 61.8 | 61.2 | 59.8 | 60.3 |
| Soft White Club | | | | | | | | | | | | | | | | | | |
| CODA (WA7752) | 58.3 | 61.5 | 58.1 | 61.7 | 61.0 | 61.4 | 61.5 | 59.2 | 61.3 | 61.8 | 61.3 | 62.5 | 60.1 | 57.5 | 62.5 | 59.4 | 58.6 | 60.4 |
| HILLER | 55.5 | 57.9 | 53.7 | 58.5 | 57.3 | 58.2 | 56.6 | 55.7 | 59.0 | 59.0 | 57.5 | 57.4 | 56.7 | 54.2 | 58.7 | 57.5 | 56.6 | 57.1 |
| RELY | 56.9 | 60.3 | 54.6 | 60.8 | 59.7 | 60.6 | 59.4 | 58.2 | 60.4 | 61.1 | 58.8 | 60.9 | 58.4 | 53.3 | 61.0 | 56.9 | 58.2 | 58.8 |
| ROHDE | 57.4 | 62.1 | 54.7 | 61.9 | 60.5 | 60.8 | 60.4 | 59.1 | 60.3 | 61.8 | 59.2 | 61.9 | 60.2 | 58.5 | 62.7 | 60.4 | 59.0 | 60.1 |
| TEMPLE (OR920054) | 57.4 | 60.5 | 56.4 | 61.3 | 59.7 | 60.2 | 59.0 | 58.6 | 59.8 | 61.8 | 59.6 | 61.9 | 59.4 | 56.8 | 61.8 | 59.2 | 57.1 | 59.4 |
| TRES | 57.3 | 61.1 | 54.6 | 60.9 | 60.2 | 61.6 | 59.7 | 57.7 | 60.4 | 61.5 | 59.2 | 60.7 | 59.8 | 55.8 | 60.8 | 58.5 | 56.6 | 59.2 |
| Hard Red Common | | | | | | | | | | | | | | | | | | |
| ESTICA | 53.6 | 58.9 | 52.4 | 58.2 | 57.9 | 57.9 | 57.5 | 57.8 | 60.4 | 59.0 | 55.7 | 57.0 | 55.2 | 55.3 | 58.6 | 57.4 | 59.8 | 57.2 |
| NURSERY MEAN | 56.4 | 60.9 | 54.4 | 61.7 | 60.2 | 60.7 | 59.8 | 58.4 | 60.0 | 61.5 | 58.9 | 60.5 | 59.1 | 57.9 | 60.9 | 59.4 | 59.8 | 59.5 |
| CV % | 1.0 | 1.0 | 3.7 | 1.5 | 0.8 | 0.6 | 1.0 | 1.7 | 1.2 | 0.8 | 1.0 | 1.5 | 1.4 | 1.9 | 0.8 | 1.4 | 2.0 | 3.1 |
| LSD @ .10 | 0.6 | 0.7 | 2.4 | 1.1 | 0.6 | 0.4 | 0.7 | 1.2 | 0.8 | 0.6 | 0.7 | 1.1 | 1.0 | 1.3 | 0.6 | 1.0 | 1.4 | 0.6 |

Analysis Method - General Linear Models Proceedure

19

99001046

# 1998 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

September 1, 1998

PROTEIN (%)

| VARIETY | BICKLETON | COULEE CITY | ST. JOHN | LIND DRY | RITZVILLE | DAYTON | LAMONT | WALLA WALLA | DUSTY | CRESTON | REARDAN | FAIRFIELD | ASOTIN | PULLMAN | MAYVIEW | FARMINGTON | MOSES LAKE | VARIETY MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | | | |
| 123-T | 7.9 | 8.1 | 13.4 | 9.8 | 9.1 | 8.6 | 7.8 | 11.8 | 11.6 | 10.2 | 9.9 | 11.1 | 8.0 | 10.3 | 10.0 | 9.6 | 11.6 | 10.0 |
| ALBION (123-M) | 8.1 | 7.7 | 12.4 | 9.6 | 9.4 | 8.5 | 7.5 | 10.9 | 10.1 | 9.7 | 9.8 | 10.4 | 7.9 | 10.4 | 9.8 | 9.8 | 11.2 | 9.6 |
| BASIN | 8.6 | 8.1 | 12.6 | 9.9 | 9.6 | 7.9 | 7.9 | 10.0 | 10.4 | 10.5 | 9.8 | 10.4 | 7.6 | 10.4 | 9.9 | 9.7 | 10.9 | 9.7 |
| BRUNDAGE | 7.0 | 7.3 | 12.6 | 9.7 | 8.7 | 7.9 | 7.2 | 11.2 | 9.7 | 8.9 | 9.3 | 10.6 | 7.8 | 9.5 | 8.8 | 8.9 | 10.8 | 9.2 |
| CASHUP | 8.9 | 8.5 | 14.0 | 9.3 | 9.7 | 8.8 | 8.8 | 10.9 | 10.4 | 10.1 | 10.2 | 10.4 | 7.7 | 10.1 | 9.4 | 9.7 | 11.4 | 9.9 |
| DAWS | 8.4 | 8.7 | 12.7 | 10.1 | 9.7 | 8.2 | 8.5 | 11.0 | 10.8 | 10.1 | 9.4 | 10.2 | 7.7 | 9.8 | 9.9 | 9.2 | 11.3 | 9.7 |
| ELTAN | 7.4 | 7.5 | 13.4 | 9.7 | 8.6 | 8.0 | 7.7 | 10.9 | 10.9 | 9.9 | 8.6 | 10.2 | 6.4 | 10.5 | 9.0 | 9.4 | 11.1 | 9.4 |
| ELTAN-MADSEN 50-50 | 7.4 | 8.0 | 13.9 | 9.7 | 9.7 | 8.8 | 7.7 | 11.6 | 11.0 | 9.8 | 9.3 | 10.0 | 7.5 | 10.4 | 9.9 | 9.9 | 11.4 | 9.8 |
| HILL 81 | 8.6 | 7.9 | 13.9 | 10.3 | 9.2 | 8.6 | 8.0 | 11.1 | 10.8 | 10.2 | 9.7 | 10.2 | 7.6 | 9.8 | 9.9 | 9.0 | 11.3 | 9.8 |
| ID10420A | 8.3 | 8.3 | 14.1 | 9.9 | 9.4 | 8.1 | 8.4 | 10.8 | 11.5 | 10.2 | 9.9 | 9.8 | 7.5 | 8.7 | 9.0 | 8.5 | 10.9 | 9.6 |
| LAMBERT | 7.5 | 8.1 | 13.3 | 9.0 | 8.4 | 7.8 | 7.3 | 10.9 | 9.9 | 9.3 | 8.9 | 10.0 | 8.0 | 9.4 | 9.2 | 9.0 | 11.1 | 9.2 |
