No. 9600276

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Virginia Agriculture Experiment Station & Virginia Tech Intellectual Properties, 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 [illegible]LICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY [illegible]ROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC [illegible]ENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE [illegible]LUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IM[illegible] EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABO[illegible]R USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVID[illegible]ANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT
'Featherstone 520'

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 thirty-first day of December in the year of our Lord [illegible]ne thousand nine hundred and ninety-seven.*

Attest:

Marsha A. Stanton
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Dan Glickman
Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-0

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

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

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

Application is required in order to determine if a plant variety protect certificate is to be issued (7 U.S.C. 2421). Information is held confiden until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Virginia Agricultural Experiment Station &
Virginia Tech Intellectual Properties, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
VA91-51-20

3. VARIETY NAME
Featherstone 520

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Virginia Polytechnic Institute and State Univ.
College of Agriculture and Life Sciences
104 Hutcheson Hall
Blacksburg, VA 24061-0402
VTIP, Inc., 1900 Kraft Dr., Suite 107
Blacksburg, VA 24060

5. TELEPHONE *(include area code)*
540-231-3766

6. FAX *(include area code)*
540-231-4163

FOR OFFICIAL USE ONLY

PVPO NUMBER 9600276

FILING DATE 6-11-96

FEES RECEIVED
FILING AND EXAMINATION FEE: $ 2450
DATE 4-1-96
CERTIFICATION FEE: $ 300
DATE 10/16/97

7. GENUS AND SPECIES NAME
Triticum aestivum L.

8. FAMILY NAME *(Botanical)*
Gramineae

9. CROP KIND NAME *(Common name)*
Wheat, common

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*
Agricultural Experiment Station of Virginia Tech and VTIP Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Virginia

12. DATE OF INCORPORATION
6-25-1985

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Carl A. Griffey
Crop and Soil Environmental Sciences
Virginia Tech
Blacksburg, VA 24061-0404

14. TELEPHONE *(include area code)*
540-231-9789

15. FAX *(include area code)*
540-231-3431

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

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

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

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

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

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES *(If "yes," give names of countries and dates)* ☐ NO
Variety released December 1995 with exclusive marketing rights granted to Featherstone Farm Seed, Amelia, Virginia in July 1995; seed has not been sold commercially.

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

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

SIGNATURE OF APPLICANT *(Owner(s))*		SIGNATURE OF APPLICANT *(Owner(s))*	
R Q Cannell			
NAME *(Please print or type)* R. Q. Cannell		NAME *(Please print or type)*	
CAPACITY OR TITLE Director, VAES	DATE	CAPACITY OR TITLE	DATE

Featherstone 520 Wheat

14A. Exhibit A: Origin and Breeding History

Genealogy and Breeding Method. The parentage of Featherstone 520 wheat is 'Hunter'/'Wheeler'. The original cross was completed in 1982, and the segregating population was advanced to the F_5 generation using a modified bulk breeding method.

Selection and Advancement of the Variety. The line that became Featherstone 520 was selected in 1988 as an F_6 headrow. The line was tested in preliminary yield trials for three years, and then was advanced to the Virginia State Wheat Trial where it was tested as VA 91-51-20 from 1992-95.

Multiplication and Purification. Within the limits of biological expectation, Featherstone 520 has remained stable and uniform in composition through eight generations of selfing. The initial source of Breeder seed was derived from a 20 acre increase that was rogued for apparent variants and then harvested in bulk. Inspection of the field prior to harvest revealed the presence of a low percentage of variant types consisting of not more than 2%. These variants were predominantly tall plants, 1.76%, with a few red-chaffed, 0.05%, and bearded, 0.03%, variants. In order to develop a purer source of Breeder seed, 126 headrows of Featherstone 520 were evaluated in the field in 1995. Rows identified as possessing or consisting entirely of variant types were removed prior to harvest. Variant types identified consisted of earlier heading plants, later heading plants, plants with blue colored foliage, plants with purple straw color, and tall plants. Of the 126 headrows evaluated, 84 were harvested individually, and seed of each was planted in 45 ft^2 plots to be evaluated further for purity in 1996. Plots identified as possessing or consisting entirely of variants will be removed prior to harvest, and the remaining plots will be harvested in bulk to produce a purer source of Featherstone 520 Breeder seed for Fall 1996. Breeder seed of Featherstone 520 is genetically stable in the sense that the variety can be maintained and reproduced via seed without changing its characteristics.

