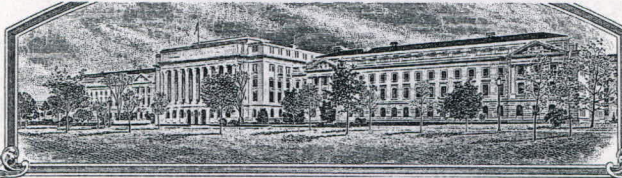


No.

9900140



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Texas Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

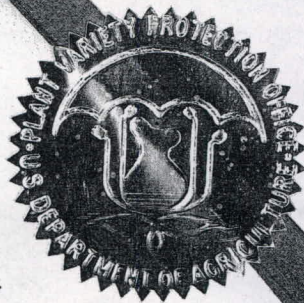
AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS 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 IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

POTATO

'Russet Norkotah 223'

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 second day of April, in the year two thousand two.



Attest:

R. L. M. J.

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Hereman

Secretary of Agriculture

9900140

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

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

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

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Texas Agricultural Experiment Station		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER TXNS 223	3. VARIETY NAME Russet Norkotah 223
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Office of the Director 110 Administration Building College Station, TX 77843-2147		5. TELEPHONE (include area code) 409.847.9325	FOR OFFICIAL USE ONLY PVPO NUMBER 9900140
		6. FAX (include area code) 409.845.9938	
7. GENUS AND SPECIES NAME Solanum tuberosum (L.)	8. FAMILY NAME (Botanical) Solanaceae	FILING AND EXAMINATION FEE: FEE: 2450.00 DATE: 1-14-99	
9. CROP KIND NAME (Common name) Potato		CERTIFICATION FEE: FEE: 320.00 DATE: 12/19/01	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name) Official Public Agricultural Research Agency of the State of Texas		11. IF INCORPORATED, GIVE STATE OF INCORPORATION	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS JAMIE HURLEY Technology Licensing Manager ASSOCIATE Agriculture/Life Sciences 310 Wisenbaker TECHNOLOGY LICENSING OFFICE College Station, TX 77843-3369 THE TEXAS A&M UNIVERSITY SYSTEM 3369 TAMU		14. TELEPHONE (include area code) 409.847.8682	
		15. FAX (include area code) 409.845.1402	
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> 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)? <input checked="" type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES (If "yes," give names of countries and dates) <input checked="" type="checkbox"/> NO			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.			
The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.			
Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s)) 		SIGNATURE OF APPLICANT (Owner(s))	
NAME (Please print or type) Dewey Liocioni		NAME (Please print or type)	
CAPACITY OR TITLE Assistant Vice Chancellor		DATE 	CAPACITY OR TITLE
		DATE	

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed Exhibits A, B, C, E; (3) at least 2,500 viable untreated seeds, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in a public repository prior to issuance of a certificate; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (*See Section 97.175 of the Regulations and Rules of Practice.*) Partial applications will be held in the PVPO for not more than 30 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Blvd., Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the Certificate.

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

ITEM

- 16a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.
- 16b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
- (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences;
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 16c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 16d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 16e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employee of the breeder, the owner through purchase or inheritance, etc.
17. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant may **NOT** reverse this affirmative decision after the variety has been sold and so labelled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See P.L. 103-349 for additional information.*)
20. See Sections 41, 42, and 43 of the Act and Section 97.175 of the regulations for eligibility requirements.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.*)

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

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Washington, DC 20260; and to the Office of Management and Budget, Paperwork Reduction Project (OMB No. 0581-0056), Washington, DC 20503.

EXHIBIT A JMP 10/04/01

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Preface:

Since applications for plant variety protection have been filed by Colorado for Russet Norkotah Selection 3 and Russet Norkotah Selection 8, we determined that it would be prudent to present comparison data not only with standard Russet Norkotah but also with these two strains. It should be noted that the Texas Russet Norkotah strain selection project was initiated in 1989, two years earlier than the Colorado program and that the Texas strains have been more extensively tested. In addition, since we are simultaneously submitting PVP applications for three strains, comparisons among the Texas strains are also presented in each of the applications, with the featured strain highlighted/bolded.

Exhibit A. Origin and Breeding History of the Variety.

Potato improvement through strain (sub-clonal, intraclonal, or line) selection within a variety has been practiced for years with several notable successes, including Russet Burbank from Burbank (Miller, 1954). Other examples include Red LaSoda from LaSoda (Miller, 1954) and Red Norland and Dark Red Norland from Norland. This form of potato improvement was thoroughly reviewed recently by Miller *et al.* (1995). The potato industry in Texas, as well as several other states, benefited from strain selection within Norgold Russet with the introduction in the 1970s of Norgold Russet Strain M. (Lever *et al.*, 1994). Norgold Russet M possesses stronger vines and produces yields more than 20% higher than the standard Norgold Russet; therefore, it became the predominant russet variety grown in Texas (Miller *et al.*, 1995). Because of its stronger vines, Norgold Russet M was better able to withstand the hot desiccating winds and hail commonly encountered in West Texas, the primary production area in Texas.

With the introduction of Russet Norkotah in 1987 (Johansen *et al.*, 1988), it quickly became apparent that Russet Norkotah would replace Norgold Russet as the early market russet variety of choice in the United States. By 1997, Russet Norkotah had become the second most popular variety in the U.S. with over 23,000 acres of certified seed grown in the U.S. and Canada (National Potato Council, 1998). The rapid acceptance of Russet Norkotah was due to many factors, including its attractive uniform tubers and high percentage of count carton tubers, as well as good storability for an early russet and resistance to second growth and hollow heart. Also, this new variety was superbly marketed to the industry. For these reasons, buyers began to demand Russet Norkotah rather than Norgold Russet. Therefore, if the early russet producing areas, including Texas, were to remain competitive they needed to grow the Russet Norkotah variety.

While Russet Norkotah has many desirable features, it is not perfect. Most notably, it possesses weak vines, is susceptible to most viruses, especially PVY and verticillium wilt, and requires considerable input of nitrogen fertilizer and pesticides. Russet Norkotah can be an unforgiving variety to grow. Based on the Norgold Russet experience, it was obvious that improved Russet Norkotah strains with stronger vines would be required. Furthermore, the urgency of the situation dictated that if this task were to be

accomplished in a timely manner, it could not simply be left for seedsmen, but that the Texas Potato Variety Development Program must take leadership in the strain development effort. The objectives of the Texas Russet Norkotah Strain (TXNS) project were to select, evaluate, and identify improved strains of Russet Norkotah with stronger vines and superior yield potential.

A Russet Norkotah strain selection project was initiated in 1989 by Dr. J. Creighton Miller, Jr. of the Texas Agricultural Experiment Station, Texas A&M University System as a component of the Texas Potato Variety Development Program. In that year, Dr. Miller selected 192 giant hill and/or tall type plants from seedsmen or commercial Russet Norkotah fields in Colorado, and 183 were selected from commercial fields in Texas (Fig.1). In 1990, the 375 clones (hills) were divided and half of the seed were planted near Springlake, TX, with the other half planted some 100 miles to the south near Seminole, TX. Dramatic differences in vine size were observed. Mechanical seed mixtures were eliminated. Selection pressure in 1990 was primarily for tuber type and yield, virtually ignoring plant vigor. The growing season in Seminole was marked by exceptionally high temperatures and hot desiccating winds, accompanied by drought stress. The plants at Springlake, while also grown in a hot environment, received adequate moisture. Based on performance at both Seminole and Springlake, some 58 of the 375 selections were kept for planting in 1991. In 1991, the seed of the surviving clones was divided, with half planted near Springlake, TX, and half planted in the Texas A&M University potato breeding nursery near Hooper, CO. Again, selection was primarily for yield and tuber-type, and 43 of the 58 clones were retained based on performance at both locations. In 1992, the 43 clones, 26 originally selected in Colorado in 1989 and 17 originally selected in Texas in 1989, were planted. Based on their performance in both Colorado and Texas, 13 clones were kept through 1997, 4 originally from Colorado and 9 originally from Texas. By 1998, 6 clones remained, all originally selected in Texas, including **Russet Norkotah 223**. Replicated trials (four replications and 25 plants per replicate) were first conducted in 1992 (Table 1, Fig 1) and continued through 1998 (Tables 2 and 3). Both sites were sandy loam soils, with a Tivoli fine sand in Texas and a Gunbarrel slightly sandy loam in Colorado. Hooper, CO is located at a latitude of 37.7° N with an elevation of 7,700 feet (2,348m), while Springlake, TX is at 34.1° N with an elevation of 3,682 feet (1,123m), but both are considered mid-latitudes climactically. Because both sites are at relatively high

elevations, there is considerable day/night temperature variation, especially in Hooper. Average day temperatures during the latter part of the growing season are about 10° F (6° C) higher at the Texas site. Planting occurred between March 15 - April 10 in Texas and between May 10 - 20 in Colorado. Harvest dates were between August 10 - 20 in Texas and between September 25 - October 10 in Colorado.

Row spacing was 36 in (91 cm) and 34 in (86 cm) between rows, with 9 in (23 cm) and 12 in (30 cm) within rows in Texas and Colorado, respectively. All plantings were in commercial fields under center pivot sprinkler irrigation with four replications, and standard cultural practices for the respective areas were used. Details for each year's planting can be found in the West Texas Vegetable Breeding Newsletter, Potatoes (Miller and Smallwood, 1976-1996) and in the Texas Potato Breeding Report (Miller et al., 1998). Even though the check Russet Norkotah seed used in these trials had been certified as virus free, **Russet Norkotah 223** still consistently out-yielded standard Russet Norkotah. Beginning in 1992, virus eradication procedures were initiated on **Russet Norkotah 223** in the Texas Potato Variety Development Program Laboratory at College Station, Texas because it had become contaminated with several viruses including PVS, PVY, PVX, and PLRV (Zapata *et al.*, 1995). Virus-free tissue culture plantlets were provided, under a memorandum of understanding, to Valley Tissue Culture, Halstad, MN, for mass increase and subsequent distribution to selected seed growers in Colorado for research and evaluation purposes, also under a memorandum of understanding.

Virus-free **Russet Norkotah 223** was entered in the Western Regional Trials in 1997 (Pavek *et al.*, 1998) and again in 1998. These trials consist of an early harvest at six sites (Kern County, CA; Kimberly, ID; Clovis, NM; Hermiston, OR; Springlake, TX; and Othello, WA) and a late harvest at nine sites (Tulelake, CA; Center, CO; Aberdeen and Kimberly, ID; Farmington, NM; Hermiston, Klamath Falls, Malheur, OR; and Othello, WA).

No variants have been observed in the numerous experimental field trials, large scale experimental grower evaluation trials, or from tissue cultured stocks since the original selection in 1989. This suggests that **Russet Norkotah 223** is uniform and stable.

9

*Fig. 1 Texas Russet Norkotah
Strain Selection Progression*

Year	89	90	91	92	93	94	95	96	97	98
CO	192	40	26	8	8	8	8	5	4	0
TX	183	18	17	10	10	10	10	9	9	6
Total	375	58	43	18	18	18	18	13	13	6

—————▶
Replicated Trials

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Exhibit B. Novelty Statement.