| LEWJAIN | 7.5 | 7.7 | 13.7 | 9.8 | 9.1 | 8.5 | 8.3 | 11.8 | 10.8 | 9.9 | 8.8 | 9.9 | 7.2 | 10.4 | 9.7 | 9.2 | 11.4 | 9.6 |
| MACVICAR | 9.0 | 8.5 | 12.7 | 8.7 | 8.6 | 7.8 | 8.6 | 10.7 | 10.2 | 9.9 | 10.3 | 10.3 | 7.7 | 9.6 | 8.7 | 8.6 | 10.6 | 9.5 |
| MADSEN | 8.5 | 8.6 | 14.1 | 9.9 | 8.9 | 8.8 | 8.0 | 11.8 | 11.0 | 10.0 | 10.1 | 10.3 | 7.7 | 10.7 | 10.7 | 10.1 | 11.7 | 10.1 |
| MADSEN-ROD 50-50 | 8.0 | 7.9 | 13.5 | 9.3 | 8.6 | 8.2 | 8.1 | 11.6 | 11.2 | 9.7 | 9.3 | 10.4 | 7.5 | 10.3 | 9.9 | 9.6 | 11.3 | 9.7 |
| MADSEN-STEPHENS 50-50 | 8.1 | 8.3 | 13.3 | 9.3 | 9.2 | 7.9 | 7.7 | 12.0 | 11.1 | 9.9 | 9.9 | 10.3 | 8.2 | 10.3 | 9.8 | 10.2 | 11.5 | 9.8 |
| NUGAINES | 7.6 | 7.2 | 12.3 | 9.1 | 8.4 | 7.7 | 7.6 | 10.6 | 9.8 | 8.9 | 8.0 | 9.4 | 6.7 | 9.9 | 8.5 | 8.6 | 11.1 | 8.9 |
| OR870082 | 8.7 | 11.1 | 13.0 | 10.2 | 9.5 | 8.0 | 8.2 | 11.2 | 10.2 | 10.2 | 10.0 | 11.4 | 8.2 | 10.7 | 10.5 | 10.1 | 11.0 | 10.1 |
| Q.HYBRID 1019 | 8.0 | 8.0 | 13.4 | 10.0 | 10.1 | 7.9 | 7.9 | 11.2 | 11.3 | 9.5 | 10.9 | 11.2 | 7.8 | 10.3 | 9.9 | 10.3 | 11.8 | 10.0 |
| ROD | 8.0 | 7.7 | 13.0 | 9.5 | 8.2 | 8.3 | 7.9 | 11.0 | 10.5 | 9.4 | 9.1 | 9.7 | 7.2 | 9.8 | 9.3 | 9.1 | 11.0 | 9.4 |
| ROD-WESTBRED 470 50-50 | 7.4 | 8.1 | 13.6 | 10.7 | 9.7 | 8.0 | 8.2 | 11.7 | 10.9 | 10.0 | 10.1 | 10.9 | 7.9 | 10.3 | 10.0 | 9.9 | 11.4 | 9.9 |
| STEPHENS | 7.7 | 8.2 | 13.1 | 9.2 | 8.7 | 8.3 | 8.2 | 11.9 | 11.0 | 10.3 | 10.1 | 10.8 | 8.3 | 9.8 | 9.7 | 9.6 | 11.4 | 9.8 |
| WA7853 | 7.4 | 7.6 | 13.6 | 9.4 | 8.5 | 7.9 | 8.1 | 11.1 | 10.8 | 9.1 | 8.6 | 9.9 | 6.8 | 9.6 | 9.3 | 9.0 | 11.2 | 9.3 |
| WEATHERFORD (OR898120) | 8.4 | 9.1 | 14.3 | 9.7 | 10.3 | 8.2 | 7.9 | 12.3 | 11.2 | 10.6 | 10.7 | 10.5 | 7.9 | 10.2 | 9.9 | 9.9 | 11.3 | 10.1 |
| WESTBRED 470 | 7.0 | 8.1 | 13.6 | 10.3 | 9.9 | 8.5 | 7.5 | 11.8 | 10.9 | 9.7 | 9.8 | 11.8 | 8.1 | 10.6 | 10.2 | 10.7 | 11.7 | 10.0 |
| WESTBRED 481 | 7.7 | 8.5 | 13.3 | 10.6 | 9.5 | 7.9 | 7.9 | 12.0 | 10.6 | 9.9 | 10.0 | 10.5 | 8.0 | 10.7 | 10.3 | 10.1 | 11.8 | 10.0 |
| Soft White Club | | | | | | | | | | | | | | | | | | |
| CODA (WA7752) | 8.0 | 8.8 | 14.2 | 9.3 | 7.9 | 8.6 | 8.2 | 12.3 | 11.1 | 10.3 | 9.6 | 10.2 | 8.0 | 10.8 | 10.2 | 10.1 | 12.6 | 10.0 |
| HILLER | 8.7 | 8.3 | 13.5 | 9.1 | 8.0 | 7.8 | 8.1 | 11.1 | 10.5 | 9.2 | 9.4 | 10.3 | 7.5 | 10.3 | 9.4 | 9.4 | 10.9 | 9.5 |
| RELY | 7.7 | 8.1 | 13.7 | 8.7 | 8.5 | 7.8 | 8.1 | 11.0 | 12.1 | 9.4 | 9.0 | 10.2 | 7.6 | 10.3 | 9.2 | 9.7 | 11.6 | 9.6 |
| ROHDE | 8.1 | 9.1 | 14.3 | 8.5 | 9.0 | 8.3 | 7.8 | 11.9 | 11.7 | 10.2 | 10.1 | 10.7 | 8.3 | 10.7 | 10.2 | 10.0 | 11.4 | 10.0 |
| TEMPLE (OR920054) | 7.9 | 8.2 | 12.9 | 9.1 | 7.8 | 7.8 | 7.3 | 11.0 | 10.5 | 10.2 | 8.8 | 9.8 | 8.2 | 10.0 | 9.2 | 9.5 | 11.7 | 9.4 |
| TRES | 7.6 | 8.5 | 13.6 | 8.6 | 8.0 | 9.0 | 8.1 | 11.1 | 12.1 | 9.4 | 9.2 | 9.4 | 7.8 | 9.9 | 8.9 | 9.2 | 11.8 | 9.6 |
| Hard Red Common | | | | | | | | | | | | | | | | | | |
| ESTICA | 7.3 | 7.8 | 13.0 | 10.0 | 9.1 | 8.4 | 7.0 | 11.7 | 11.2 | 9.2 | 10.0 | 10.5 | 7.7 | 10.1 | 8.9 | 9.7 | 11.6 | 9.6 |
| NURSERY MEAN | 8.0 | 8.2 | 13.4 | 9.6 | 9.0 | 8.2 | 8.0 | 11.3 | 10.9 | 9.9 | 9.7 | 10.5 | 7.8 | 10.2 | 9.7 | 9.7 | 11.5 | 9.8 |
| CV % | 7.6 | 5.1 | 4.9 | 6.7 | 15.0 | 8.5 | 7.3 | 5.4 | 6.0 | 5.7 | 7.7 | 5.0 | 5.2 | 5.5 | 4.5 | 3.9 | 3.3 | 13.2 |
| LSD @ .10 | 0.7 | 0.5 | 0.8 | 0.8 | 1.6 | 0.8 | 0.7 | 0.7 | 0.8 | 0.7 | 0.9 | 0.6 | 0.6 | 0.7 | 0.5 | 0.4 | 0.5 | 0.4 |