Featherstone 520 Wheat

14B. Exhibit B: Novelty Statement

Featherstone 520 is uniquely different from all known wheat cultivars, but is most similar to 'Madison'. Coleoptile color of Featherstone 520 is red, while that of Madison is white. Spikes of Featherstone 520 are strap or oblong, while those of Madison are tapering or fusiform. Based on tests conducted from 1991-95 by the USDA-ARS Cereal Rust Laboratory, Featherstone 520 and Madison have different genes for leaf rust resistance. Madison has the genes *Lr*10 and *Lr*11, while Featherstone 520 has *Lr*18. Featherstone 520 is different from Madison for resistance to powdery mildew. In three of the past four years, mildew severity ratings averaged over 2 to 3 locations per year for Featherstone 520 have been significantly (ANOVA, LSD, P=0.05) lower than those for Madison. In 1992 and 1993, Featherstone 520 had severity ratings (0-100% leaf area covered) of 3 and 4%, while those of Madison were 22 and 14% (LSD=6 and 5%), respectively. In 1995, powdery mildew incidence/severity (0=resistant; 9=susceptible) for Featherstone 520 was rated as 0, while that of Madison was rated as 2 (LSD=1). Featherstone 520 also has a significantly (ANOVA, LSD, P=0.05) higher grain volume weight than Madison based on tests weight comparisons for 1992-95 averaged over five to seven locations per year. For this period, Featherstone 520 had test weights of 59.6, 62.5, 59.9, and 58.4, while those of Madison were 57.7, 60.1, 57.4, and 56.7 (LSD=0.6, 0.4, 0.5, 0.9), respectively.

FORM APPROVED: OMB NO. 0581-0055

EXHIBIT C
(Wheat)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK AND SEED DIVISION
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY

WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Virginia Agricultural Experiment Station &
Virginia Tech Intellectual Properties, Inc.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
-College of Agriculture & Life Sciences
Virginia Tech, Blacksburg, VA 24061-0402
-VTIP Inc., 1900 Kraft Dr., Suite 107
Blacksburg, VA 24060

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PVPO NUMBER 9600276

VARIETY NAME OR TEMPORARY DESIGNATION
Featherstone 520

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

1. KIND:

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

2. TYPE:

[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____

[1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

[ ][ ][ ] FIRST FLOWERING

[ ][ ][ ] LAST FLOWERING

4. MATURITY (50% *Flowering*):

[0][2] NO. OF DAYS *EARLIER* THAN .....

[0][2] NO. OF DAYS *LATER* THAN .....

[8] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7 = Madison 8 = FFR 555W

[7]

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

[0][9][7] CM. HIGH

[0][3] CM. TALLER THAN .....

[0][0] CM. SHORTER THAN .....

[8] 7 = Madison 8 = FFR 555W 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

[7]

6. PLANT COLOR AT BOOTING (*See reverse*):

[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:

[ ] 1 = YELLOW 2 = PURPLE

8. STEM:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[1] Waxy bloom: 1 = ABSENT 2 = PRESENT

[1] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

[1] Internodes: 1 = HOLLOW 2 = SOLID

[0][4] NO. OF NODES (*Originating from node above ground*)

[2][2] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW 20.5 - 24.5

9. AURICLES:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[1] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____

[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED

[ ] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

[1][1] MM. LEAF WIDTH (*First leaf below flag leaf*) 10 - 13 mm

[2][1] CM. LEAF LENGTH (*First leaf below flag leaf*): 17.2 - 28.0 cm

FORM LMGS 470-6 (6-82) (Formerly Form LPGS 470-6 (3-79), which may be used)

4

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[2] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER *(Specify)* _____

RECEIVED
USDA AMS PVPO

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

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

'96 APR -1 AM 9:45

[0 8] CM. LENGTH [1 2] MM. WIDTH

12. GLUMES AT MATURITY:

[3] Length: 1 = SHORT *(CA. 7 mm.)* 2 = MEDIUM *(CA. 8 mm.)* 3 = LONG *(CA. 9 mm.)*

[3] Width: 1 = NARROW *(CA. 3 mm.)* 2 = MEDIUM *(CA. 3.5 mm.)* 3 = WIDE *(CA. 4 mm.)*

[2] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[2] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[2] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[ ] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

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

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush. 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