Results from more than a dozen replicated trials conducted in both Texas and Colorado from 1992-1994 (Miller and Smallwood, 1973-1997), in Texas from 1995-1998 (Miller and Smallwood 1973-1997; Miller et al., 1998) as well as results from the 1996 and 1997 Western Regional Trials (Exhibit D, Attachment 1) conducted at 15 locations in 7 western states (Pavek et al., 1997; Pavek et al., 1998), have demonstrated that **Russet Norkotah 223** consistently and significantly out yielded standard Russet Norkotah, usually by 20 to 30%. This increased yield seems to be related to increased vine vigor and some resistance to early dying (verticillium wilt) and is usually accompanied by an increase in average tubers per plant, tuber size, tuber length, lower percentage of dead vines at harvest and higher overall merit scores. **Russet Norkotah 223** is an outstanding early market alternative to the standard Russet Norkotah variety.

The variables measured included general rating, plant type, vigor, maturity, tuber yield, tuber number, and specific gravity. A general rating of 1 to 5, with 1=very poor, 2=poor, 3=good, 4=very good, and 5=excellent, was assigned and is an index that includes such factors as yield and tuber shape, size, and appearance. Plant type ratings included 1=upright, 2=semi-prostrate, and 3=prostrate. Plant vigor ratings ranged from 1 to 5, with 1=poor or weak, 2=fair, 3=medium, 4=vigorous, and 5=very vigorous. Plant maturity ratings in Texas also ranged from 1 to 5, with 1=very late, 2=late, 3=medium, 4=early, and 5=very early. Harvested potatoes were graded and separated into 4 categories, <4 oz. (114g), 4-6 oz. (114-170g), 6-10 oz. (170-284g), >10 oz. (284g), and tuber number and weights were recorded for each group. Specific gravity was determined by the weight in air/weight in water method, using 10 to 15 tuber samples of >6 oz. (170g) tubers.

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Table 1.-- Means for potato yield attributes of Texas Norkotah strain selections - (TXNS) and Russet Norkotah (RN) evaluated at two sites and averaged over three years, 1992-94.

Genotype	Total Yield (cwt/acre)	Yield >4 oz.	Yield >6 oz.	Yield >10 oz.	%Yield >4 oz.	%Yield >6 oz.	%Yield >10 oz.	Tubers /Plant	Average tuber weight(oz.)
Site: Hooper CO									
Russet Norkotah	258.4	203.9	134.9	42.1	79.1	51.4	16.2	4.7	4.6
TXNS112	377.8*	328.8	255.0	139.8	86.8	64.6	34.07	5.4	5.8
TXNS223	307.8*	268.4	219.1	102.2	87.0	70.5	31.9	4.3	6.2
TXNS278	370.8*	323.1	235.2	118.6	86.2	60.9	29.6	5.1	6.1
Site: Springlake, TX									
Russet Norkotah	278.0	212.6	117.6	54.3	74.9	38.71	17.3	4.8	5.0
TXNS112	337.7*	271.7	173.2	68.7	80.9	51.2	20.1	5.4	5.3
TXNS223	388.1*	339.1	237.9	111.2	86.9	60.6	27.0	5.5	5.9
TXNS278	332.0*	260.4	165.6	66.2	78.1	49.9	18.9	5.3	5.1

*Represents Texas Norkotah strain selections that significantly (at 5%) out yielded the standard Russet Norkotah.

Western Regional
Cooperative Trial
Strains

Table 2a. Total yield, total yield of U.S. No.1, under 4 ounce and culls/No.2 potatoes and general ratings for Russet Norkotah and 5 Russet Norkotah strains entered in the Western Regional Trial Russets grown at Springlake, Texas-1998.

Variety or Selection	Texas No.	Total Yield Cwt/A	U.S. No. 1 Cwt. Per Acre					Under 4 oz.	Culls/ No.2	General Rating ¹
			Total Yield	4-6 oz	6-10 oz	10-18 oz	Over 18 oz			
TXNS223	9667	454.8	371.0	91.3	179.6	90.3	9.8	44.6	39.2	4.0
TXNS278	9668	451.5	398.8	94.6	189.1	109.4	5.7	35.9	16.8	4.0
CORN-3	9658	337.4	320.8	61.7	141.9	96.8	20.4	16.6	0.0	4.0
TXNS112	9666	286.4	247.8	42.1	109.2	87.9	8.5	13.5	25.2	3.8
Russet Norkotah	NORK	273.8	232.0	52.5	113.4	63.6	2.6	36.7	5.1	3.4
CORN-8	9659	235.6	205.6	31.1	112.3	48.4	13.8	23.8	6.1	3.2
Average		339.9	296.0	62.2	140.9	82.7	10.1	28.5	15.4	3.7
L.S.D. (.05)		62.5	61.9	ns	49.6	ns	ns	17.6	15.1	

¹ 1=very poor to 5= excellent

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Western Regional
Cooperative Trial
Strains

Table 2b. Percent by weight of U.S. No. 1, under 4 ounce and culls/No.2 potatoes, specific gravity, tuber type and skin type for Russet Norkotah and 5 Russet Norkotah strains entered in the Western Regional Trial Russets grown at Springlake, Texas-1998.

Variety or Selection	Texas No.	Percent By Weight of U.S. No. 1					% By Weight		Specific Gravity	Tuber Type	Skin Type
		Total Yield	4-6 oz	6-10 oz	10-18 oz	Over 18 oz.	Under 4 oz.	Culls/ No. 2			
TXNS223	9667	81.6	20.2	39.5	19.5	2.1	9.5	8.6	1.077	Oblong	Russet
TXNS278	9668	88.3	21.2	42.1	23.8	1.2	8.1	3.6	1.081	Long	Russet
CORN-3	9658	95.0	18.1	42.8	28.2	6.0	5.0	0.0	1.074	Long	Russet
TXNS112	9666	86.4	14.8	37.7	30.7	3.2	4.7	8.9	1.078	Oblong	Russet
Russet Norkotah	NORK	83.9	17.9	43.1	22.1	0.9	13.3	2.7	1.077	Long	Russet
CORN-8	9659	87.3	13.2	47.6	20.6	5.9	10.1	2.5	1.081	Long	Russet
Average		87.1	17.6	42.1	24.2	3.2	8.5	4.4	1.078		
L.S.D. (.05)		4.8	ns	ns	ns	ns	4.2	5.2			

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Western Regional
Cooperative Trial
Strains

Table 2c. Average number of tubers per plant, average tuber weight, average number of stems per plant, percent stand at 40 days after planting, percent stand 60 days after planting, percent dead vine, and plant characteristics for Russet Norkotah and 5 Russet Norkotah strains entered in the Western Regional Trial Russets grown at Springlake, Texas- 19

Variety or Selection	Texas No.	Average Number Tubers/ Plant	Average Tuber Weight In oz.	Average Number Stems/ Plant	% Stand 40 DAP	% Stand 60 DAP	Plant Characteristics				% Dead Vine
							Plant Type ¹	Vigor ²	Maturity ³	Vine Size ⁴	
TXNS223	9667	6.4	5.9	2.2	96	100	2	3.7	3.5	3.0	0.0
TXNS278	9668	5.8	6.6	1.8	92	100	2	3.7	2.5	3.5	25.0
CORN-3	9658	4.3	6.9	2.0	84	93	2	3.3	3.5	3.5	0.0
TXNS112	9666	3.2	7.6	1.9	97	97	2	3.3	2.5	3.2	16.7
Russet Norkotah	NORK	4.1	5.8	2.1	96	96	2	3.0	1.8	1.8	25.0
CORN-8	9659	3.1	6.5	1.9	92	99	2	3.4	3.3	3.5	3.3
Average		4.5	6.5	2.0	93	98	2	3.4	2.9	3.1	11.7
L.S.D. (.05)			ns								

¹ 1= upright, 2= semiprostrate, 3= prostrate

² 1= poor, 2= fair, 3= medium, 4= vigorous, 5= very vigorous

³ 1= very early, 2= early, 3= medium, 4=late, 5= very late

⁴ 1=very small, 2=small, 3=medium, 4=large, 5=very large

Strip Trial
Strains

Table 3a. Total yield, total yield of U.S. No.1, under 4 ounce and culls/No.2 potatoes and general rating for Russet Norkotah and 5 Russet Norkotah strains in a strip trial grown near at Springlake, Texas-1998.

Variety or Selection	Texas No.	Total Yield Cwt/A	U.S. No. 1 Cwt. Per Acre					Under 4 oz.	Culls/ No.2	General Rating ¹
			Total Yield	4-6 oz	6-10 oz	10-18 oz	Over 18 oz			
TXNS112	9666	420.5	322.6	66.3	124.5	96.3	35.5	20.5	77.4	4.0
TXNS278	9668	361.9	300.6	80.0	152.5	58.8	9.3	23.3	38.1	4.3
CORN-8	9659	347.2	263.0	63.9	122.2	73.5	3.4	16.8	67.3	4.0
TXNS223	9667	338.9	259.9	63.2	138.0	58.8	0.0	22.5	56.4	3.7
CORN-3	9658	288.2	241.8	55.4	113.7	72.8	0.0	12.7	33.7	4.0
Russet Norkotah	NORK	275.5	236.1	90.6	99.2	46.3	0.0	28.7	10.6	3.7
Average		338.7	270.7	69.9	125.0	67.8	8.0	20.8	47.3	4.0
L.S.D. (.05)		80.2	ns	ns	ns	ns	ns	ns	ns	

¹ 1=very poor to 5= excellent

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Strip Trial
Strains

Table 3b. Percent by weight of U.S. No. 1, under 4 ounce and culls/No.2 potatoes, specific gravity, tuber type and skin type for Russet Norkotah and 5 Russet Norkotah strains in a strip trial grown near Springlake, Texas-1998.

Variety or Selection	Texas No.	Percent By Weight of U.S. No. 1					% By Weight		Specific Gravity	Tuber Type	Skin Type
		Total Yield	4-6 oz	6-10 oz	10-18 oz	Over 18 oz.	Under 4 oz.	Culls/ No. 2			
TXNS112	9666	77.2	15.8	29.5	24.0	7.8	4.7	18.1	1.057	Oblong	Russet
TXNS278	9668	83.5	21.7	42.0	16.9	2.9	6.1	10.4	1.057	Oblong	Russet
CORN-8	9659	76.1	18.6	35.1	21.6	0.8	4.9	19.0	1.055	Oblong	Russet
TXNS223	9667	76.9	18.5	40.9	17.5	0.0	6.9	16.2	1.055	Oblong	Russet
CORN-3	9658	84.0	19.1	39.9	25.0	0.0	4.5	11.5	1.058	Oblong	Russet
Russet Norkotah	NORK	85.6	32.9	35.9	16.8	0.0	10.5	3.9	1.054	Oblong	Russet
Average		80.6	21.1	37.2	20.3	1.9	6.2	13.2	1.056		
L.S.D. (.05)		ns	7.2	ns	ns	ns	ns	ns			

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Strip Trial
Strains

Table 3c. Average number of tubers per plant, average tuber weight, percent stand at 40 days after planting, and plant characteristics for Russet Norkotah in a strip trial and 5 Russet Norkotah strains grown near Springlake, Texas- 1998.