Analysis Method - General Linear Models Proceedure

17

9900146

18

## 1997 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

YIELD (BU/A)

| VARIETY NAME | ASOTIN | LIND DRY | RITZVILLE | PULLMAN L | FAIRFIELD | CRESTON | DAYTON | REARDAN | LAMONT | POMEROY | MAYVIEW | MOSES LAK | WALLA WAL | DUSTY | ST. JOHN | VARIETY AV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | |
| 123-M | 61.7 | 72.0 | 82.4 | 97.2 | 111.6 | 100.9 | 109.4 | 115.3 | 114.5 | 118.8 | 125.3 | 126.8 | 129.3 | 130.6 | 145.0 | 109.3 |
| BASIN | 53.5 | 51.4 | 75.0 | 99.0 | 113.3 | 93.3 | 107.6 | 98.6 | 105.1 | 105.1 | 120.7 | 117.0 | 114.1 | 122.7 | 137.2 | 100.8 |
| CASHUP | 65.9 | 56.0 | 80.2 | 102.4 | 114.8 | 105.4 | 108.9 | 111.2 | 124.4 | 108.6 | 130.7 | 127.9 | 115.7 | 131.4 | 150.0 | 108.6 |
| DAWS | 40.1 | 61.4 | 69.0 | 90.1 | 104.5 | 102.3 | 103.4 | 112.4 | 88.8 | 118.8 | 109.8 | 117.6 | 114.6 | 125.6 | 133.4 | 99.6 |
| ELTAN | 56.6 | 64.1 | 74.6 | 85.0 | 94.7 | 73.2 | 107.5 | 120.1 | 113.5 | 123.4 | 126.2 | 117.0 | 130.2 | 118.3 | 123.9 | 101.7 |
| HILL 81 | 57.1 | 56.7 | 72.8 | 95.6 | 102.2 | 101.6 | 95.0 | 103.6 | 104.5 | 111.2 | 111.7 | 119.4 | 139.6 | 126.3 | 135.9 | 102.2 |
| HILLER | 65.9 | 71.9 | 75.2 | 96.8 | 99.1 | 111.7 | 110.8 | 121.5 | 117.9 | 123.9 | 130.6 | 117.6 | 117.2 | 132.1 | 139.7 | 108.7 |
| ID10420A | 66.7 | 60.1 | 80.8 | 97.4 | 102.8 | 98.7 | 98.7 | 104.5 | 94.6 | 117.5 | 118.5 | 123.0 | 145.9 | 128.8 | 139.8 | 105.4 |
| ID14502B-BRUNDAGE | 53.9 | 57.6 | 65.6 | 89.6 | 98.7 | 118.4 | 117.9 | 106.4 | 117.0 | 116.4 | 113.2 | 109.3 | 111.4 | 135.0 | 163.5 | 104.7 |
| LAMBERT | 58.8 | 59.9 | 79.1 | 95.5 | 99.6 | 103.0 | 105.7 | 100.7 | 124.1 | 126.0 | 117.3 | 127.5 | 139.8 | 143.9 | 157.9 | 109.0 |
| LEWJAIN | 49.4 | 59.3 | 74.4 | 70.9 | 97.5 | 108.4 | 89.3 | 121.4 | 123.7 | 111.7 | 115.7 | 106.0 | 119.8 | 121.9 | 134.7 | 99.9 |
| MACVICAR | 57.3 | 60.6 | 64.2 | 94.7 | 97.9 | 100.1 | 101.2 | 98.5 | 130.0 | 116.0 | 115.4 | 120.8 | 133.4 | 135.6 | 135.1 | 103.6 |
| MADSEN | 62.3 | 56.3 | 69.4 | 94.3 | 97.9 | 113.7 | 100.9 | 96.9 | 101.9 | 105.1 | 111.5 | 116.5 | 126.8 | 121.7 | 135.8 | 100.7 |
| NUGAINES | 45.4 | 53.2 | 63.3 | 95.4 | 100.9 | 93.6 | 98.2 | 84.4 | 95.3 | 114.1 | 121.2 | 120.0 | 98.7 | 123.6 | 118.8 | 95.1 |
| OR870082 | 57.0 | 49.9 | 50.5 | 93.6 | 94.5 | 65.8 | 94.7 | 24.6 | 96.3 | 97.8 | 111.3 | 129.0 | 120.8 | 108.6 | 132.5 | 90.6 |
| OR898120 | 63.9 | 53.7 | 61.0 | 92.6 | 89.0 | 98.2 | 83.0 | 91.3 | 87.3 | 97.5 | 101.8 | 108.0 | 112.7 | 109.2 | 127.0 | 91.8 |
| QUANTUM HYBRID 1019 | 56.7 | 71.2 | 83.1 | 102.5 | 97.5 | 105.6 | 120.9 | 89.4 | 123.8 | 129.4 | 121.1 | 139.9 | 183.3 | 141.3 | 148.9 | 110.8 |
| ROD | 72.5 | 69.9 | 88.5 | 103.0 | 106.1 | 107.3 | 109.7 | 123.4 | 122.8 | 126.1 | 127.5 | 124.4 | 143.8 | 126.0 | 151.7 | 113.4 |
| STEPHENS | 63.7 | 69.1 | 67.6 | 102.4 | 86.7 | 106.9 | 105.0 | 103.3 | 121.1 | 118.5 | 116.3 | 123.8 | 130.3 | 124.5 | 146.4 | 105.4 |
| WA7794 | 58.4 | 73.2 | 84.4 | 90.3 | 103.1 | 118.0 | 110.6 | 110.3 | 127.2 | 114.0 | 123.3 | 122.3 | 126.4 | 130.2 | 146.5 | 108.9 |
| WESTBRED 470 | 55.6 | 64.3 | 70.3 | 102.6 | 91.9 | 102.3 | 127.7 | 74.3 | 124.3 | 127.3 | 126.5 | 130.0 | 126.7 | 141.1 | 149.4 | 107.3 |
| WESTBRED 481 | 69.5 | 78.2 | 69.1 | 114.0 | 98.9 | 105.1 | 106.3 | 91.8 | 129.8 | 121.3 | 119.1 | 136.4 | 138.2 | 131.1 | 137.5 | 109.4 |
| Soft White Club | | | | | | | | | | | | | | | | |
| HYAK | 46.8 | 60.0 | 63.8 | 86.3 | 103.4 | 119.5 | 99.2 | 105.1 | 110.8 | 111.2 | 100.9 | 97.8 | 104.5 | 124.3 | 128.0 | 97.2 |
| OR920049 | 58.5 | 59.3 | 67.2 | 83.8 | 84.6 | 103.7 | 101.4 | 92.7 | 108.1 | 112.1 | 102.2 | 107.4 | 98.4 | 135.6 | 135.6 | 96.5 |
| OR920054 | 63.4 | 73.6 | 65.8 | 90.4 | 101.0 | 108.0 | 102.5 | 102.4 | 114.2 | 119.8 | 113.8 | 102.3 | 112.4 | 129.5 | 152.2 | 103.2 |
| RELY | 54.8 | 69.0 | 75.8 | 86.2 | 96.8 | 101.9 | 108.7 | 103.7 | 112.5 | 117.5 | 126.5 | 120.4 | 128.0 | 119.3 | 133.1 | 103.5 |
| ROHDE | 55.0 | 61.3 | 73.8 | 86.0 | 110.3 | 98.8 | 107.3 | 107.0 | 118.0 | 122.2 | 111.7 | 119.8 | 131.3 | 123.5 | 142.6 | 104.3 |
| TRES | 46.6 | 64.3 | 63.6 | 73.2 | 108.0 | 100.5 | 92.6 | 116.8 | 118.4 | 116.5 | 107.9 | 112.1 | 124.3 | 130.7 | 140.2 | 100.8 |
| WA7752 | 58.6 | 65.6 | 85.6 | 98.1 | 104.3 | 110.4 | 109.0 | 104.8 | 96.2 | 117.7 | 115.6 | 129.0 | 123.7 | 123.0 | 130.6 | 105.0 |
| WA7793 | 68.2 | 63.7 | 79.1 | 84.6 | 105.3 | 103.9 | 114.2 | 74.1 | 107.6 | 105.8 | 107.7 | 115.9 | 123.2 | 137.8 | 150.0 | 102.7 |
| Hard Red Common | | | | | | | | | | | | | | | | |
| ESTICA | 70.7 | 76.9 | 84.9 | 104.7 | 99.9 | 126.8 | 113.9 | 107.5 | 119.4 | 121.8 | 125.2 | 133.0 | 135.2 | 135.8 | 163.2 | 114.5 |
| NURSERY MEAN | 60.0 | 63.3 | 72.9 | 94.8 | 101.0 | 103.3 | 105.3 | 106.0 | 113.8 | 115.9 | 116.7 | 119.9 | 124.2 | 127.2 | 138.8 | 105.0 |
| CV (%) | 15.1 | 11.3 | 10.1 | 9.6 | 13.8 | 8.1 | 5.9 | 11.1 | 19.1 | 11.0 | 9.4 | 8.4 | 6.1 | 7.6 | 7.8 | 10.3 |
| LSD @ .10 | 10.5 | 8.3 | 8.7 | 10.7 | 16.4 | 9.8 | 7.2 | 13.8 | 29.5 | 15.0 | 12.8 | 11.8 | 9.0 | 11.3 | 12.7 | 6.2 |

Analysis Method - General Linear Models Proceedure

1997 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

9910046

## 1997 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

TEST WEIGHT (LBS/BU)