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

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

[0 7] MM. LENGTH [0 4] MM. WIDTH [4 2] GM. PER 1000 SEEDS

17. SEED CREASE:

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

[2] Depth: mid deep 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

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

[2] STEM RUST *(Races)* TPM

[1] LEAF RUST *(Races)* Postulated gene: Lr 18

[0] STRIPE RUST *(Races)* _____

[0] LOOSE SMUT

[2] POWDERY MILDEW

[0] BUNT

[2] OTHER *(Specify)* Wheat Spindle Streak Virus

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

[0] SAWFLY

[1] APHID *(Bydv.)*

[0] GREEN BUG

[1] CEREAL LEAF BEETLE

[0] OTHER *(Specify)* _____

HESSIAN FLY RACES: [0] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

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

INSTRUCTIONS

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

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

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

Featherstone 520 Wheat

14D. Exhibit D: Additional Description of Featherstone 520

Featherstone 520 is a medium-height, mid-season, awnleted soft red winter wheat. Plant height is 97 cm and is similar to 'Madison' in this respect. Head emergence (122 d, Julian) of Featherstone 520 is similar to that of 'Coker 9835' and 'Pioneer 2548'. Straw strength (18% lodging, 0-100% scale) of Featherstone 520 is moderate and similar to 'Massey' in this respect. Featherstone 520 was tested in the Virginia Small Grains Variety Trials conducted at six to seven locations per year over the past four years, 1992-95 (Tables 1-5). Over this period, it had an average grain yield of 81 bu/ac compared to a test mean of 78 bu/ac. Featherstone 520 is moderately resistant to powdery mildew and Septoria but is susceptible to leaf rust. Featherstone 520 has acceptable milling and baking quality, based on data from the USDA-ARS Soft Wheat Quality Laboratory in Wooster, Ohio (Tables 6.1 and 6.2). Winter hardiness of Featherstone 520 is only moderate, being similar to 'Coker 983' in this respect. Featherstone 520 was developed for production in the mid-Atlantic region, but also has shown adaptation in the mid-south.

Table 1. Summary of performance of entries in the State Wheat Test, 1991-92.*

Brand/Variety	Yield (Bu/A)	Test Weight (Lb)	Date Headed (Mar 31+)	Height (In)	Lodging (0 - 100%)	Leaf Rust (%)**	Powdery Mildew (%)**	Soil Virus (0-5)+	Leaf Septoria (0-9)++
	(7)	(5)	(2)	(2)	(4)	(2)	(3)	(1)	(1)
FEATHERSTONE520	80	59.6	28 -	38	19	6	3	2	4 -
MADISON	78	57.7 -	26 -	38	7	7	22 +	1	4 -
FFR555W	83 +	57.9 -	30 +	37	1	9	15	1	2 -
JACKSON	87 +	59.5 +	29	40	17 +	5	13	1	2 -
GA-GORE	78	57.8	25 -	37	7	1 -	4 -	1	4 -
COKER 9803	80	60.8 +	27 -	36	13	3	10	1	2 -
COKER 9835	74	56.6 -	28 -	34	2	1 -	14	2	2 -
PIONEER 2548	80	57.4 -	29	36	2	3	8	1	4 -
LSD (0.05)	4	0.6	1		8	6	6		1
Test Average	77	58.6	29	38	8	8	11	2	3

* The number in parentheses below column headings indicates the number of locations on which data are based. A plus or minus sign indicates a performance significantly above or below the test average, respectively.
** Disease severity was assessed based on percent (0 - 100%) leaf area infected.
+ Disease severity was assessed based on a 0-5 scale, where 0=no disease and 5=near 100% infection.
++ Disease severity was assessed based on a 0-9 scale, where 0=no disease and 9=near 100% infection.

Table 2. Summary of performance of entries in the State Wheat Test, 1992-93.*

Brand/Variety	Yield (Bu/A)	Test Weight (Lb)	Date Headed (Mar 31+)	Height (In)	Lodging (0 - 100%)	Leaf Rust (%)**	Powdery Mildew (%)**	Soil Virus (%)**	Leaf Septoria (0-10)+
	(6)	(6)	(4)	(4)	(5)	(3)	(2)	(3)	(1)
FEATHERSTONE520	84	62.5 +	36	41	22	16 +	4 -	7	4
MADISON	84	60.1 -	35 -	41 -	11	6	14 +	13	3 -
FFR555W	89 +	59.0 -	38 +	39 -	3 -	27 +	20 +	8	2 -
JACKSON	90 +	61.3 +	37 +	41 -	32 +	7	4 -	10	2 -
GA-GORE	83	60.1 -	32 -	38 -	39 +	1 -	4 -	12	5 +
COKER 9803	84	62.9 +	35 -	39 -	14	10	13	4 -	3 -
COKER 9835	85	59.8 -	35 -	36 -	22	1 -	13	8	3 -
PIONEER 2548	86 +	60.8	35 -	39 -	2 -	5 -	8	6	6 +
LSD (0.05)	3	0.4	1	1	11	5	5	6	1
Test Average	82	60.8	36	41	17	10	9	11	4