Variety or Selection	Texas No.	Average Number Tubers/ Plant	Average Tuber Weight In oz.	% Stand 40 DAP	Plant Type ¹	Characteristics	
						Vigor ²	Maturity ³
TXNS112	9666	4.7	7.4	100	2	3.7	4.0
TXNS278	9668	5.0	6.2	100	2	3.7	3.5
CORN-8	9659	4.4	6.6	100	2	3.7	4.0
TXNS223	9667	4.7	5.9	100	2	3.7	4.0
CORN-3	9658	3.5	6.8	100	2	3.7	4.0
Russet Norkotah	NORK	4.4	5.1	100	2	3.0	2.5
Average		4.5	6.3	100.0	2	3.6	3.7
L.S.D. (.05)			1.2				

¹1= upright, 2= semiprostrate, 3= prostrate

²1= poor, 2= fair, 3= medium, 4= vigorous, 5= very vigorous

³1= very early, 2= early, 3= medium, 4=late, 5= very late

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

OBJECTIVE DESCRIPTION OF VARIETY
POTATO (*Solanum tuberosum* L.)

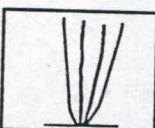
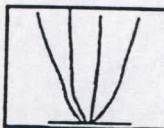

NAME OF APPLICANT(S) <u>Texas Agricultural Experiment Station</u> ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) Office of the Director 110 Administration Building College Station, TX 77843-2147	FOR OFFICIAL USE ONLY PVPO NUMBER <u>9900140</u> VARIETY NAME <u>Russet Norkotah 223</u> TEMPORARY OR EXPERIMENTAL DESIGNATION <u>TXNS223</u>
--	--

1. MARKET CLASS:

<input type="checkbox"/> 5 = Yellow-flesh tablestock ('Yukon Gold')	<input type="checkbox"/> 2 = Round-white tablestock ('Superior')	<input type="checkbox"/> 3 = Chip-processing ('Atlantic' or 'Snowden')
<input type="checkbox"/> 4 = Frozen-processing	<input type="checkbox"/> 5 = Russet tablestock ('Russet Burbank' or 'Russet Norkotah')	<input type="checkbox"/> 6 = Other (specify) _____

2. PLANT CHARACTERISTICS:

4 Growth Habit: (at bloom)

		
3=Erect(>45° with ground)	5=Semi-erect(30-45° with ground)	7=Spreading
	Russet Norkotah	

Please give comparison / examples: _____

2 Type: 1=Stem (foliage open, stems clearly visible) 2=Intermediate 3=Leaf (Foliage closed, stems hardly visible)

1 2 0 Maturity: Days after planting (DAP) Planting date: 3-26-98 Region/area: Springlake, TX
(at vine senescence)

3 Maturity class: 1=Very Early (<100 DAP) 2=Early (100-110 DAP) 3=Mid-season (111-120 DAP) 4=Late (121-130 DAP) 5=Very Late (>130 DAP)

<input type="checkbox"/> 1 <input type="checkbox"/> 5 Number of days earlier than <input type="checkbox"/> 3	Comparison Varieties
<input type="checkbox"/> Same number of days as <input type="checkbox"/> 4	1='Norland' 4=Other: <u>Norgold Russet M</u>
<input type="checkbox"/> 0 <input type="checkbox"/> 7 Number of days later than <input type="checkbox"/> 5	2='Atlanta' 5=Other: <u>Norkotah Russet</u>
	3='Russet Burbank' 6=Other: _____

3. STEM CHARACTERISTICS: (at beginning of bloom)

1 Intensity of anthocyanin coloration:

1=Absent	3=Weak	5=Medium	7=Strong	9=Very Strong
----------	--------	----------	----------	---------------

Comparisons / Russet examples: Norkotah _____

3 Stem Wings:

1=Absent	3=Weak	5=Medium	7=Strong	9=Very Strong
----------	--------	----------	----------	---------------

Comparisons / examples: _____
Russet Norkotah

4. LEAF CHARACTERISTICS:

3 Leaf color: Royal Horticulture Society (R.H.S.) or Mussell, Color Chart Value: 1 3 8 A

Color: 1=Yellowish-green 2=Olive-green 3=Medium green Russet 4=Dark green 5=Grey green 6=Other

Comparisons/examples: Norkotah

R.H.S. / Mussell value: 137A

4 Abaxial leaf pubescence, Lower Surface: General, No type of trichome specified

1=Glabrous (absent) 3=Glabrescent (very sparse) 5=Pubescent Russet Norkotah 7=Strongly pubescent

3 Abaxial leaf pubescence, Lower Surface: Type A, hairs with four-lobed head Density in mm² 4.3

1=Glabrous (absent) Russet Norkotah 3=Glabrescent (very sparse) 5=Pubescent 7=Strongly pubescent

2 Abaxial leaf pubescence, Lower Surface: Type B, hairs with a small globule at the tip Density in mm² 0.7

1=Glabrous (absent) Russet Norkotah 3=Glabrescent (very sparse) 5=Pubescent 7=Strongly pubescent

2 Abaxial leaf pubescence, Upper Surface: General, No type of trichome specified

1=Glabrous (absent) Russet Norkotah 3=Glabrescent (very sparse) 5=Pubescent 7=Strongly pubescent

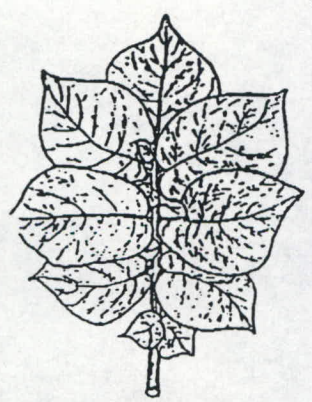
2 Abaxial leaf pubescence, Upper Surface: Type A, hairs with four-lobed head Density in mm² 0.3

1=Glabrous (absent) Russet Norkotah 3=Glabrescent (very sparse) 5=Pubescent 7=Strongly pubescent

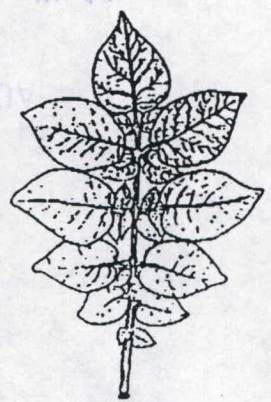
2 Abaxial leaf pubescence, Upper Surface: Type B, hairs with a small globule at the tip Density in mm² 0.7

1=Glabrous (absent) Russet Norkotah 3=Glabrescent (very sparse) 5=Pubescent 7=Strongly pubescent

6 Silhouette:



3=Closed



5=Medium



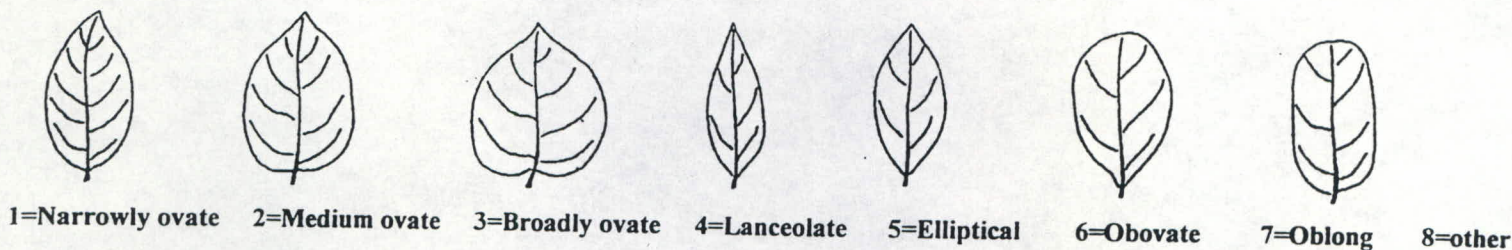
7=Open

Comparisons / Examples: Russet Norkotah

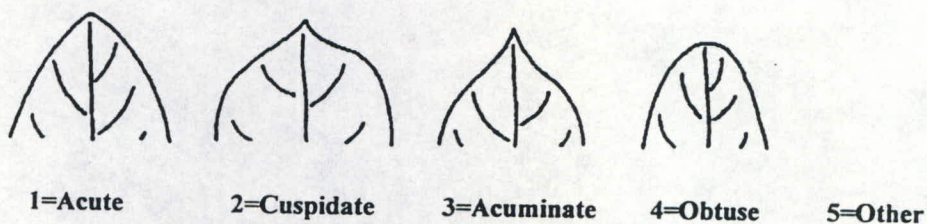
1 Petiole Color: Intensity of anthocyanin
 Comparisons / examples: Norkotah _____
 R.H.S. / Mussel values: _____

1=Absent Russet 3=Weak 5=Medium 7=Strong 9=Very Strong

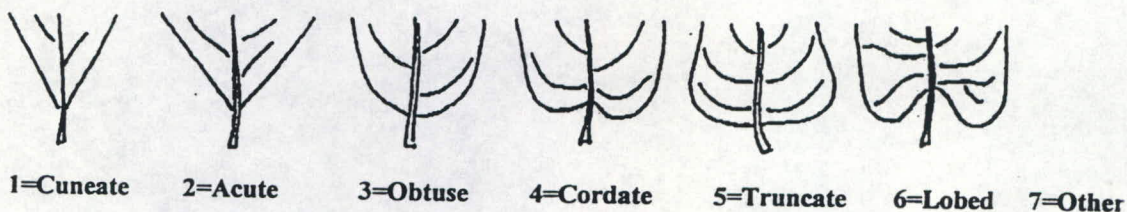
2 Terminal leaflet shape:



3 Terminal leaflet tip shape:



4 Terminal leaflet base shape:



3 Terminal leaflet margin waviness: _____
 Comparisons / examples: _____

3=Weak Russet 5=Medium 7=Strong
 Norkotah

5 Primary leaflets: Average number of pairs

1 Primary leaflets: Shape
 1=Narrowly ovate 2=Medium ovate 3=Broadly ovate 4=Lanceolate 5=Elliptical 6=Obovate 7=Oblong 8=other

3 Primary leaflets: Tip shape 1=Acute 2=Cuspidate 3=Acuminate 4=Obtuse 5=Other

7 Primary leaflets: Base shape 1=Cuneate 2=Acute 3=Obtuse 4=Cordate 5=Truncate 6=Lobed 7=Other
 Asymmetrically cordate

3 6 Number of secondary and tertiary leaflets: Please give range **3 4** to **4 2**

5. INFLORESCENCE CHARACTERISTICS:

5 Flowering profusion (inflorescence/plant)
 1=Non-flowering 3=Low 5=Medium 7=High 9=Very high
 Comparisons / examples: _____
 Russet
 Norkotah

5 Number of florets / inflorescence
 1=Very low 3=Low Russet Norkotah 5=Medium 7=High 9=Very high
 Comparisons / 'Russet Burbank' examples: _____