| VARIETY NAME | ASOTIN | LIND DRY | RITZVILLE | PULLMAN L | FAIRFIELD | CRESTON | DAYTON | REARDAN | LAMONT | POMEROY | MAYVIEW | MOSES LAK | WALLA WAL | DUSTY | ST. JOHN | VARIETY AV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | |
| 123-M | 60.4 | 61.7 | 60.6 | 59.6 | 59.8 | 60.0 | 60.2 | 57.7 | 59.4 | 61.1 | 60.9 | 58.1 | 59.1 | 59.7 | 59.9 | 59.9 |
| BASIN | 61.3 | 63.6 | 61.7 | 61.5 | 60.7 | 60.8 | 60.9 | 58.1 | 61.3 | 62.1 | 62.0 | 57.8 | 58.7 | 60.7 | 61.0 | 60.8 |
| CASHUP | 59.9 | 61.6 | 62.5 | 60.2 | 59.5 | 60.0 | 61.4 | 58.3 | 60.4 | 61.6 | 61.8 | 60.5 | 61.0 | 60.6 | 61.5 | 60.7 |
| DAWS | 59.8 | 62.8 | 63.0 | 59.8 | 59.3 | 59.8 | 60.7 | 60.0 | 61.4 | 62.5 | 62.0 | 58.5 | 60.3 | 61.2 | 61.2 | 60.8 |
| ELTAN | 59.1 | 62.9 | 62.2 | 56.5 | 59.1 | 56.5 | 60.0 | 57.3 | 59.7 | 58.4 | 60.5 | 56.8 | 59.9 | 59.7 | 58.4 | 59.1 |
| HILL 81 | 59.2 | 62.5 | 62.4 | 59.4 | 59.3 | 58.8 | 61.2 | 58.0 | 60.7 | 61.5 | 60.9 | 58.2 | 60.8 | 61.0 | 61.3 | 60.4 |
| HILLER | 57.6 | 58.8 | 59.7 | 55.8 | 58.2 | 57.3 | 57.0 | 57.4 | 57.6 | 58.7 | 59.2 | 54.8 | 57.2 | 57.9 | 58.5 | 57.7 |
| ID10420A | 60.1 | 62.6 | 61.8 | 59.7 | 60.4 | 58.9 | 61.6 | 57.5 | 60.1 | 61.9 | 61.2 | 59.9 | 61.0 | 60.6 | 60.9 | 60.6 |
| ID14502B-BRUNDAGE | 62.0 | 63.4 | 63.0 | 61.5 | 61.3 | 61.6 | 61.7 | 57.9 | 61.1 | 62.3 | 62.4 | 57.7 | 61.1 | 61.4 | 62.9 | 61.4 |
| LAMBERT | 60.4 | 62.1 | 60.3 | 59.8 | 59.7 | 59.4 | 60.1 | 56.2 | 59.3 | 60.8 | 60.6 | 60.0 | 60.7 | 59.2 | 60.4 | 60.0 |
| LEWJAIN | 60.1 | 63.5 | 62.9 | 55.5 | 58.6 | 59.7 | 60.7 | 59.0 | 61.5 | 61.5 | 61.5 | 56.5 | 60.1 | 60.5 | 60.7 | 60.1 |
| MACVICAR | 59.6 | 62.7 | 61.6 | 58.4 | 60.5 | 59.8 | 60.8 | 58.0 | 60.5 | 62.5 | 60.7 | 55.6 | 60.5 | 60.8 | 60.2 | 60.2 |
| MADSEN | 59.8 | 62.2 | 61.2 | 59.8 | 59.3 | 59.9 | 60.6 | 58.4 | 59.7 | 61.2 | 60.8 | 58.2 | 60.2 | 60.1 | 61.2 | 60.2 |
| NUGAINES | 62.9 | 63.1 | 63.2 | 61.2 | 62.0 | 60.6 | 61.7 | 58.1 | 61.5 | 63.3 | 62.3 | 57.9 | 60.7 | 61.3 | 60.5 | 61.4 |
| OR870002 | 59.3 | 62.4 | 61.0 | 59.2 | 59.0 | 59.9 | 60.1 | 57.6 | 60.9 | 60.6 | 60.4 | 59.9 | 60.1 | 59.9 | 60.8 | 60.2 |
| OR890120 | 59.2 | 61.7 | 61.1 | 59.5 | 59.4 | 59.9 | 59.7 | 57.2 | 59.5 | 61.4 | 60.2 | 57.8 | 59.2 | 59.9 | 60.6 | 59.8 |
| QUANTUM HYBRID 1019 | 61.9 | 63.8 | 62.5 | 62.8 | 60.6 | 61.9 | 62.0 | 59.6 | 61.8 | 62.9 | 62.0 | 62.4 | 61.7 | 61.8 | 62.1 | 62.0 |
| ROD | 58.7 | 61.7 | 61.2 | 58.3 | 58.3 | 58.2 | 58.3 | 57.8 | 59.5 | 60.3 | 60.5 | 56.6 | 58.8 | 59.1 | 60.4 | 59.2 |
| STEPHENS | 59.8 | 60.5 | 59.7 | 59.3 | 57.9 | 59.5 | 59.3 | 57.4 | 59.5 | 60.9 | 60.4 | 58.2 | 59.8 | 58.5 | 60.0 | 59.4 |
| WA7794 | 59.8 | 63.1 | 62.5 | 57.9 | 60.2 | 60.7 | 61.2 | 59.2 | 61.8 | 61.8 | 61.6 | 57.8 | 59.3 | 61.7 | 61.6 | 60.7 |
| WESTBRED 470 | 62.7 | 64.7 | 63.5 | 63.0 | 61.2 | 62.9 | 63.3 | 60.6 | 62.9 | 64.3 | 63.0 | 60.6 | 62.3 | 62.9 | 62.8 | 62.7 |
| WESTBRED 481 | 60.1 | 62.2 | 61.6 | 60.9 | 59.5 | 59.7 | 60.5 | 58.8 | 60.8 | 62.2 | 61.3 | 58.6 | 61.0 | 60.6 | 60.5 | 60.6 |
| Soft White Club | | | | | | | | | | | | | | | | |
| HYAK | 57.4 | 61.7 | 61.2 | 57.1 | 59.3 | 58.8 | 60.2 | 58.3 | 58.8 | 61.4 | 60.3 | 52.7 | 59.4 | 58.8 | 59.0 | 59.0 |
| OR920049 | 57.4 | 60.1 | 59.9 | 54.9 | 57.0 | 57.5 | 57.5 | 57.3 | 59.2 | 60.3 | 58.0 | 53.0 | 57.9 | 59.1 | 59.0 | 57.9 |
| OR920054 | 60.3 | 62.2 | 62.2 | 59.2 | 60.0 | 59.9 | 59.9 | 59.1 | 60.0 | 60.0 | 61.8 | 57.4 | 60.5 | 60.3 | 61.5 | 60.3 |
| RELY | 59.6 | 60.9 | 62.0 | 58.2 | 59.3 | 58.3 | 59.7 | 58.4 | 59.5 | 60.6 | 60.4 | 57.5 | 60.3 | 58.7 | 59.2 | 59.5 |
| ROHDE | 61.2 | 63.5 | 62.9 | 59.7 | 61.1 | 59.8 | 61.4 | 59.5 | 60.8 | 63.0 | 61.7 | 60.1 | 61.0 | 60.4 | 61.5 | 61.2 |
| TRES | 59.8 | 61.6 | 62.3 | 56.9 | 60.8 | 59.7 | 60.9 | 59.7 | 60.9 | 61.5 | 61.4 | 58.0 | 60.7 | 60.2 | 61.1 | 60.4 |
| WA7762 | 61.4 | 62.1 | 62.9 | 60.0 | 61.5 | 60.9 | 60.2 | 59.7 | 61.0 | 63.1 | 62.0 | 60.4 | 60.8 | 60.2 | 61.4 | 61.2 |
| WA7793 | 57.5 | 58.4 | 60.2 | 56.9 | 58.7 | 57.6 | 57.5 | 56.9 | 58.3 | 58.9 | 58.4 | 55.4 | 58.1 | 58.8 | 59.7 | 58.1 |
| Hard Red Common | | | | | | | | | | | | | | | | |
| ESTICA | 55.7 | 59.4 | 58.7 | 56.2 | 57.5 | 57.8 | 58.6 | 55.8 | 58.3 | 59.1 | 58.4 | 56.9 | 58.4 | 58.5 | 60.7 | 58.0 |
| NURSERY MEAN | 59.7 | 62.1 | 61.7 | 58.8 | 59.5 | 59.4 | 60.3 | 58.1 | 60.2 | 61.4 | 60.9 | 57.9 | 60.0 | 60.0 | 60.4 | 59.9 |
| CV (%) | 1.5 | 1.0 | 0.7 | 1.4 | 1.9 | 1.0 | 1.4 | 1.0 | 1.9 | 1.2 | 0.7 | 3.2 | 0.9 | 1.3 | 1.4 | 1.6 |
| LSD @ .10 | 1.1 | 0.7 | 0.5 | 1.0 | 1.3 | 0.7 | 1.0 | 0.7 | 1.6 | 0.8 | 0.5 | 2.1 | 0.6 | 0.9 | 1.0 | 0.5 |

Analysis Method - General Linear Models Proceedure



990146

20

# 1997 WSU WINTER WHEAT VARIETY TRIAL SUMMARY

PROTEIN (%)