* The number in parentheses below column headings indicates the number of locations on which data are based. A plus or minus sign indicates a performance significantly above or below the test average, respectively.
** Disease severity was assessed based on percent (0 - 100%) leaf area infected.
+ Disease severity was assessed based on a 0-10 scale, where 0=no disease and 10=near 100% infection.

Table 3. Summary of performance of entries in the State Wheat Test, 1993-94.*

Brand/Variety	Yield (Bu/A)	Test Weight (Lb)	Date Headed (Mar 31+)	Height (In)	Lodging (0 - 100%)	Leaf Rust (%)**	Powdery Mildew (%)**	Soil Virus (0-5)+	Leaf Septoria (0-9)++
	(7)	(7)	(3)	(3)	(4)	(2)	(2)	(1)	(2)
FEATHERSTONE520	85 +	59.9 +	33	38 +	7 +	4	17 +	0	2 -
MADISON	79	57.4 -	32 -	38 +	1	0	20 +	0	3
FFR555W	82 +	57.7 -	34 +	37	0	8 +	29 +	0	2 -
JACKSON	84 +	59.2 +	34 +	38 +	4	4	15 +	0	2 -
GA-GORE	81	58.2	29 -	37	10 +	0	4 -	3 +	3
COKER 9803	73 -	59.9 +	32 -	34 -	1	4	21 +	0	2 -
COKER 9835	84 +	57.8 -	33	33 -	1	0	16 +	2	4 +
PIONEER 2548	76 -	57.9 -	33	36 -	0	3	19 +	1	3
LSD (0.05)	3	0.5	1	1	5	4	5	2	1
Test Average	79	58.5	33	37	2	3	10	1	3

* The number in parentheses below column headings indicates the number of locations on which data are based. A plus or minus sign indicates a performance significantly above or below the test average, respectively.
** Disease severity was assessed based on percent (0 - 100%) leaf area infected.
+ Disease severity was assessed based on a 0-5 scale, where 0=no disease and 5=near 100% infection.
++ Disease severity was assessed based on a 0-9 scale, where 0=no disease and 9=near 100% infection.

Table 4. Summary of performance of entries in the State Wheat Test, 1994-95.*

Brand/Variety	Yield (Bu/A)	Test Weight (Lb)	Date Headed (Mar 31+)	Height (In)	Lodging** (0.2-10)	Powdery Mildew (0-9)♦	Leaf Rust (0-9)	Septoria Leaf Blotch (0-9)	Glume Blotch (0-9)	BYD Virus (0-9)
	(6)	(6)	(4)	(5)	(2)	(3)	(3)	(1)	(1)	(3)
FEATHERSTONE520	76	58.4 +	29	34	2.5	0 -	4 +	4 +	3 +	5 +
MADISON	76	56.7	27 -	35 +	1.2	2 +	5 +	2 -	2	3 -
FFR555W-B	76	56.1	31 +	35 +	0.7	2 +	5 +	2 -	2	4
JACKSON	84 +	57.4	29	36 +	3.5 +	1	3	2 -	1 -	4
GA-GORE	76	56.0	26 -	33 -	4.6 +	0 -	2 -	3	2	4
COKER 9803	76	58.3 +	28 -	33 -	2.7	1	3	4 +	2	4
COKER 9835	78	56.0	29	31 -	3.5 +	1	1 -	3	3 +	4
PIONEER 2548-B	79	56.1	29	33 -	0.8	1	3	5 +	3 +	4
LSD (0.05)	6	0.9	1	1	1.4	1	1	1	1	1
Test Average	75	56.7	29	34	1.8	1	3	3	2	4

* The number in parentheses below column headings indicates the number of locations on which data are based. A plus or minus sign indicates a performance significantly above or below the test average, respectively.

** Belgian Lodging Scale = Area x Intensity x 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity = 1-5, where 1 is wheat standing upright and 5 is wheat lying totally flat.