1 Closed Flower Bud: Intensity of anthocyanin
 1=Absent 3=Weak Russet Norkotah 5=Medium 7=High 9=Very high
 Comparisons / examples: _____

Corolla: Color of inner surface, predominant color
 R.H.S. Color Chart value

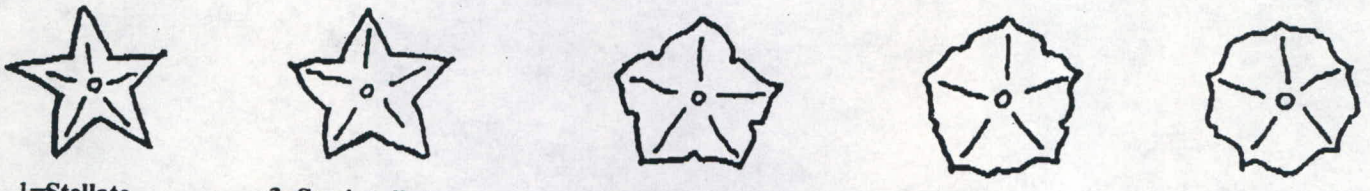
1 Corolla: Color of inner surface, secondary color
 1=Absent 2=Mottling 3=Streaking Secondary color
 R.H.S. Color Chart value

1 5 5 A Corolla: Color of outer surface, predominant color
 R.H.S. Color Chart value

1 Corolla: Color of outer surface, secondary color
 1=Absent 2=Mottling 3=Streaking Secondary color
 R.H.S. Color Chart value

5 Corolla: Size Diameter in mm
 3=Small 5=Medium 7=Large
 Comparisons / examples: _____ Russet Norkotah

3 Corolla: Shape




1=Stellate 3=Semi-stellate Russet Norkotah 5=Pentagonal 7=Rotate 9=Very rotate
 Comparisons / examples: _____

1 Calyx: Intensity of anthocyanin coloration
 1=Absent Russet Norkotah 3=Weak 5=Medium 7=Strong 9=Very Strong
 Comparisons / examples: _____

17A Anther Color: (when flower is fully expanded)
 R.H.S. Color Chart values: 17A yellow-orange
 Comparisons / examples: 14A yellow-orange

2 Anther: Shape

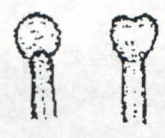


1=Broad cone Russet Norkotah 2=Narrow cone 3=Pear shape 4=Loose 5=Other
 Comparisons / examples: _____

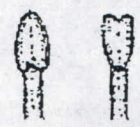
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1

Stigma: Shape



1=Capitate



2=Clavate



3=Bilobed

1 3 8 A

Stigma: Color, R.H.S. Color Chart value

6. TUBER CHARACTERISTICS:

6

Skin: Predominant Color

1 9 9 A

Skin: Color, R.H.S. Color Chart value

- 1=White 2=Light yellow 3=Yellow 4=Buff 5=Tan 6=Brown
- 7=Pink 8=Red 9=Purple-red 10=Purple 11=Purple-black 12=Other (Specify) _____

1

Skin: Secondary Color

- 1=Absent 2=Present

Skin: Secondary Color Distribution (if present)



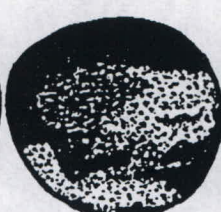
1=Eyes



2=Eyebrows



3=Splashed



4=Scattered



5=Spectacled



6=Stippled

7=Other (Specify) _____

Skin: Secondary Color

Skin: Color, R.H.S. Color Chart value

- 1=White 2=Light yellow 3=Yellow 4=Buff 5=Tan 6=Brown
- 7=Pink 8=Red 9=Purple-red 10=Purple 11=Purple-black 12=Other (Specify) _____

5

Skin: Texture

- 1=Smooth 2=Rough(flaky) 3=Netted 4=Russetted 5=Heavily russetted 6=Other (Specify) _____

5

Tuber: Shape



1=Compressed



2=Round



3=Oval



4=Oblong



5=Long

6=Other (specify) _____

2

Tuber: Thickness

- 1=Round 2=Medium thick 3=Slightly flattened 4=Flattened

4

Tuber Eyes: Depth

- 1=Protruding 3=Shallow 5=Intermediate 7=Deep 9=Very Deep

Comparisons / examples: _____

Russet Norkotah

7

Tuber Eyes: Number per Tuber

- 3=Few 5=Intermediate 7=Many

Comparisons / examples: _____

1 Tuber Eyes: Distribution 1=Predominantly apical 2=Evenly distributed

3 Tuber Eyes: Prominent of eyebrows 1=Not prominent 3=Slight prominence 5=Medium prominence 7=Very prominence

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Comparisons / examples:

Russet Norkotah

1 0 D Tuber Flesh: Color, predominant color R.H.S. Color Chart value

Tuber Flesh: Color, secondary color R.H.S. Color Chart value

3 Tuber: Number per plant 3=Low(<8) 5=Medium(8-15) 7=High(>15) Comparisons / examples: Russet Norkotah

7. REACTION TO DISEASES:

0=Not tested 1=Resistant 3=Moderately Resistant 5=Moderately Susceptible 7=Susceptible 9=Highly susceptible

Russet Norkotah

Russet Norkotah

Bacterial Ring Rot: Foliar reaction

5 PLRV (leaf roll)

7

Bacterial Ring Rot: Tuber reaction

PVX

7 Tuber & Foliar Late Blight

7 PVY

7

7 Other (specify) Verticillium Wilt 8 8

8. REACTION TO PESTS:

0=Not tested 1=Resistant 3=Moderately Resistant 5=Moderately Susceptible 7=Susceptible 9=Highly susceptible

Golden Nematode

Other (specify)

9. INSERTION OF GENES:

Yes

X No

Describe the gene(s) introduced

10. QUALITY CHARACTERISTICS:

Chief Market: Fresh Market, Storage

3 Specific Gravity (wt. air /wt. air -wt. water) 1 ≤ 1.060 2 = 1.060-1.069 3 = 1.070-1.079 4 = 1.080-1.089 5 ≥ 1.090

Total Glycoalkaloid Content (mg/100 g fresh tuber) 1.4 mg/100g FW

OTHER QUALITY CHARACTERISTICS: Describe any other quality characteristics that may aid in identification, (e.g. chip-processing, french fry processing, baking, boiling, after-cooking darkening). Please attach data and corresponding protocol.

11. CHEMICAL IDENTIFICATION: Describe chemical traits of the candidate variety that aid in its identification (e.g. protein or DNA electrophoresis). Please attach data and the corresponding protocol.

9900140

12. ADDITIONAL COMMENTS AND CHARACTERISTICS: Include any additional descriptors that would be useful in distinguishing the candidate variety.

Please see Exhibit D

APR 19 1999
NATIONAL ARCHIVES

9900140

RUSSET
NORKOTAH

223



RUSSET
NORKOTAH



RUSSET
NORKOTAH

223

RECEIVED 09/01/99

Exhibit D. Additional Description of the Variety

(Summary from attachments and other information).

- Yield** -The three Texas Russet Norkotah selections, TXNS 112, **TXNS 223**, and TXNS 278 have consistently out-yielded standard Russet Norkotah by an average of at least 20%. While not always statistically significant, we have not observed a single case in more than 25 trials where standard Russet Norkotah out-yielded any of the three Texas strains. It is impossible to state which of the three strains is the highest yielding, because this depends on year, location, and accompanying environments. The increased yield of the three strains is probably due to many factors, but certainly the larger vine size, increased number of tubers, and larger tuber size are the major factors that contribute to the higher yield observed in all three strains.
- Plant Characteristics**

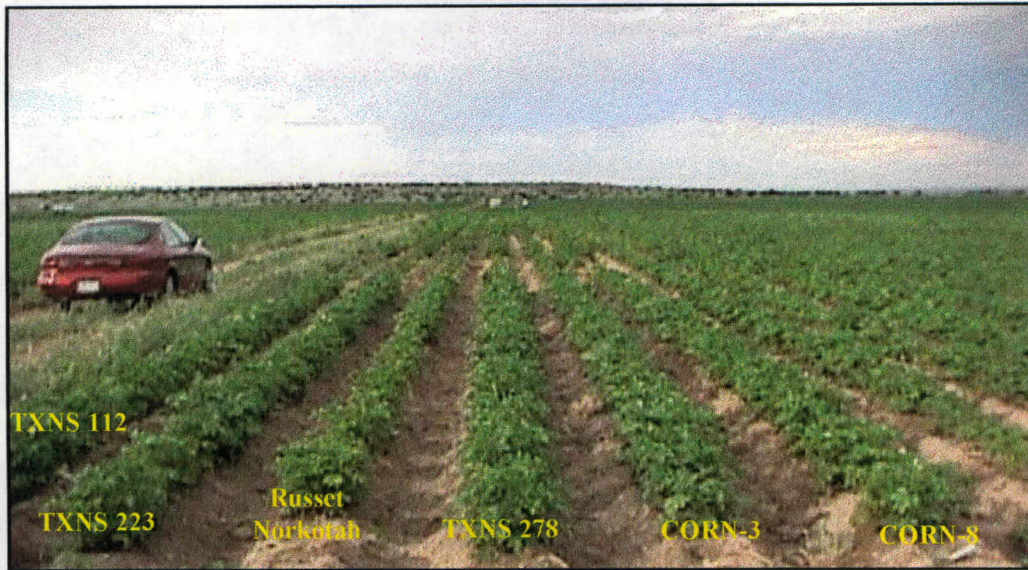


Russet Norkotah



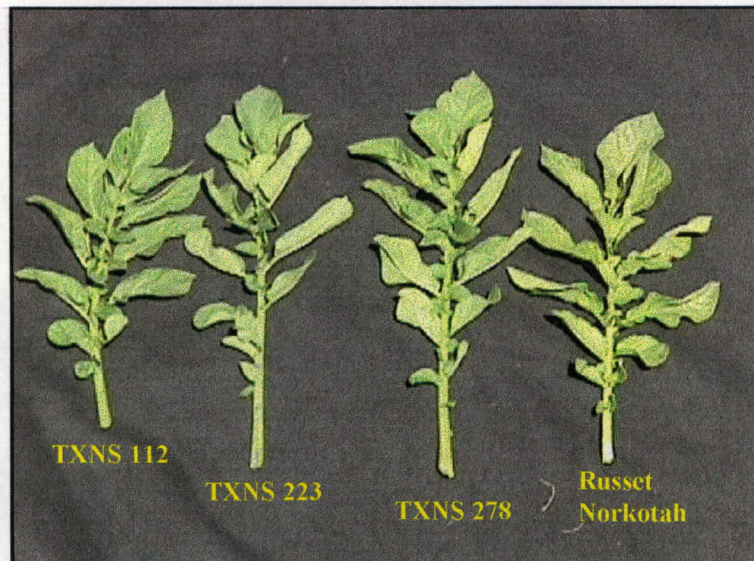
TXNS 223

- Vine Size** - TXNS 112, **TXNS 223**, and TXNS 278 all have larger vines than standard Russet Norkotah. TXNS 112 is the largest plant type followed by TXNS 278 and **TXNS 223**. The differences in vine size are illustrated in the 1998 pictures from our Arizona nursery, above (Russet Norkotah and TXNS 112) and below, which shows from left to right: TXNS 112, **TXNS 223**, Russet Norkotah, TXNS 278, and the two Colorado Russet Norkotah selections, CORN-3, and CORN-8.