| VARIETY NAME | ASOTIN | LIND DRY | RITZVILLE | PULLMAN L | FAIRFIELD | CRESTON | DAYTON | REARDAN | LAMONT | POMEROY | MAYVIEW | MOSES LAK | WALLA WAL | DUSTY | ST. JOHN | VARIETY AV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft White Common | | | | | | | | | | | | | | | | |
| 123-M | 9.8 | 11.0 | 10.6 | 9.4 | 9.5 | 8.4 | 10.5 | 8.3 | 8.0 | 8.9 | 10.2 | 12.2 | 11.4 | 9.4 | 10.8 | 9.9 |
| BASIN | 9.7 | 10.3 | 10.4 | 9.0 | 9.7 | 8.1 | 10.6 | 9.1 | 9.4 | 8.5 | 9.7 | 12.0 | 10.8 | 9.1 | 10.1 | 9.8 |
| CASHUP | 8.8 | 9.3 | 10.5 | 8.9 | 9.9 | 7.8 | 10.7 | 8.9 | 8.5 | 9.0 | 9.8 | 12.2 | 11.7 | 9.1 | 10.5 | 9.7 |
| DAWS | 10.1 | 9.7 | 11.9 | 8.6 | 10.1 | 8.6 | 11.0 | 8.7 | 8.8 | 9.4 | 10.2 | 13.0 | 11.9 | 9.3 | 10.3 | 10.1 |
| ELTAN | 8.4 | 9.6 | 10.7 | 8.2 | 9.2 | 8.7 | 10.8 | 8.2 | 8.3 | 7.7 | 9.6 | 13.2 | 11.8 | 9.7 | 10.4 | 9.7 |
| HILL 81 | 9.5 | 11.4 | 11.2 | 8.9 | 10.2 | 8.0 | 11.8 | 9.3 | 9.6 | 9.0 | 10.3 | 13.2 | 12.0 | 9.7 | 10.8 | 10.3 |
| HILLER | 8.3 | 9.5 | 10.2 | 8.8 | 10.1 | 7.8 | 10.5 | 8.3 | 8.3 | 8.3 | 9.5 | 12.3 | 11.2 | 9.1 | 10.2 | 9.5 |
| ID10420A | 9.3 | 11.8 | 11.8 | 8.7 | 10.2 | 8.4 | 11.2 | 8.6 | 9.0 | 9.1 | 10.2 | 12.9 | 11.7 | 9.5 | 11.0 | 10.2 |
| ID14502B-BRUNDAGE | 10.3 | 9.9 | 11.2 | 9.0 | 10.0 | 8.2 | 11.2 | 8.3 | 8.7 | 9.0 | 10.1 | 12.7 | 11.7 | 9.3 | 10.2 | 10.0 |
| LAMBERT | 10.0 | 10.7 | 10.3 | 8.7 | 9.8 | 8.1 | 10.8 | 8.2 | 8.5 | 9.0 | 10.1 | 12.5 | 11.7 | 8.7 | 10.8 | 9.9 |
| LEWJAIN | 10.1 | 9.8 | 11.5 | 8.6 | 9.9 | 7.8 | 11.7 | 8.6 | 9.9 | 9.1 | 10.3 | 12.9 | 11.9 | 9.8 | 11.3 | 10.2 |
| MACVICAR | 9.7 | 10.6 | 11.4 | 8.5 | 10.0 | 8.0 | 10.8 | 8.6 | 8.3 | 8.8 | 10.1 | 12.6 | 11.5 | 9.0 | 9.9 | 9.9 |
| MADSEN | 10.1 | 11.0 | 12.1 | 9.7 | 10.6 | 8.2 | 12.3 | 9.1 | 8.8 | 10.0 | 11.1 | 13.0 | 12.1 | 10.0 | 11.1 | 10.7 |
| NUGAINES | 10.5 | 9.9 | 10.9 | 8.0 | 9.5 | 7.6 | 11.4 | 8.5 | 7.4 | 9.3 | 9.9 | 11.9 | 11.7 | 8.8 | 10.1 | 9.8 |
| OR870082 | 11.3 | 10.8 | 12.9 | 10.2 | 11.7 | 10.6 | 11.9 | 12.0 | 9.9 | 10.0 | 11.1 | 13.1 | 12.3 | 9.8 | 11.1 | 11.3 |
| OR898120 | 10.1 | 11.5 | 12.5 | 9.8 | 10.7 | 8.7 | 12.2 | 10.1 | 10.5 | 9.9 | 11.0 | 13.3 | 11.9 | 9.8 | 10.9 | 10.9 |
| QUANTUM HYBRID 1019 | 10.7 | 11.0 | 11.4 | 10.0 | 11.1 | 8.7 | 11.5 | 10.1 | 9.0 | 8.7 | 10.4 | 12.9 | 11.9 | 9.9 | 10.3 | 10.5 |
| ROD | 9.4 | 9.8 | 9.8 | 8.6 | 9.4 | 7.9 | 11.5 | 8.3 | 8.3 | 8.7 | 9.5 | 12.7 | 11.2 | 9.4 | 10.0 | 9.7 |
| STEPHENS | 10.1 | 10.0 | 11.2 | 9.1 | 10.3 | 8.6 | 11.0 | 9.0 | 9.2 | 8.7 | 10.1 | 12.8 | 11.7 | 9.7 | 10.1 | 10.1 |
| WA7794 | 8.7 | 10.5 | 10.5 | 8.5 | 10.1 | 7.9 | 10.7 | 7.8 | 8.5 | 8.5 | 9.9 | 12.4 | 11.4 | 8.9 | 10.1 | 9.7 |
| WESTBRED 470 | 10.3 | 11.8 | 11.6 | 10.8 | 10.7 | 9.0 | 11.5 | 10.7 | 9.3 | 9.4 | 10.7 | 14.1 | 13.1 | 9.3 | 10.9 | 10.9 |
| WESTBRED 481 | 9.6 | 10.3 | 11.1 | 9.2 | 10.5 | 7.8 | 10.8 | 8.8 | 8.4 | 8.9 | 10.4 | 12.8 | 11.6 | 9.2 | 10.2 | 10.0 |
| Soft White Club | | | | | | | | | | | | | | | | |
| HYAK | 10.4 | 10.8 | 11.3 | 9.5 | 10.7 | 7.5 | 11.1 | 8.6 | 8.5 | 9.3 | 10.4 | 13.3 | 12.7 | 9.8 | 11.2 | 10.4 |
| OR920049 | 9.0 | 9.3 | 10.8 | 8.2 | 10.0 | 7.6 | 10.7 | 9.0 | 9.0 | 8.4 | 10.2 | 12.5 | 11.4 | 9.2 | 9.9 | 9.7 |
| OR920054 | 10.1 | 10.7 | 10.6 | 8.8 | 10.0 | 8.0 | 10.5 | 8.0 | 8.5 | 9.0 | 10.2 | 12.7 | 11.7 | 9.5 | 10.0 | 9.9 |
| RELY | 9.2 | 9.3 | 10.7 | 8.5 | 10.4 | 7.8 | 10.6 | 8.6 | 7.9 | 8.3 | 10.2 | 13.1 | 12.1 | 8.8 | 9.8 | 9.7 |
| ROHDE | 9.3 | 10.9 | 10.5 | 9.0 | 10.7 | 8.7 | 11.1 | 9.4 | 8.9 | 9.3 | 10.9 | 13.0 | 11.8 | 10.1 | 10.7 | 10.3 |
| TRES | 9.6 | 9.4 | 11.3 | 8.7 | 10.3 | 8.3 | 10.9 | 8.7 | 8.9 | 8.4 | 10.9 | 13.1 | 12.2 | 9.2 | 10.6 | 10.1 |
| WA7762 | 9.4 | 9.9 | 10.4 | 9.1 | 10.7 | 8.5 | 11.8 | 9.3 | 8.7 | 9.1 | 10.7 | 13.5 | 12.5 | 9.5 | 11.7 | 10.4 |
| WA7793 | 9.4 | 8.2 | 11.0 | 9.1 | 10.0 | 8.3 | 11.3 | 9.6 | 8.4 | 8.7 | 10.1 | 13.7 | 12.6 | 9.9 | 11.2 | 10.1 |
| Hard Red Common | | | | | | | | | | | | | | | | |
| ESTICA | 8.9 | 9.9 | 10.6 | 9.5 | 10.1 | 8.1 | 11.4 | 9.3 | 9.8 | 9.2 | 9.9 | 13.3 | 12.6 | 10.0 | 11.5 | 10.3 |
| NURSERY MEAN | 9.5 | 10.3 | 11.1 | 9.0 | 10.1 | 8.2 | 11.2 | 8.8 | 8.8 | 9.0 | 10.2 | 12.8 | 11.9 | 9.5 | 10.6 | 10.0 |
| CV (%) | 8.8 | 8.0 | 9.9 | 6.3 | 5.4 | 5.4 | 6.8 | 6.7 | 18.6 | 6.6 | 3.3 | 4.3 | 2.6 | 10.3 | 8.5 | 7.6 |
| LSD @ .10 | 1.0 | 1.0 | 1.3 | 0.7 | 0.6 | 0.5 | 0.9 | 0.7 | 2.2 | 0.7 | 0.4 | 0.6 | 0.4 | 1.1 | 1.1 | 0.5 |

Analysis Method - General Linear Models Proceedure

9960146

9900146

## Lodging Nursery

---------- LOCATION=WALLA WALLA ----------

| VARIETY NAME | YIELD BU/A | TEST WT | % PROTEIN | PLANT HT | LODGE % |
|---|---|---|---|---|---|
| MADSEN | 113.3 | 60.0 | 11.8 | 46 | 20 |
| WEATHERFORD (OR898120) | 106.3 | 59.4 | 12.3 | 47 | 10 |
| HILL 81 | 105.4 | 60.6 | 11.1 | 45 | 10 |
| MADSEN-ROD 50-50 | 101.9 | 59.2 | 11.6 | 47 | 20 |
| CASHUP | 101.4 | 60.5 | 10.9 | 45 | 0 |
| ID10420A | 100.8 | 60.1 | 10.8 | 47 | 0 |
| WA7853 | 99.8 | 60.5 | 11.1 | 45 | 20 |
| MADSEN-STEPHENS 50-50 | 99.5 | 56.3 | 12.0 | 46 | 40 |
| BASIN | 99.4 | 60.3 | 10.0 | 43 | 0 |
| ELTAN-MADSEN 50-50 | 99.3 | 59.8 | 11.6 | 46 | 30 |
| MACVICAR | 96.1 | 57.0 | 10.7 | 45 | 0 |
| LAMBERT | 93.5 | 57.3 | 10.9 | 46 | 40 |
| ALBION (123-M) | 88.6 | 57.3 | 10.9 | 44 | 0 |
| STEPHENS | 86.2 | 54.6 | 11.9 | 45 | 40 |
| Q.HYBRID 1019 | 85.7 | 60.2 | 11.2 | 44 | 0 |
| DAWS | 84.0 | 59.2 | 11.0 | 43 | 0 |
| ROD | 84.0 | 56.4 | 11.0 | 48 | 40 |
| NUGAINES | 82.9 | 60.3 | 10.6 | 40 | 0 |
| ELTAN | 79.0 | 58.1 | 10.9 | 43 | 50 |
| 123-T | 76.7 | 60.3 | 11.8 | 45 | 70 |
| LEWJAIN | 74.7 | 57.3 | 11.8 | 44 | 60 |
| ROD-WESTBRED 470 50-50 | 72.1 | 57.2 | 11.7 | 45 | 0 |
| BRUNDAGE | 60.3 | 55.1 | 11.2 | 44 | 10 |
| OR870082 | 58.5 | 58.1 | 11.2 | 46 | 0 |
| WESTBRED 470 | 50.2 | 57.7 | 11.8 | 46 | 0 |
| WESTBRED 481 | 49.9 | 56.9 | 12.0 | 46 | 0 |
| HILLER | 91.4 | 55.7 | 11.1 | 43 | 20 |
| CODA (WA7752) | 82.5 | 59.2 | 12.3 | 47 | 70 |
| RELY | 81.1 | 58.2 | 11.0 | 45 | 60 |
| ROHDE | 75.0 | 59.1 | 11.9 | 46 | 80 |
| TRES | 74.9 | 57.7 | 11.1 | 46 | 50 |
| TEMPLE (OR920054) | 71.1 | 58.6 | 11.0 | 44 | 80 |
| ESTICA | 116.4 | 57.8 | 11.7 | 46 | 0 |
| **NURSERY STATS** | | | | | |
| **MEAN** | **86.1** | **58.4** | **11.3** | | |
| **CV %** | **10.3** | **1.7** | **5.4** | | |
| **LSD @ .10** | **12.1** | **1.2** | **0.7** | | |