♦ The 0-9 ratings indicate relative disease intensity where 0=none and 9=total plant infection.

Table 5. Summary of performance of entries in the State Wheat Test, 1992-95.

Brand/Variety	Yield (Bu/A)	Moist (%)	Test Weight (Lb)	Date Headed (Mar31+)	Height (In)	Lodging (0 - 100%)	Powdery Mildew (%)*	Leaf Rust (%)*
FEATHERSTONE520	80	13.7	59.9	31	37	26	7	25
MADISON	77	13.5	57.8	30	38	18	17	24
FFR555W-B	83	13.8	57.6	33	37	6	17	31
JACKSON	86	13.9	59.2	32	38	34	12	17
GA-GORE	80	13.6	57.8	28	36	30	5	11
COKER 9803	79	13.9	60.3	30	36	21	12	18
COKER 9835	80	13.9	57.4	31	33	20	13	10
PIONEER 2548-B	80	13.3	57.8	31	36	8	8	15
Test Average	81	13.7	58.5	31	36	24	12	20

* Disease severity was assessed based on percent (0 - 100%) leaf area infected.

Table 6.1 Milling Quality of Featherstone 520 Wheat for 1992-93*.

Cultivar	Mill Score	Bake Score	Straight Grade Flour Yield	Break Flour Yield	Fri-ability	Softness Index	Flour Ash	Mill-ability
**********				1992				**********
Featherstone 520	106 A	99 B	76.9	31.3	28.4	10.3	0.40	108.5
Massey	100 A	100 A	76.7	30.9	27.1	10.7	0.40	104.2
Saluda	95 C	86 D	75.9	32.1	26.9	11.4	0.38	102.7
Madison	106 A	91 C	77.1	28.6	28.3	10.4	0.40	108.8
"Standard"	102 A	110 A	76.6	35.0	27.6	10.4	0.35	114.3
**********				1993				**********
Featherstone 520	102 A	97 B	77.2	32.6	29.7	10.1	0.40	113.9
Massey	95 B	84 E	76.2	31.4	28.3	9.7	0.38	111.9
Saluda	96 B	68 F	76.3	31.3	28.6	9.6	0.39	111.6
Madison	100 A	100 A	76.7	28.7	29.2	9.5	0.39	114.6
"Standard"	92 C	99 B	76.6	35.0	27.6	10.4	0.35	114.3

*Data courtesy of USDA-ARS Soft Wheat Quality Lab, Wooster, Ohio.

Table 6.2 Baking Quality of Featherstone 520 Wheat for 1992-93*.

Cultivar	Mill Score	Bake Score	Flour Protein %	Flour Ash %	Water Absorb %	Cookie Diameter cm	Top Grain	Break Flour
**********1992**********								
Featherstone 520	106 A	99 B	8.47	0.40	52.7	17.73	5	31.3
Massey	100 A	100 A	9.09	0.40	52.8	17.78	5	30.9
Saluda	95 C	86 D	8.98	0.38	54.1	17.45	3	32.1
Madison	106 A	91 C	8.98	0.40	50.9	17.56	4	28.6
"Standard"	102 A	110 A	8.20	0.35	51.3	18.35	7	35.0
**********1993**********								
Featherstone 520	102 A	97 B	9.04	0.40	52.3	17.92	5	32.6
Massey	95 B	84 E	9.72	0.38	51.8	17.56	4	31.4
Saluda	96 B	68 F	9.49	0.39	53.8	17.29	2	31.3
Madison	100 A	100 A	9.38	0.39	48.2	17.85	3	28.7
"Standard"	92 C	99 B	8.20	0.35	51.3	18.35	7	35.0

*Data courtesy of USDA-ARS Soft Wheat Quality Lab, Wooster, Ohio.

Featherstone 520 Wheat

14E. Exhibit E. Basis of Applicant's Ownership

Featherstone 520 wheat, previously designated as VA 91-51-20, was developed under the auspices of the Virginia Agricultural Experiment Station. Marketing rights, pursuant to university policy on intellectual property, for this cultivar were granted to Featherstone Farm Seed of Amelia, Virginia in July 1995. Ownership of the cultivar resides with Virginia Polytechnic Institute and State University, of which the Virginia Agricultural Experiment Station is a part. Employees, who are Dr. T. M. Starling and Dr. C. A. Griffey, charged with developing this new cultivar as a condition of their employment understand that ownership rests with Virginia Polytechnic Institute and State University pursuant to university policy on intellectual property.