Average plant measurements from Texas and Arizona, 1998

parameters measured	TXNS 112	TXNS 223	TXNS 278	Russet Norkotah
Stem Diameter (mm)	12.5	14.1	14.4	9.5
Stem Length (cm)	72.2	62.8	63.3	49.2
Leaf Length (cm)	19.9	19.8	21.4	19.1
Leaf Area (sq. cm)	436.1	348.6	422.5	296



Leaves of the three Texas strains and Russet Norkotah from Arizona, 1998.

- **Stems Per Hill (Plant)** - The Texas strains (TXNS 112, **TXNS 223**, and TXNS 278) have more stems than Russet Norkotah and the two Colorado strains. Their stems are also larger and longer than those of standard Russet Norkotah. **TXNS 223** has the most stems followed by TXNS 112 and TXNS 278, respectively.
- **Maturity** - The Texas strains (TXNS 278, TXNS 112, and **TXNS 223**) are later in maturity than standard Russet Norkotah by about 12, 9, and 7 days, respectively. CORN-3 is the latest of all the strains.
- **Flowering** - The Texas strains (TXNS 112, **TXNS 223**, and TXNS 278) tend to have longer flowering periods than standard Russet Norkotah with TXNS 278 the longest followed by **TXNS 223**, and TXNS 112.

- **Tuber Characteristics**



Russet Norkotah



TXNS 223

- **Tuber Length** - The length/width ratio of the Texas strains (TXNS 112, **TXNS 223**, TXNS 278) as well as CORN-3 and CORN-8 are higher than standard Russet Norkotah. The Colorado strains tend to be longer than the three Texas strains with **TXNS 223** tending to be the longest of the Texas strains followed by TXNS 278 and TXNS 112.
- **Average Tuber Size** - The Texas strains (TXNS 112, **TXNS 223**, and TXNS 278) as well as the Colorado strains tend to be larger than standard Russet Norkotah. The two Colorado strains tend to have larger average tuber size but more culls than the three Texas strains. TXNS 112 tends to have more culls than the other two Texas strains.

- Eye Depth - The Texas strains (TXNS 112, TXNS 223, and TXNS 278) as well as the Colorado strains tend to have deeper eyes than standard Russet Norkotah. CORN-3 has the deepest eyes followed by CORN-8, TXNS 112, TXNS 278, and TXNS 223.
- Degree of Russeting - The Texas strains (TXNS 112, TXNS 223, and TXNS 278) as well as the Colorado strains tend to have a heavier russeting than standard Russet Norkotah.
- Tuber Dormancy - TXNS 223 appears to have a longer tuber dormancy than TXNS 278 and TXNS 112. Standard Russet Norkotah has the shortest dormancy.
- Specific Gravity - The Texas strains (TXNS 112, TXNS 223, and TXNS 278) as well as the Colorado strains tend to have higher specific gravity than standard Russet Norkotah. The two Colorado strains tend to have higher specific gravity than the three Texas strains. TXNS 278 tends to have the highest specific gravity of the three Texas strains.

- **Plant and Tuber Diseases**
 - Late Blight - TXNS 278 and CORN-3 is less susceptible to foliar late blight, receiving ratings of susceptible (S) compared to very susceptible (VS) for TXNS 112, TXNS 223, CORN-8, and Russet Norkotah. With regard to the more important tuber late blight reaction, TXNS 112 and TXNS 278 are moderately resistant (MR) while TXNS 223, CORN-8, and CORN-3 are susceptible (S). Russet Norkotah is moderately susceptible.

20 7/11/14

02/14

Table . Evaluation of Russet Norkotah strains for foliar late blight at Mt. Vernon, Washington, 1997.

Clone	Average AUDPC ¹
Russet Norkotah	2141 l-p
CORN-3	1769 g-n
CORN-8	2307 nop
TXNS112	2236 m-p
TXNS223	2542 op
TXNS278	1790 h-n

¹AUDPC = Area under the disease progress curve. Clone means followed by the same letter are not significantly ($p=0.05$) different. The Russet Norkotah strains were 6 of 41 clones evaluated.

Table . Response of Russet Norkotah strains to late blight pressure at Corvallis, Oregon, 1997.

Clone	Foliar Rating ¹	% Tuber Infected ²	Relative Tuber Rot Susceptibility	Rot Index ³
Russet Norkotah	97.5	27.5	S	3.8
CORN-3	96.3	17.5	MS	3.0
CORN-8	96.3	27.5	S	4.0
TXNS112	100.0	37.5	S	6.0
TXNS223	96.3	20.0	S	2.8
TXNS278	90.0	17.5	MS	2.3
LSD 0.05 ⁴	12.9	19.2		3.5

¹0=0% of leaf surface infected; 50=50% of leaf surface involved; 100=100% of leaf surface necrotic on 9/4/97

²Percent of tubers showing late blight infection based on 10 randomly selected tubers/plot.

³Rot severity rating (includes secondary infection): 1=healthy tubers to 10=uncontrollable decay.

⁴Values based on 27 entries, 6 of which were the Russet Norkotah clones.

- Early Blight - The Texas strains (TXNS 112, TXNS 223, and TXNS 278) as well as the Colorado strains tend to have increased resistance to early blight when compared to standard Russet Norkotah.
- Verticillium Wilt - All of the Texas strains (TXNS 112, TXNS 223, and TXNS 278) as well as the Colorado strains tend to have increased resistance to Verticillium wilt/early dying with ratings of susceptible (S) versus very susceptible (VS) for Russet Norkotah. TXNS 278 tends to have the highest level of resistance.

- **Potato Virus Y (PVY)** - While standard Russet Norkotah and all of the strains are susceptible to PVY, TXNS 278 appears to have some resistance.
- **Hollow Heart** - Russet Norkotah exhibits a high level of resistance to hollow heart. The strains tend to exhibit slightly higher levels of susceptibility to hollow heart with the following ranking from most to least: CORN-3 and CORN-8, TXNS 112, TXNS 278, and **TXNS 223**.
- **Translucent Ends (Sugar ends)** - The strains tend to have a higher susceptibility than Russet Norkotah. Of the Texas strains, **TXNS 223** appears to be the most susceptible.
- **Scab** - All of the Texas strains, TXNS 112, **TXNS 223**, and TXNS 278 appear to be resistant to scab as is standard Russet Norkotah. CORN-3 appears to be somewhat susceptible.
- **Potato Leaf Roll Virus (PLRV) Foliar** - TXNS 112 and TXNS 278 appear to be less susceptible to PLRV than standard Russet Norkotah.
- **Other Important Characters**
 - **Vitamin C** - The vitamin C content of the strains (TXNS112, **TXNS 223**, and TXNS 278) has been reported to be slightly higher than Russet Norkotah.
 - **Sustainability of Potato Production** - Soil fertility investigations have demonstrated that, while the Texas strains respond to increasing levels of fertilizer nitrogen, a reasonable crop can be expected from all three strains grown at nitrogen levels somewhat lower than those customarily applied to standard Russet Norkotah. In addition, higher levels of resistance to several diseases can result in reduced production cost because fewer applications of pesticides are required.
 - **Yield Potential** - With increased yield potential of the strains, returns to the producer should be substantially increased.

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20 - 100 19

1996 and 1997 WESTERN REGIONAL POTATO VARIETY TRIAL REPORT

State Experiment Stations and
USDA-ARS Cooperating

California

Colorado

Idaho

New Mexico

Oregon

Texas

Washington

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1996 and 1997 WESTERN REGIONAL POTATO VARIETY TRIAL REPORT

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TABLE 1: 1996 Western Regional Potato Variety Trial - LOCATIONS, COOPERATORS, AND CULTURAL INFORMATION

No.	Locations	Cooperators	Trial	Irri.	Fertilizer N-P-K-S(lb/A)	Hrvst Method	Dates			Days to Vine Kill	Days to Harvest
							Plant	Vine Kill	Hrvst		
1	Tulelake California (TUL)	R. Voss	Late	Sprink.	123-60-60	Mach.	15-May	13-Sep	25-Sep	121	133
2	San Luis Valley Colorado (SLV)	D. Holm	Late	Pivot	140-100	Mach.	19-May	31-Aug	24-Sep	104	128
3	Aberdeen Idaho (AB)	S. Love, D. Corsini, J. Pavsek	Late	Sprink.	240-180-80	Mach.	29-Apr	30-Aug	16-Sep	123	140
4	Kimberly Idaho (KIM)	S. Love, D. Corsini, J. Pavsek	Early Late	Sprink. Sprink.	228-203 228-203	Mach. Mach.	25-Apr 25-Apr	31-Jul	7-Aug 18-Sep	97	104 146
5	Clovis New Mexico (CLV)	A. Carter	Comb.	Sprink.	42-110-0-35 +		20-Mar	2-Aug	14-Aug	135	147
6	Farmington New Mexico (FRM)	E. J. Gregory	Late	Furrow	200-208	Hand	19-Apr		1-Oct		165
7	Hermiston Oregon (HRM)	D. Hane, A. Mosley	Early Late	Pivot Pivot		Mach. Mach.	20-Mar 19-Apr	30-Jul 17-Sep	13-Aug 30-Sep	132 151	146 164
8	Klamath Falls Oregon (KLM)	K. Rykbost, J. Maxwell	Late	Sprink.	150-150-150	Mach.	24-May	12-Sep	27-Sep	111	126
9	Malheur Oregon (MAL)	C. Shock, A. Mosley	Late	Sprink.	108	Hand	23-Apr	13-Sep	20-Sep	143	150
10	Springlake Texas (SPR)	J.C. Miller Jr., D. Schuring D. Smallwood	Early	Sprink.	180-120-120	Hand	28-Mar	10-Aug	20-Aug	135	145
11	Othello Washington (OTH)	R. Thornton, J. Rupp	Early Late	Sprink. Linear	325-300-300 290-290-270	Mach. Mach.	17-Apr 22-Apr	16-Aug 19-Sep	27-Aug 1-Oct	121 150	132 162

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TABLE 1: 1997 Western Regional Potato Variety Trial - LOCATIONS, COOPERATORS, AND CULTURAL INFORMATION