**PLANTED: 10/14/1997**
**HARVESTED: 7/23/1998**
**RECEIVED : 7/24/1998**
**PROCESSED: 7/27/1998**

9900146

## Lodging Nursery

---------- LOCATION=ST. JOHN ----------

| VARIETY NAME | YIELD BU/A | TEST WT | % PROTEIN | PLANT HT | LODGE % |
|---|---|---|---|---|---|
| MADSEN 45#/A | 78.7 | 56.5 | 13.7 | 42 | 65 |
| OR870082 | 77.3 | 55.7 | 13.0 | 38 | 89 |
| CASHUP | 71.2 | 56.8 | 14.0 | 39 | 94 |
| ALBION (123-M) | 69.8 | 54.2 | 12.4 | 39 | 76 |
| MADSEN 60#/A | 64.7 | 55.7 | 14.0 | 41 | 86 |
| WESTBRED 470 45#/A | 64.3 | 56.9 | 13.3 | 37 | 91 |
| MADSEN | 63.7 | 56.3 | 14.1 | 42 | 89 |
| BRUNDAGE | 62.2 | 54.5 | 12.6 | 39 | 93 |
| MADSEN-STEPHENS 50-50 | 61.8 | 54.4 | 13.3 | 39 | 91 |
| WESTBRED 470 | 58.3 | 55.3 | 13.6 | 38 | 97 |
| DAWS | 58.0 | 55.2 | 12.7 | 38 | 78 |
| WESTBRED 481 | 57.7 | 55.3 | 13.3 | 40 | 92 |
| Q.HYBRID 1019 | 55.9 | 55.9 | 13.4 | 39 | 94 |
| MADSEN-ROD 50-50 | 55.4 | 53.4 | 13.5 | 41 | 98 |
| LAMBERT | 55.3 | 53.3 | 13.3 | 42 | 99 |
| WESTBRED 470 60#/A | 54.8 | 55.3 | 13.5 | 38 | 96 |
| BASIN | 54.8 | 52.6 | 12.6 | 32 | 90 |
| WEATHERFORD (OR898120) | 53.6 | 53.1 | 14.3 | 41 | 86 |
| HILL 81 | 52.4 | 54.4 | 13.9 | 42 | 95 |
| MACVICAR | 49.2 | 51.7 | 12.7 | 39 | 95 |
| ROD-WESTBRED 470 50-50 | 48.7 | 52.6 | 13.6 | 39 | 98 |
| STEPHENS | 48.0 | 52.9 | 13.1 | 39 | 96 |
| ELTAN-MADSEN 50-50 | 45.6 | 53.1 | 13.9 | 41 | 99 |
| ROD | 44.4 | 52.3 | 13.0 | 41 | 99 |
| WA7853 | 42.6 | 55.3 | 13.6 | 42 | 96 |
| NUGAINES | 42.5 | 52.0 | 12.3 | 39 | 79 |
| ID10420A | 42.0 | 52.1 | 14.1 | 44 | 98 |
| 123-T | 40.4 | 54.3 | 13.4 | 43 | 99 |
| ELTAN | 35.2 | 53.3 | 13.4 | 40 | 99 |
| LEWJAIN | 28.5 | 54.1 | 13.7 | 37 | 98 |
| TEMPLE (OR920054) | 58.1 | 56.4 | 12.9 | 39 | 98 |
| HILLER | 43.9 | 53.7 | 13.5 | 44 | 99 |
| CODA (WA7752) | 43.0 | 58.1 | 14.2 | 45 | 96 |
| RELY | 40.7 | 54.6 | 13.7 | 40 | 99 |
| ROHDE | 40.1 | 54.7 | 14.3 | 40 | 98 |
| TRES | 38.0 | 54.6 | 13.6 | 42 | 99 |
| ESTICA | 57.7 | 52.4 | 13.0 | 42 | 99 |
| **NURSERY STATS** | | | | | |
| **MEAN** | **52.9** | **54.4** | **13.4** | | |
| **CV %** | **27.3** | **3.7** | **4.9** | | |
| **LSD @ .10** | **17.0** | **2.4** | **0.8** | | |

**PLANTED: 9/22/1997**
**HARVESTED: 8/10/1998**
**RECEIVED : 8/10/1998**
**PROCESSED: 8/11/1998**

9900146

Lodging Nursery

---------- LOCATION=MOSES LAKE ----------

| VARIETY NAME | YIELD BU/A | TEST WT | % PROTEIN | PLANT HT | LODGE % |
|---|---|---|---|---|---|
| WESTBRED 470 45#/A | 167.9 | 63.6 | 12.0 | 38 | 0 |
| WESTBRED 470 60#/A | 159.8 | 63.3 | 11.8 | 39 | 0 |
| ID10420A | 156.8 | 60.6 | 10.9 | 45 | 5 |
| WEATHERFORD (OR898120) | 156.8 | 61.6 | 11.3 | 44 | 0 |
| Q.HYBRID 1019 | 154.7 | 62.5 | 11.8 | 40 | 21 |
| MADSEN 60#/A | 153.6 | 61.2 | 11.8 | 40 | 3 |
| BRUNDAGE | 153.2 | 61.1 | 10.8 | 39 | 4 |
| MADSEN-ROD 50-50 | 152.8 | 59.7 | 11.3 | 39 | 25 |
| WESTBRED 470 | 150.4 | 63.5 | 11.7 | 39 | 8 |
| MADSEN 45#/A | 150.4 | 60.7 | 11.7 | 42 | 0 |
| ROD-WESTBRED 470 50-50 | 148.3 | 61.7 | 11.4 | 39 | 30 |
| OR870082 | 147.2 | 62.0 | 11.0 | 40 | 20 |
| WA7853 | 143.8 | 60.9 | 11.2 | 44 | 30 |
| HILL 81 | 143.4 | 61.6 | 11.3 | 43 | 20 |
| 123-T | 141.4 | 61.1 | 11.6 | 48 | 40 |
| LAMBERT | 139.7 | 60.4 | 11.1 | 41 | 48 |
| CASHUP | 138.7 | 61.1 | 11.4 | 37 | 34 |
| ELTAN-MADSEN 50-50 | 136.3 | 60.3 | 11.4 | 40 | 30 |
| BASIN | 134.4 | 60.9 | 10.9 | 35 | 0 |
| WESTBRED 481 | 132.7 | 59.8 | 11.8 | 38 | 90 |
| MADSEN | 132.2 | 60.5 | 11.7 | 40 | 45 |
| MADSEN-STEPHENS 50-50 | 131.6 | 60.4 | 11.5 | 37 | 44 |
| MACVICAR | 124.8 | 57.9 | 10.6 | 39 | 15 |
| STEPHENS | 124.6 | 58.3 | 11.4 | 38 | 87 |
| ALBION (123-M) | 120.9 | 56.0 | 11.2 | 38 | 30 |
| ROD | 120.3 | 58.7 | 11.0 | 39 | 78 |
| DAWS | 117.3 | 59.6 | 11.3 | 40 | 13 |
| NUGAINES | 106.8 | 59.9 | 11.1 | 39 | 79 |
| LEWJAIN | 105.3 | 58.7 | 11.4 | 38 | 87 |
| ELTAN | 99.6 | 57.5 | 11.1 | 40 | 75 |
| ROHDE | 130.3 | 59.0 | 11.4 | 40 | 65 |
| HILLER | 127.5 | 56.6 | 10.9 | 43 | 60 |
| RELY | 118.1 | 58.2 | 11.6 | 40 | 80 |
| CODA (WA7752) | 112.8 | 58.6 | 12.6 | 44 | 75 |
| TRES | 98.7 | 56.6 | 11.8 | 41 | 85 |
| TEMPLE (OR920054) | 91.7 | 57.1 | 11.7 | 43 | 83 |
| ESTICA | 170.7 | 59.8 | 11.6 | 43 | 3 |
| RIALTO | 165.8 | 59.7 | 11.5 | 37 | 13 |
| SHANGO | 153.4 | 59.5 | 11.7 | 37 | 25 |
| HEREWARD | 146.6 | 59.9 | 12.3 | 32 | 0 |
| HANSEAT | 142.9 | 56.2 | 12.1 | 36 | 20 |
| CHARGER | 130.5 | 56.0 | 12.3 | 32 | 0 |
| **NURSERY STATS** | | | | | |
| **MEAN** | **136.5** | **59.8** | **11.5** | | |
| **CV %** | **9.9** | **2.0** | **3.3** | | |
| **LSD @ .10** | **15.8** | **1.4** | **0.5** | | |