No.	Locations	Cooperators	Trial	Irri.	Fertilizer N-P-K-S(lb/A)	Hrvst Method	Dates			Days to Vine Kill	Days to Harvest
							Plant	Vine Kill	Hrvst		
1	Tulelake California (TUL)	R. Voss, H. Phillips D. Kerby	Late	Sprink.	207-180-217	Mach.	14-May	20-Sep	30-Sep	129	139
2	San Luis Valley Colorado (SLV)	D. Holm	Late	Pivot	160-100	Mach.	21-May	8-Sep	1-Oct	110	133
3	Aberdeen Idaho (AB)	S. Love, D. Corsini, J. Pavek	Late	Sprink.	220-180-40	Mach.	28-Apr	3-Sep	17-Sep	128	142
4	Kimberly Idaho (KIM)	S. Love, D. Corsini, J. Pavek	Early Late	Sprink. Sprink.	247 247	Mach. Mach.	22-Apr 22-Apr	6-Aug	12-Aug 8-Oct	106	112 169
5	Clovis New Mexico (FRM)	R.D. Baker	Late	Furrow	98-56-14	Hand	25-Mar	17-Jul	30-Jul	114	127
6	Farmington New Mexico (FRM)	E. J. Gregory, C. Owen	Late	Sprink.	150-104		23-Apr		15-Oct		175
7	Hermiston Oregon (HRM)	D. Hane, A. Mosley	Early Late	Pivot Pivot	225-80-0-40	Mach. Mach.	20-Mar 22-Apr	14-Jul 16-Sep	25-Jul 8-Oct	116 147	127 169
8	Klamath Falls Oregon (KLM)	K. Rykbost, J. Maxwell	Late	Sprink.	160-80-80	Mach.	19-May	2-Sep	29-Sep	106	133
9	Malheur Oregon (MAL)	C. Shock, A. Mosley J. Ishida	Late	Sprink.	199	Hand	5-May	5-Sep	15-Sep	123	133
10	Springlake Texas (SPR)	J. C. Miller, Jr., J. Koym D. Scheuring	Early	Sprink.	150-120-120	Hand	25-Mar	16-Jul	27-Jul	113	124
11	Othello Washington (OTH)	R. Thornton, N. Fuller J. Rupp	Early Late	Sprink. Linear	226-390-400 330-340-250	Mach. Mach.	9-Apr 16-Apr	8-Aug 13-Sep	26-Aug 30-Sep	121 150	139 167

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TABLE 2a: 1996 Western Regional Potato Variety Trial - PLOT INFORMATION, SOIL TYPE, FUNGICIDES, AND INSECTICIDES

Plot Information:	CA	CO		ID			NM		OR			TX	WA	
	TUL	SLV	AB	KIM		CLV	FRM	HRM		KLM	MAL	SPR	OTH	
	L			E	L	E	L	E	L			E	E	L
Rows / Plot	1	1	1	1	1	1	1	1	1	1	1	1	3	3
Length of Plot - Row (ft.)	20	25	20	20	20	20	15	23	23	22	26	15	20	20
Hill Spacing (in.)	9	12	10	10	10	9	6	9.25	9.25	8.7	9	9	10	10
Row Spacing (in.)	36	34	36	36	36	40	34	34	34	32	36	36	34	34
Hills / Plot - Row	27	25	24	24	24	27	30	30	30	30	35	20	25	25
Number of Reps	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Soil Type:														
Tyoni Fine Sand												X		
Fine Sandy Loam							X			X				
Pullman Clay Loam								X						
Sandy Loam	X	X	X					X	X					
Silt Loam				X	X						X		X	X
Fungicides:														
Bite Out									X					
Blue Shield									X					
Botran									X					
Bravo	X	X	X	X	X				X	X	X	X	X	X
Kocide	X								X					
Mancozeb (Dithane, Manzate)	X			X	X				X	X			X	X
Ridomil	X								X	X				
Rovral	X								X					
Sulfur											X			
Sul Prene											X			
Supanil									X					
Super Tin									X					
Tattoo, Tattoo-C									X				X	X
Terranil													X	X
Tops 2.5, Tops 5%							X		X			X		
Insecticides:														
Admire			X								X			
Asana									X			X	X	X
Ambush				X	X				X					
Comite									X		X			
Dimethoate									X					
Disyston		X								X				
Dyfonate									X					
Furadan									X					
Kryocide				X	X									
Lannate											X			
Malathion														
Monitor			X							X				
Mycotrol													X	X
M Track				X	X									
Sevin	X			X	X									
Sulpreme 52 Sulfur							X							
Temik									X					

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TABLE 2a: 1997 Western Regional Potato Variety Trial - PLOT INFORMATION, SOIL TYPE, FUNGICIDES, AND INSECTICIDES

	CA	CO	ID			NM		OR			TX	WA	
	TUL	SLV	AB	KIM		CLV	FRM	HRM	KLM	MAL	SPR	OTH	
	L	L	L	E	L	L	L	E	L	L	E	E	L
Plot Information:													
Rows / Plot	1	1	1	1	1	1	1	1	1	1	1	3	3
Length of Plot - Row (ft.)	20	25	20	20	20	20	15	23	23	22	26.3	19	20
Hill Spacing(in.)	9	12	12	12	12	9	6	9	9	8.7	9	10	10
Row Spacing (in.)	36	34	36	36	36	40	34	34	34	32	36	36	34
Hills / Plot - Row	27	25	20	20	20	27	30	30	30	30	35	25	25
Number of Reps	4	4	4	4	4	4	4	4	4	4	4	4	4
Soil Type:													
Tyoll Fine Sand												X	
Fine Sandy Loam							X		X				
Loamy Fine Sand													
Pullman Clay Loam						X							
Sandy Loam		X						X					
Silt Loam			X	X	X					X		X	X
Organic 8% - Silty Clay Loam	X												
Fungicides:													
Acrobat			X										
Botran								X					
Bravo	X	X	X	X	X			X	X	X	X	X	X
Curzate								X				X	X
Champ	X												
Dithane	X							X		X			
Kocide	X								X				X
Manex								X					
Marzate 200 DF												X	X
Mancozeb									X				
Ridomil								X	X				
Rovral								X					
Super Tin								X					
Tattoo	X												
Topo 2.5						X			X		X		
Tri-Fol								X					
Sulfur										X			
Insecticides:													
Admira			X							X			
Asana								X			X	X	X
Ambush						X							
Comite								X		X			
Diazanin								X					
Dimthoate								X					
Disyston		X							X				
Furadan								X					
Guthion								X					
Kocide										X			
Lannate								X					
Monitor		X	X					X	X				
Sevin				X	X								
Temik				X	X			X					
Thiodan			X							X			
Vydate								X		X			

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TABLE 2b: 1996 Western Regional Potato Variety Trial -HERBICIDES, VINE KILLING, ENVIRONMENTAL FACTORS, AND PROBLEMS OR COMMENTS

	CA	CO	ID		NM		OR			TX	WA	
	TUL	SLV	AB	KIM		CLV	FRM	HRM	KLM	MAL	SPR	OTH
	L			E	L	L		E	L		E	L
HERBICIDES:												
Ambush												
Dual		X								X	X	
Eptam			X					X	X	X		X X
Metribuzin (Sencor / Lexone)			X	X	X			X			X	
Matrix			X	X	X				X	X		
Poast										X		
Prowl										X		X X
Treflan						X						
Turbo							X					
Fumigant:												
Metam Sodium 42%								X				
Tellone II									X	X		X X
Vine Killing:												
Diquat	X		X						X			
Sulfuric Acid		X										
Vine Beater / Mower				X	X	X				X	X	X X
Environmental Factors:												
Above Normal Temp in May											X	
Above Normal Temperatures												
Cold, Wet, Spring									X			
High Temp During Tuber Initiation						X						
Hot in July and August									X	X		
Problems or Comments:												
Fusarium in Russet Norkotah						X						
Lower Yields						X						
Low Stands												
PVY in A82360-7, RB, TX1229-12RU			X									
PLRV in TXAV657-27	X											
Severe Defoliation from Beetles					X							
Spotted Spider Mite Damage												X
Water Rot										X		

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TABLE 2b: 1997 Western Regional Potato Variety Trial -HERBICIDES, VINE KILLING, ENVIRONMENTAL FACTORS, AND PROBLEMS OR COMMENTS

	CA	CO	AB	ID		NM		OR			TX	WA		
	TUL	SLV		KIM		CLV	FRM	HRM		KLM	MAL	SPR	OTH	
	L	L		E	L	L	L	E	L	L	L	E	E	L
HERBICIDES:														
Dual		X								X	X			
Eptam				X	X				X	X		X	X	
Prowl									X		X	X	X	
Matrix			X	X	X				X	X				
Metribuzin (Sencor / Lexone)			X	X	X				X		X			
Roundup											X			
Turbo						X								
Fumigant:														
Telone II										X				
Vapam									X					
Vine Killing:														
Diquat	X									X				
Enquick								X						
Sulfuric Acid		X												
Vine Beater / Mower						X			X			X	X	
Environmental Factors:														
Cool and Wet: April, May, June											X			
Excellent season										X				
Problems or Comments:														
High Yields										X				
Planted 10 days later than usual.											X			
Spider Mite Damage caused early plant senescence.													X	

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TABLE 3: 1996 Western Regional Potato Variety Trial - CLONE, ENTERED BY: SEED SOURCE, TUBER DESCRIPTION, USE,
VINE/FLOWER DESCRIPTIONS, AND YEARS IN TRIAL

Clone	Entered by	Seed Source	Tuber Description	Use	Flower/Vine Description (Aberdeen)			Years in Trial	Disposition 1997
					lower Colo	Vine Size	Maturity		
TXNS112	Texas	CO	Long Med Russet	Fresh	White	Small	Early	1	Cont.
TXNS278	Texas	CO	Long Med Russet	Fresh	White	Small	Early	1	Cont.
RUSSET BURBANK	Ck	OR	Long Med Russet	Dual	White	Med-large	Med-late		Ck
RUSSET NORKOTAH	Ck	OR	Long Med Russet	Fresh	White	Small	Early		Ck

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TABLE 3: 1997 Western Regional Potato Variety Trial - CLONE, ENTERED BY: SEED SOURCE, TUBER DESCRIPTION, USE, VINE/FLOWER DESCRIPTIONS, AND YEARS IN TRIAL

Clone	Entered by	Seed Source	Tuber Description	Use	Flower/Vine Description (Aberdeen)			Years in Trial	Disposition 1998
					lower Colo	Vine Size	Maturity		
TXNS112	Texas	TX	Long Med Russet	Fresh	White	Small	Early	2	
TXNS223	Texas	TX	Long Med Russet	Fresh	White	Small	Early	1	
TXNS278	Texas	TX	Long Med Russet	Fresh	White	Small	Early	2	
RUSSET BURBANK	Ck	OR	Long Med Russet	Dual	White	Med-large	Med-late	-	
RUSSET NORKOTAH	Ck	OR	Long Med Russet	Fresh	White	Small	Early	-	
CORN-3	Colorado	CO	Long Med Russet	Fresh	White	Small	Early	1	
CORN-8	Colorado	CO	Long Med Russet	Fresh	White	Small	Early	1	

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TABLE 4: 1996 Western Regional Potato Variety Trial - PERCENT STAND IN 40 DAYS AND 60 DAYS AND PERCENT DEAD AT VINE KILL

Clone	40 Days											60 Days											Percent Dead Vine			
	CA	ID				OR		TX	WA		Entry	CO	ID				OR		TX	WA		Entry	TX	WA	Entry	
	TUL	AB	KIM		HRM		KLM	SPR	OTH	Mean	SLV		AB	KIM		HRM		KLM	SPR	OTH	Mean	SPR	OTH	Mean		
	L	L	E	L	E	L	L	E	E	L	L		L	E	L	E	L	L	E	E	L	E	L	E	L	
TXNS112	98	91	94	95	78	85	92	94	54	100	88	98	95	98	98	98	99	98	98	96	100	98	40	79	100	73
TXNS278	92	83	84	95	73	93	97	88	67	82	85	99	94	93	98	100	100	99	96	94	100	97	40	80	100	73
R. BURBANK	87	81	78	86	73	94	88	94	88	100	87	98	93	90	97	100	98	98	99	100	100	97	80	35	100	72
R. NORKOTAH	87	85	93	92	83	90	93	93	81	98	90	99	91	96	99	98	98	96	98	100	98	97	90	93	100	94
Location Means	91	85	87	92	77	91	93	92	73	95	87	99	93	94	98	99	99	98	98	98	100	97	63	72	100	78

TABLE 4: 1997 Western Regional Potato Variety Trial - PERCENT STAND IN 40 DAYS AND 60 DAYS AND PERCENT DEAD AT VINE KILL

Clone	40 Days											60 Days											Percent Dead Vine		
	CA	ID				OR		TX	WA		Entry	CO	ID				OR		TX	WA		Entry	WA	Entry	
	TUL	AB	KIM		HRM		KLM	SPR	OTH	Mean	SLV		AB	KIM		HRM		KLM	SPR	OTH	Mean	OTH	Mean		
	L	L	E	L	E	L	L	E	E	L	L		L	E	L	E	L	L	E	E	L	E	L	E	L
TXNS112	90	99	86	98	85	87	90	86	90	99	91	97	99	96	98	99	100	96	100	99	100	98	56	98	77
TXNS223	-	96	88	90	95	92	98	82	82	97	91	100	99	96	96	100	100	98	98	100	100	99	54	100	77
TXNS278	92	91	83	84	86	89	95	84	77	98	88	99	94	93	95	100	100	98	90	100	100	97	50	100	75
R. BURBANK	92	96	96	91	95	96	96	88	93	100	94	99	99	100	98	100	100	98	98	99	100	99	45	70	58
R. NORKOTAH	89	96	98	94	94	90	87	94	96	87	92	96	99	99	100	98	100	93	100	98	98	98	75	100	88
CORN-3	93	96	99	98	94	94	95	94	90	100	95	99	99	100	100	100	100	98	96	99	100	99	50	100	75
CORN-8	90	98	100	95	89	89	88	94	86	95	92	99	99	100	96	100	100	99	92	99	98	98	80	100	90
Means	91	96	93	93	91	91	93	89	88	97	92	98	98	98	98	100	100	97	96	99	99	98	59	95	77

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TABLE 5: 1996 Western Regional Potato Variety Trial - STEMS PER HILL, VINE SIZE, AND VINE MATURITY

Clone	Stems Per Hill									Vine Size (1-5 = larger)						Vine Maturity (1-5 = latest)											
	CO		ID		OR		WA		Entry	CO		ID		OR		WA		Entry	CO		ID		OR		WA		Entry
	SLV	AB	KIM		HRM		OTH			Mean	SLV	AB	KLM	SPR	OTH		Mean		SLV	AB	KLM	SPR	OTH		Mean		
	L	L	E	L	E	L	E	L		L	L	L	E	E	L		L	L	L	E	E	L	L	L	L		
TXNS112	3.1	1.9	2.6	2.4	2.9	3.4	2.7	2.9	2.7	3.0	2.3	3.8	4.0	3.0	5.0	3.5	2.0	2.0	2.0	2.8	2.0	1.0	2.2				
TXNS278	3.2	2.5	2.7	2.8	3.0	3.3	2.6	3.1	2.9	3.0	2.5	4.3	3.8	3.0	3.0	3.3	2.0	2.0	2.8	2.8	2.0	1.0	2.3				
R. BURBANK	2.8	2.2	1.8	1.8	2.3	1.9	2.0	2.3	2.1	3.5	4.5	4.3	4.5	3.0	5.0	4.1	3.0	3.0	2.3	2.0	2.0	1.0	2.5				
R. NORKOTAH	2.6	2.2	2.2	2.4	2.2	2.9	2.1	2.2	2.4	2.2	1.3	3.0	3.5	3.0	1.5	2.4	1.8	1.3	1.5	1.0	1.0	1.0	1.3				
Location Means	2.9	2.2	2.3	2.4	2.6	2.9	2.4	2.6	2.5	2.9	2.7	3.9	4.0	3.0	3.6	3.3	2.2	2.1	2.2	2.2	1.8	1.0	2.1				

¹ Due to mite damage, Othello's Late Trial ratings excluded from vine maturity means.

TABLE 5: 1997 Western Regional Potato Variety Trial - STEMS PER HILL, VINE SIZE, AND VINE MATURITY

Clone	Stems Per Hill									Vine Size (1-5 = larger)						Vine Maturity (1-5 = latest)								
	CO		ID		OR		TX		WA		Entry	CA		CO		ID		OR		TX		WA		Entry
	SLV	AB	KIM		HRM		SPR		OTH			Mean	TUL	SL	AB	KLM	OTH	Mean	TUL	SLV	AB	KLM	SPR	
	L	L	E	L	E	L	E	L	E	L		L	L	L	L	E	L		L	L	L	L	E	E
TXNS112	4.3	3.5	3.6	3.8	3.0	7.0	3.1	3.2	3.9	4.8	2.5	2.0	3.8	2.3	2.5	3.0	2.0	1.5	2.5	3.0	3.8	3.0	1.0	2.4
TXNS223	4.4	3.4	3.8	3.6	3.0	6.4	3.0	3.5	3.9	-	2.8	2.5	3.5	2.3	2.5	2.7	-	1.8	2.3	3.5	3.8	3.0	1.0	2.6
TXNS278	4.1	3.7	3.4	4.0	2.9	6.2	2.9	3.1	3.8	4.8	2.2	2.3	2.5	2.2	2.0	2.7	2.8	1.8	2.3	4.0	3.8	3.0	1.0	2.7
R. BURBANK	3.2	1.9	2.2	2.1	2.1	6.0	2.2	2.1	2.7	4.8	3.5	3.3	3.5	2.5	4.5	3.7	4.0	3.0	3.3	4.3	3.0	3.5	2.0	3.3
R. NORKOTAH	4.1	2.2	2.4	2.5	2.2	4.8	2.3	2.1	2.8	3.0	2.2	2.0	2.3	1.8	2.0	2.2	2.0	1.2	1.8	2.3	4.3	2.0	1.0	2.1
CORN-3	3.6	2.2	3.5	3.3	2.3	4.8	2.4	2.6	3.1	4.3	3.2	3.3	3.3	2.5	4.0	3.4	2.8	3.0	3.0	4.0	2.8	3.3	1.0	2.8
CORN-8	3.3	3.1	3.6	3.3	2.8	5.1	2.6	2.9	3.3	4.0	3.0	2.0	2.5	2.0	2.5	2.7	2.8	2.0	2.0	2.8	3.3	2.0	1.0	2.3
Means	3.9	2.9	3.2	3.2	2.4	5.8	2.7	2.8	3.4	4.3	2.8	2.5	3.1	2.2	2.9	2.9	2.7	2.0	2.5	3.4	3.5	2.8	1.3	2.6

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TABLE 6: 1996 Western Regional Potato Variety Trial - TOTAL YIELD, YIELD OF U.S. #1'S, YIELD > 10/12 OZ - EARLY HARVEST

Clone	Total Yield (CWT/A)							U.S. No 1's (CWT/A & %)						> 10/12 (CWT/A & %)							
	ID	NM	OR	TX	WA	Entry	Mean	ID	NM	OR	TX	WA	Entry	Mean	ID	NM	OR	TX	WA	Entry	Mean
	KIM	CLV	HRM	SPR	OTH	KIM		CLV	HRM	SPR	OTH	KIM	CLV		HRM	SPR	OTH	Mean			
TXNS112	272	270	690	357	378	393	ab	196	90	548	318	294	289	abc	21	29	68	105	43	53	
								72	32	79	89	78	70		8	10	10	29	11	14	
TXNS278	279	248	646	312	351	367	abc	190	109	491	270	275	267	bc	13	25	84	68	25	43	
								68	41	76	87	78	70		5	9	13	22	7	11	
R. BURBANK	256	238	626	341	432	379	ab	99	25	369	277	272	208	c	0	1	44	91	29	33	
								39	10	59	81	63	50		0	0	7	27	7	8	
R. NORKOTAH	245	141	502	267	302	291	cd	170	60	387	208	222	209	c	3	15	42	63	3	25	
								69	44	77	78	74	68		1	14	8	24	1	10	
Location Means	263	224	616	319	366	358		164	71	449	268	266	244		9	18	60	82	25	39	
								62	32	73	84	73	65		4	8	10	26	7	11	
LSD (.05)						77							80								60

TABLE 6: 1997 Western Regional Potato Variety Trial - TOTAL YIELD, YIELD OF U.S. #1'S, YIELD > 10/12 OZ - EARLY HARVEST

Clone	Total Yield (CWT/A)							U.S. No 1's (CWT/A & %)						> 10/12 (CWT/A & %)							
	ID	NM	OR	TX	WA	Entry	Mean	ID	NM	OR	TX	WA	Entry	Mean	ID	NM	OR	TX	WA	Entry	Mean
	KIM	CLV	HRM	SPR	OTH	KIM		CLV	HRM	SPR	OTH	KIM	CLV		HRM	SPR	OTH	Mean			
TXNS112	460	167	479	275	591	394	bc	358	86	341	148	447	276	defgh	132	1	72	1	188	79	
								78	51	71	55	76	66		29	1	15	0	32	15	
TXNS223	389	146	522	235	609	380	bc	252	77	385	115	512	268	efgh	68	2	59	5	230	73	
								65	52	74	50	84	65		17	1	11	2	38	14	
TXNS278	378	181	468	203	586	363	cd	305	112	336	122	459	267	fgh	120	2	71	9	207	82	
								81	61	72	60	78	70		32	1	15	4	35	18	
R. BURBANK	429	150	453	235	612	376	bc	249	55	231	65	466	213	g	62	1	9	1	72	29	
								58	37	51	28	76	50		14	1	2	0	12	6	
R. NORKOTAH	362	159	463	188	610	357	cd	294	85	347	91	545	272	cdefgh	84	0	59	6	223	74	
								81	54	75	48	89	69		23	0	13	3	36	15	
CORN-3	448	166	484	230	591	384	ab	349	89	355	129	476	280	abcde	151	7	121	9	211	100	
								78	53	73	56	81	68		34	4	25	3	36	20	
CORN-8	415	149	504	184	566	364	bc	306	80	375	108	423	258	bcdef	118	5	135	5	180	89	
								74	54	75	59	75	67		28	3	27	3	32	18	
Means	412	160	482	222	595	374		302	83	339	111	475	262		105	3	75	5	187	75	
								73	52	70	51	80	65		25	2	15	2	32	15	
LSD (.05)						60							60								59