**PLANTED: 10/1/1997**
**HARVESTED: 7/24/1998**
**RECEIVED : 7/30-8/10/1998**
**PROCESSED: 8/18/1998**

9900146

## Cephalosporium Stripe Nursery

---------- LOCATION=REARDAN ----------

| VARIETY NAME | YIELD BU/A | TEST WT | % PROTEIN | PLANT HT | LODGE % | CEPH STRP % |
|---|---|---|---|---|---|---|
| CASHUP | 118.6 | 60.6 | 10.2 | 38 | 0 | 0 |
| ELTAN | 118.1 | 58.9 | 8.6 | 43 | 0 | 0 |
| ROD | 111.4 | 57.9 | 9.1 | 39 | 0 | 1 |
| ELTAN-MADSEN 50-50 | 110.6 | 59.1 | 9.3 | 41 | 0 | 0 |
| LEWJAIN | 108.8 | 59.5 | 8.8 | 37 | 0 | 1 |
| ALBION (123-M) | 108.4 | 58.6 | 9.8 | 38 | 0 | 0 |
| WA7853 | 108.2 | 60.0 | 8.6 | 41 | 0 | 0 |
| BASIN | 107.6 | 59.8 | 9.8 | 32 | 0 | 0 |
| LAMBERT | 107.3 | 58.4 | 8.9 | 45 | 0 | 2 |
| ID10420A | 107.0 | 59.3 | 9.9 | 45 | 0 | 1 |
| HILL 81 | 105.3 | 59.4 | 9.7 | 44 | 0 | 2 |
| ROD-WESTBRED 470 50-50 | 105.1 | 58.8 | 10.1 | 39 | 0 | 4 |
| MADSEN-ROD 50-50 | 103.8 | 58.5 | 9.3 | 40 | 0 | 3 |
| DAWS | 103.7 | 60.2 | 9.4 | 39 | 0 | 0 |
| MADSEN | 102.9 | 59.2 | 10.1 | 39 | 0 | 1 |
| BRUNDAGE | 102.6 | 60.3 | 9.3 | 37 | 0 | 9 |
| WESTBRED 470 60#/A | 101.6 | 59.7 | 9.9 | 36 | 0 | 5 |
| MADSEN 45#/A | 98.6 | 58.2 | 11.1 | 38 | 0 | 5 |
| NUGAINES | 98.3 | 60.3 | 8.0 | 37 | 0 | 0 |
| 123-T | 97.6 | 59.0 | 9.9 | 52 | 15 | 0 |
| MADSEN 60#/A | 97.3 | 58.4 | 10.4 | 40 | 0 | 4 |
| Q.HYBRID 1019 | 96.9 | 58.4 | 10.9 | 40 | 0 | 6 |
| OR870082 | 95.0 | 58.9 | 10.0 | 37 | 0 | 2 |
| WESTBRED 470 45#/A | 94.6 | 59.6 | 10.9 | 37 | 0 | 8 |
| WEATHERFORD (OR898120) | 94.5 | 58.0 | 10.7 | 40 | 0 | 9 |
| WESTBRED 470 | 92.1 | 59.6 | 9.8 | 38 | 0 | 1 |
| WESTBRED 481 | 85.1 | 58.0 | 10.0 | 38 | 0 | 20 |
| MADSEN-STEPHENS 50-50 | 84.6 | 57.9 | 9.9 | 39 | 0 | 7 |
| MACVICAR | 83.1 | 57.0 | 10.3 | 41 | 0 | 26 |
| STEPHENS | 78.0 | 55.9 | 10.1 | 37 | 0 | 20 |
| CODA (WA7752) | 108.3 | 61.3 | 9.6 | 46 | 10 | 0 |
| TEMPLE (OR920054) | 103.6 | 59.6 | 8.8 | 43 | 5 | 0 |
| HILLER | 103.4 | 57.5 | 9.4 | 40 | 0 | 1 |
| RELY | 99.7 | 58.8 | 9.0 | 44 | 4 | 1 |
| TRES | 99.2 | 59.2 | 9.2 | 43 | 0 | 2 |
| ROHDE | 94.9 | 59.2 | 10.1 | 40 | 0 | 0 |
| ESTICA | 107.9 | 55.7 | 10.0 | 41 | 0 | 1 |
| **NURSERY STATS** | | | | | | |
| **MEAN** | **101.2** | **58.9** | **9.7** | | | |
| **CV %** | **8.3** | **1.0** | **7.7** | | | |
| **LSD @ .10** | **9.8** | **0.7** | **0.9** | | | |

**PLANTED: 9/16/1997**
**HARVESTED: 8/12/1998**
**RECEIVED : 8/13/1998**
**PROCESSED: 8/14/1998**

| SAMPLE# | VARIETY | BREEDER# | CLASS | TWT | UWHRD | SKHRD | SKWT | SKSIZE | WPROT | FYELD |
|---|---|---|---|---|---|---|---|---|---|---|
| *0001 | MADSEN | | SWW | 59.9 | 28 | 34.3 ± 12.7 | 37.5 ± 10.2 | 2.40 ± 0.50 | 12.9 | 71.0 |
| *0002 | CASHUP | | SWW | 61.9 | 16 | 29.7 ± 12.0 | 40.6 ± 8.4 | 2.50 ± 0.50 | 11.2 | 69.3 |
| 0003 | 123M EXPERIMENTAL | | SWW | 58.3 - | 12 | 26.9 ± 12.4 | 37.6 ± 10.3 | 2.30 ± 0.50 | 12.1 | 64.7 -2 |
| 0004 | 123T EXPERIMENTAL | | SWW | 60.7 | 15 | 33.2 ± 12.3 | 38.6 ± 9.8 | 2.40 ± 0.50 | 12.6 | 67.3 -2 |
| 0005 | WPB481 | | SWW | 61.2 | 24 | 35.1 ± 13.2 | 44.0 ± 11.9 | 2.70 ± 0.60 | 11.9 | 71.0 |
| 0006 | 3-112 EXPERIMENTAL | | SWW | 64.3 +2 | 25 | 26.9 ± 15.0 | 56.4 ± 11.0 | 3.10 ± 0.50 | 14.0 - | 64.1 -2 |
| 0007 | STEPHENS | | SWW | 57.9 - | 22 | 29.8 ± 11.6 | 43.8 ± 10.8 | 2.70 ± 0.50 | 13.0 | 68.8 - |
| 0008 | WPB470 | IRRIGATED | SWW | 64.4 +2 | 28 | 38.7 ± 11.8 | 49.9 ± 11.6 | 2.80 ± 0.60 | 9.7 + | 66.9 -2 |
| 0009 | WPB429 | | SWW | 60.8 | 21 | 33.0 ± 14.0 | 38.3 ± 9.9 | 2.40 ± 0.50 | 11.7 | 69.0 - |

* = standard mean nursery flour protein = 10.4 mill used = Quad (SM = standard mean NM = nursery mean NSD = nursery standard deviation)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SM | SWW | 60.9 | 22 | 12.1 | 70.2 |
| NM | SWW | 61.0 | 21 | 12.1 | 68.0 |
| NSD | SWW | 2.28 | 5.8 | 1.23 | 2.48 |

| SAMPLE# | VARIETY | BREEDER# | BFYELD | FASH | MSCOR | FPROT | FSV | MABS | MTYPE | COOI | TGS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *0001 | MADSEN | | 48.0 | 0.44 | 83.5 | 11.5 | 19.9 | 57.7 | 1M | 9.04 | 5 |
| *0002 | CASHUP | | 47.4 | 0.39 | 84.5 | 9.8 | 24.0 | 54.6 | 1M | 9.32 | 5 |
| 0003 | 123M EXPERIMENTAL | | 44.4 | 0.43 | 76.1 -2 | 10.1 | 25.3 | 52.6 + | 1M | 9.16 | 5 |
| 0004 | 123T EXPERIMENTAL | | 43.4 | 0.38 + | 82.6 | 10.7 | 25.3 | 53.1 + | 1M | 9.09 | 6 |
| 0005 | WPB481 | | 46.4 | 0.43 | 84.1 | 10.4 | 23.0 | 53.8 | 1M | 9.10 | 6 |
| 0006 | 3-112 EXPERIMENTAL | | 40.2 | 0.37 +2 | 79.2 -2 | 11.9 | 24.0 | 56.6 | 3M | 8.93 | 7 + |
| 0007 | STEPHENS | | 45.5 | 0.43 | 81.3 - | 11.1 | 22.3 | 54.4 | 1M | 9.18 | 5 |
| 0008 | WPB470 | IRRIGATED | 41.4 | 0.40 | 80.8 - | 8.5 + | 26.4 | 52.5 + | 3L | 9.18 | 8 +2 |
| 0009 | WPB429 | | 48.0 | 0.42 | 82.2 | 9.7 | 24.0 | 52.8 + | 1M | 9.12 | 5 |

* = standard mean nursery flour protein = 10.4 mill used = Quad (SM = standard mean NM = nursery mean NSD = nursery standard deviation)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SM | SWW | 47.7 | 0.41 | 84.0 | 10.6 | 22.0 | 56.2 | 9.18 | 5 |
| NM | SWW | 45.0 | 0.41 | 81.6 | 10.4 | 23.8 | 54.2 | 9.12 | 6 |
| NSD | SWW | 2.85 | 0.025 | 2.65 | 1.04 | 1.92 | 1.84 | 0.107 | 1.1 |

25

9900146

YEAR 95 NURSERY 003 SOFT WHITE WINTER WHEAT Q MOSES LAKE, WA G. TORREY 

| SAMPLE# | VARIETY | BREEDER# | CLASS | TWT | UWHRD | WPROT | FYELD | BFYELD | FASH | MSCOR | FPROT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0001 | 101 | | SWW | 59.1 | 30 | 11.6 + | 71.9 -2 | 45.0 | 0.41 - | 86.6 -2 | 10.4 |
| 0002 | 102 | | SWW | 61.5 | 22 | 11.3 + | 71.8 -2 | 47.2 | 0.41 - | 86.4 -2 | 10.0 + |
| 0003 | 108 | | SWW | 61.4 | 24 | 11.5 + | 72.2 -2 | 48.8 | 0.41 - | 86.9 -2 | 9.8 + |
| 0004 | 112 | | SWW | 58.0 - | 11 | 11.8 | 68.0 -2 | 44.8 | 0.42 - | 81.0 -2 | 10.5 |
| 0005 | 123 M | | SWW | 57.7 - | 9 | 12.3 | 67.7 -2 | 45.2 | 0.43 -2 | 79.9 -2 | 10.9 |
| 0006 | 123 MA | | SWW | 59.7 | 7 | 12.4 | 70.2 -2 | 44.0 | 0.41 - | 84.4 -2 | 11.1 |
| 0007 | 123 T | | SWW | 60.9 | 11 | 12.4 | 71.0 -2 | 44.0 | 0.37 | 88.0 -2 | 11.2 |
| 0008 | BZ6W90-470 | | SWW | 63.7 + | 22 | 13.1 | 71.0 -2 | 43.5 | 0.38 | 87.3 -2 | 11.4 |
| 0009 | STEPHENS | | SWW | 60.2 | 25 | 12.1 | 72.2 -2 | 44.0 | 0.43 -2 | 85.7 -2 | 10.8 |
| *0010 | MADSEN | | SWW | 60.7 | 31 | 13.2 | 75.7 | 45.6 | 0.38 | 93.3 | 11.7 |
| 0011 | CASHUP | | SWW | 61.8 | 13 | 11.5 + | 71.2 -2 | 46.8 | 0.40 - | 86.3 -2 | 10.1 + |
| 0012 | BASIN | | SWW | 58.8 - | 6 | 11.2 + | 70.2 -2 | 48.4 | 0.39 | 85.7 -2 | 10.4 |

* = standard mean nursery flour protein = 10.7 mill used = Quad (SM = standard mean NM = nursery mean NSD = nursery standard deviation)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SM | SWW | | 60.7 | 31 | 13.2 | 75.7 | 45.6 | 0.38 | 93.3 | 11.7 |
| NM | SWW | | 60.3 | 18 | 12.0 | 71.1 | 45.6 | 0.40 | 86.0 | 10.7 |
| NSD | SWW | | 1.73 | 9.0 | 0.67 | 2.08 | 1.79 | 0.020 | 3.38 | 0.59 |

| SAMPLE# | VARIETY | BREEDER# | MABS | MTYPE | CODI | TGS |
|---|---|---|---|---|---|---|
| 0001 | 101 | | 55.9 | 2M | 9.20 | 6 |
| 0002 | 102 | | 54.6 | 2M | 9.32 + | 6 |
| 0003 | 108 | | 54.3 | 2M | 9.25 | 6 |
| 0004 | 112 | | 54.1 | 2M | 9.23 | 5 |
| 0005 | 123 M | | 55.1 | 2M | 9.01 | 5 |
| 0006 | 123 MA | | 55.3 | 1H | 8.90 | 7 |
| 0007 | 123 T | | 55.3 | 2M | 9.26 | 8 + |
| 0008 | BZ6W90-470 | | 56.3 | 3M | 8.80 | 5 |
| 0009 | STEPHENS | | 56.1 | 2M | 8.91 | 6 |
| *0010 | MADSEN | | 56.6 | 1H | 9.02 | 6 |
| 0011 | CASHUP | | 55.1 | 2M | 9.10 | 6 |
| 0012 | BASIN | | 55.1 | 2M | 9.27 | 8 + |

* = standard mean nursery flour protein = 10.7 mill used = Quad (SM = standard mean NM = nursery mean NSD = nursery standard deviation)

| | | | | | |
|---|---|---|---|---|---|
| SM | SWW | | 56.6 | 9.02 | 6 |
| NM | SWW | | 55.3 | 9.11 | 6 |
| NSD | SWW | | 0.78 | 0.174 | 1.0 |

9900146

USDA-ARS WESTERN WHEAT QUALITY LABORATORY
WHEAT ANALYSIS SYSTEM - DESCRIPTION OF ABBREVIATIONS

**%BFYELD** Break flour yield (percentage flour from break rolls by weight of total products, short flow method)

**%BRAN** Bran recovered (percentage bran from break rolls by weight of the total products, short flow method)

**%MIDDS** Unground middling stock (percentage middlings from break rolls by weight of the total products, short flow method)

**%PFYELD** Potential flour yield equal to break flour and unground middling stock (percentage by weight of the total products, short flow method)

**A0ANC** Alkaline Noodle Color (ANC), a* Red-Green, Minolta Chroma meter reading, immediately after sheeting (0hr)

**A0UNC** Udon Noodle Color (UNC), a* Red-Green, Minolta Chroma meter reading, immediately after sheeting (0hr)

**A24ANC** Alkaline Noodle Color (ANC), a* Red-Green, Minolta Chroma meter reading, 24 hours after sheeting (24hr)

**A24UNC** Udon Noodle Color (UNC), a* Red-Green, Minolta Chroma meter reading, 24 hours after sheeting (24hr)

**AWRC** Alkaline water retention capacity. See METHODS

**B0ANC** Alkaline Noodle Color (ANC), b* Yellow-Blue, Minolta Chroma meter reading, immediately after sheeting (0hr)

**B0UNC** Udon Noodle Color (UNC), b* Yellow-Blue, Minolta Chroma meter reading, immediately after sheeting (0hr)

**B24ANC** Alkaline Noodle Color (ANC), b* Yellow-Blue, Minolta Chroma meter reading, 24 hours after sheeting (24hr)

**B24UNC** Udon Noodle Color (UNC), b* Yellow-Blue, Minolta Chroma meter reading, 24 hours after sheeting (24hr)

**BABS** Bake water absorption (percentage by weight, corrected to 14% moisture basis)

**BCRGR** Bread crumb grain rating code.

**BFYELD** Break flour yield (percentage flour from break rolls by weight of total products)

**BREEDER#** Plot or bag number within a nursery, or other identifier

**CAVOL** Japanese sponge cake volume (cc)

**CLASS** Market class or subclass abbreviation which includes grain hardness, color, and season planted

**CNCOL** Cooked noodle color score, Udon

**CODI** Cookie diameter (cm)

**DSI** Cibacron blue dye test for alpha-amylase

**FABS** Farinograph water absorption (percentage by weight, corrected to 14% moisture basis)

**FASH** Flour ash (percentage by weight, corrected to 14% moisture basis)

**FMIST** Flour moisture (percentage by weight).

**FN** Falling number test for sprout damage

**FPEAK** Farinograph mixing peak time (minutes)

**FPROT** Flour protein (percentage by weight, corrected to 14% moisture basis)

**FSTAB** Frinograph stability time (minutes)

**FSV** Flour Swelling Volume (mL/g).

**FYELD** Flour yield (percentage flour by weight of total products)

**L0ANC** Alkaline Noodle Color (ANC), L* Brightness, Minolta Chroma meter reading, immediately after sheeting (0hr)

**L0UNC** Udon Noodle Color (UNC), L* Brightness, Minolta Chroma meter reading, immediately after sheeting (0hr)

**L24ANC** Alkaline Noodle Color (ANC), L* Brightness, Minolta Chroma meter reading, 24 hours after sheeting (24hr)

**L24UNC** Udon Noodle Color (UNC), L* Brightness, Minolta Chroma meter reading, 24 hours after sheeting (24hr)

**LECOFPROT** Flour protein content.

**LECOWPROT** Wheat protein content.

**LOCATION** Location sample was grown

**LVOL** Bread loaf volume (cc)

**MABS** Mixograph absorption (percentage by weight, corrected to 14% moisture basis)

**MSCOR** Milling score.

**MTI** Farinograph mixing tolerance index.

**MTIME** Optimum mixing time for bread dough (minutes)

**MTYPE** Mixograph type. NIRFMIST Flour moisture.

**NIRFPROT** Flour Protein.

**NIRWPROT** Wheat Protein.

**NOSCOR** Noodle score, Udon (scale 1-100).

**NURSERY** Nursery number (located in the upper left corner of the reports)

**NYELD** Noodle yield, Udon (weighted score assigned to WTIN)

**OVENFMIST** Flour moisture.

**OVENWMIST** Wheat moisture.

**PKCOLOR** Alkaline flour color rating.

**PROQ** Protein quality. See Interpretation of Data

**RNCOL** Raw noodle color score, Udon.

**RVA** Rapid Visco-Analyzer (peak starch paste viscosity, centipoise X 12)

**SAMPLE#** Sample number

**SCSCOR** Sponge cake score (scale 1-100).

**SKCLASS** Single kernel class identification

**SKHRD** Single kernel hardness

**SKSIZE** Single kernel size

**SKWMIST** Single kernel moisture

**SKWT** Single kernel weight

**TEXTNO** Cooked noodle texture score, Udon.

**TGS** Cookie top grain score (scale 0-10).

**TWT** Test weight (lbs/bu, after cleaning)

**UWHRD** Udy cyclone mill wheat grain hardness (NIR value, dimensionless)

**VARIETY** Variety name, state number or unique identifying number

**VISC** Predicted McMichael viscosity (observed modified Brookfield viscosity x 7.5)

**WMIST** Wheat moisture (percentage by weight)

**WPROT** Wheat protein (percentage by weight, corrected to 12% moisture basis)

**WTIN** Noodle weight increase, Udon (percentage water uptake after cooking)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

# EXHIBIT E
# STATEMENT OF THE BASIS OF OWNERSHIP

*The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.*

*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).*

1. NAME OF APPLICANT(S)

~~Cenex Harvest States-Wheeler Branch~~ ~~and~~ Grant H. Torrey, Jr. ~~for~~ CHS, INC.

MAH 9/27/04

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

123-M

3. VARIETY NAME

Albion

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*

3132 Road "O" N.E.
Moses Lake, Wa. 98837

5. TELEPHONE *(include area code)*

(509) 765-3898

6. FAX *(include area code)*

(509)765-8684

7. PVPO NUMBER

9900146

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
**If no, give name of country**

10. Is the applicant the original owner? [X] YES [ ] NO *If no, please answer one of the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

Grant H. Torrey, Jr. is an employee of Cenex Harvest States-Wheeler Branch

**PLEASE NOTE:**

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to compete this information collection is estimated to average 10 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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.