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TABLE 7: 1996 Western Regional Potato Variety Trial - YIELD OF U.S. #2'S & CULLS > 4 OZ., OF < 4 OZ., SPECIFIC GRAVITY - EARLY HARVEST

Clone	U.S. No. 2's & CULLS > 4 OZ (CWT/A & %)						YIELD OF < 4 OZ (CWT/A & %)						SPECIFIC GRAVITY				
	ID	NM	OR	TX	WA	Entry	ID	NM	OR	TX	WA	Entry	ID	OR	TX	WA	Entry
	KIM	CLV	HRM	SPR	OTH	Mean	KIM	CLV	HRM	SPR	OTH	Mean	KIM	HRM	SPR	OTH	Mean
TXNS112	5	120	20	2	27	35	70	61	122	36	57	69	1.080	1.074	1.061	1.081	1.074
	2	43	3	1	7	11	26	25	18	10	15	19					
TXNS278	7	93	26	0	23	30	82	47	130	42	53	71	1.080	1.072	1.064	1.082	1.075
	3	38	4	0	6	10	29	20	20	13	15	19					
R. BURBANK	47	164	92	0	76	76	110	49	166	64	85	95	1.073	1.083	1.074	1.086	1.079
	18	70	15	0	17	24	43	21	27	19	20	26					
R. NORKOTAH	0	42	22	2	18	17	75	40	93	57	62	65	1.081	1.070	1.058	1.078	1.072
	0	28	4	1	6	8	31	28	19	21	20	24					
Location Means	15	105	40	1	36	39	84	49	128	50	64	75	1.077	1.077	1.066	1.082	1.075
LSD (.05)	6	45	7	1	9	13	32	24	21	16	18	22					0.006

CLV: < 6 oz.

TABLE 7: 1997 Western Regional Potato Variety Trial - YIELD OF U.S. #2'S & CULLS > 4 OZ., OF < 4 OZ., SPECIFIC GRAVITY - EARLY HARVEST

Clone	U.S. No. 2's & CULLS > 4 OZ (CWT/A & %)						YIELD OF < 4 OZ (CWT/A & %)						SPECIFIC GRAVITY				
	ID	NM	OR	TX	WA	Entry	ID	NM	OR	TX	WA	Entry	ID	OR	TX	WA	Entry
	KIM	CLV	HRM	SPR	OTH	Mean	KIM	CLV	HRM	SPR	OTH	Mean	KIM	HRM	SPR	OTH	Mean
TXNS112	62	66	28	0	88	49	40	12	109	127	56	69	1.073	1.079	1.061	1.070	1.071 hi
	13	39	6	0	15	15	9	8	23	45	9	19					
TXNS223	87	55	24	0	59	45	49	9	113	120	38	66	1.073	1.078	1.063	1.069	1.071 hi
	22	39	5	0	10	15	13	6	22	50	6	19					
TXNS278	35	52	15	1	86	38	38	13	117	80	41	58	1.074	1.078	1.062	1.071	1.071 hi
	9	29	3	0	15	11	10	7	25	40	7	18					
R. BURBANK	131	70	93	3	78	75	49	21	129	167	68	87	1.073	1.090	1.066	1.077	1.077 bcde
	31	46	21	1	13	22	11	15	28	71	11	27					
R. NORKOTAH	36	53	19	0	37	29	31	20	96	98	29	55	1.072	1.072	1.059	1.072	1.069 i
	10	33	4	0	6	11	9	13	21	52	5	20					
CORN-3	62	57	48	0	79	49	37	11	81	101	36	53	1.073	1.087	1.065	1.071	1.074 efg
	14	36	10	0	13	15	8	7	17	44	6	16					
CORN-8	76	56	30	0	102	53	33	6	99	77	41	51	1.074	1.084	1.063	1.071	1.073 fgh
	18	38	6	0	18	16	8	4	20	41	7	16					
Means	70	58	37	1	75	48	40	13	106	110	44	63	1.073	1.081	1.063	1.071	1.072
LSD (.05)	17	37	8	0	13	15	10	9	22	49	7	19					0.004

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TABLE 8: 1996 Western Regional Potato Variety Trial - TOTAL YIELD (CWT/A) - LATE HARVEST

Clone	CA	CO	ID		NM	OR			WA	Entry Mean	
	TUL	SLV	AB	KIM	FRM	HRM	KLM	MAL	OTH		
TXNS112	457	522	415	325	328	671	562	479	693	495	bc
TXNS278	472	479	354	373	337	630	541	449	693	481	cd
R. BURBANK	508	560	439	303	472	708	455	472	665	509	bc
R. NORKOTAH	356	384	304	283	307	438	437	363	685	395	e
Location Means LSD (.05)	448	486	378	321	361	612	499	441	684	470 66	

TABLE 8: 1997 Western Regional Potato Variety Trial - TOTAL YIELD (CWT/A) - LATE HARVEST

Clone	CO	ID		NM	OR			WA	Entry Mean	
	SLV	AB	KIM	FRM	HRM	KLM	MAL	OTH		
TXNS112	433	456	551	368	732	581	511	739	546	cde
TXNS223	417	459	599	394	732	561	535	735	554	cde
TXNS278	393	391	435	443	655	496	538	710	508	ef
R. BURBANK	468	485	589	431	602	560	580	685	550	cde
R. NORKOTAH	385	363	494	449	470	471	409	660	463	fg
CORN-3	473	468	618	454	866	658	569	605	589	bc
CORN-8	416	413	485	434	692	619	514	693	533	de
Means LSD (.05)	426	434	539	425	678	564	522	690	535 64	

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TABLE 9: 1996 Western Regional Potato Variety Trial - YIELD OF U.S. No. 1's(CWT/A & %) - LATE HARVEST

Clone	CA	CO	ID		NM	OR			WA	Entry Mean	
	TUL	SLV	AB	KIM	FRM	HRM	KLM	MAL	OTH		
TXNS112	375	468	336	252	295	481	474	380	545	401	bcde
	82	90	81	78	94	72	84	79	79	82	
TXNS278	391	437	280	292	301	467	423	290	548	381	cdef
	83	91	79	78	89	74	78	65	79	80	
R. BURBANK	414	458	308	147	424	483	321	211	364	348	ef
	81	82	70	49	90	68	71	45	55	68	
R. NORKOTAH	279	341	220	208	270	291	362	303	567	316	f
	78	89	72	73	88	66	83	83	83	79	
Location Means	365	426	286	225	322	431	395	296	506	361	
	81	88	76	70	90	70	79	68	74	77	
LSD (.05)										72	

TABLE 9: 1997 Western Regional Potato Variety Trial - YIELD OF U.S. No. 1's(CWT/A & %) - LATE HARVEST

Clone	CO	ID		NM	OR			WA	Entry Mean	
	SLV	AB	KIM	FRM ¹	HRM	KLM	MAL	OTH		
TXNS112	395	391	405	317	635	497	388	533	445	bcde
	91	86	74	86	87	86	76	72	82	
TXNS223	367	386	438	325	646	487	374	537	445	bcde
	88	84	73	83	88	87	70	73	81	
TXNS278	357	315	307	390	590	424	399	522	413	defg
	91	81	71	88	90	85	74	73	82	
R. BURBANK	338	307	251	366	467	339	321	437	353	g
	72	63	43	85	78	61	55	64	65	
R. NORKOTAH	321	305	435	407	402	425	335	506	392	efg
	83	84	88	91	86	90	82	77	85	
CORN-3	438	384	403	392	790	582	373	414	472	bcd
	93	82	65	86	91	88	65	68	80	
CORN-8	388	337	290	382	608	550	388	529	434	cdef
	93	82	60	88	88	89	75	76	81	
Means	372	346	361	368	591	472	368	497	422	
	87	80	68	87	87	84	71	72	79	
LSD (.05)									67	

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TABLE 10: 1996 Western Regional Potato Variety Trial - YIELD OF U.S. #1'S > 10/12 OZ (CWT/A & %) - LATE HARVEST

Clone	CA	CO	ID		NM	OR			WA	Entry Mean	
	TUL	SLV	AB	KIM	FRM	HRM	KLM	MAL	OTH		
TXNS112	104	224	45	19	28	140	97	192	291	127	cde
	23	43	11	6	8	21	17	40	42	23	
TXNS278	109	240	55	23	42	106	71	127	323	122	cde
	23	50	16	6	12	17	13	28	47	24	
R. BURBANK	175	129	67	3	148	126	32	25	116	91	def
	34	23	15	1	31	18	7	5	17	17	
R. NORKOTAH	47	131	29	19	21	29	36	86	321	80	def
	13	34	10	7	7	7	8	24	47	17	
Location Means	109	181	49	16	60	100	59	107	263	105	
	23	38	13	5	15	16	11	24	38	20	
LSD (.05)										71	
FRM: >3"											

TABLE 10: 1997 Western Regional Potato Variety Trial - YIELD OF U.S. #1'S > 10/12 OZ (CWT/A & %) - LATE HARVEST

Clone	CO	ID		NM	OR			WA	Entry Mean	
	SLV	AB	KIM	FRM ¹	HRM	KLM	MAL	OTH		
TXNS112	132	110	241	25	283	150	118	217	159	
	30	24	44	7	39	26	23	29	28	
TXNS223	135	101	218	10	284	86	71	216	140	
	32	22	36	2	39	15	13	29	24	
TXNS278	145	74	141	30	253	120	134	245	143	
	37	19	32	7	39	24	25	35	27	
R. BURBANK	53	81	85	38	88	55	61	73	67	
	11	17	14	9	15	10	11	11	12	
R. NORKOTAH	41	52	174	21	123	164	58	195	104	
	11	14	35	5	26	35	14	30	21	
CORN-3	234	193	251	25	517	256	180	182	230	
	49	41	41	6	60	39	32	30	37	
CORN-8	163	121	188	41	341	254	148	288	193	
	39	29	39	9	49	41	29	42	35	
Means	129	105	185	27	270	155	110	202	148	
	30	24	34	6	38	27	21	29	26	
LSD (.05)									54	

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TABLE 11: 1996 Western Regional Potato Variety Trial - YIELD OF U.S. No. 2's & CULLS >4 OZ (CWT/A&%) - LATE HARVEST

Clone	CA	CO	ID		OR			WA	Entry Mean
	TUL	SLV	AB	KIM	HRM	KLM	MAL	OTH	
TXNS112	15	21	17	3	29	13	45	108	31
	3	4	4	1	5	2	9	16	6
TXNS278	5	16	17	14	27	18	109	108	39
	1	3	5	4	5	3	24	16	8
R. BURBANK	39	20	59	71	112	35	191	244	96
	8	4	13	23	16	8	40	37	19
R. NORKOTAH	6	5	10	9	5	4	22	93	19
	2	1	3	3	1	1	6	14	4
Location Means	16	16	26	24	43	18	92	138	47
	4	3	6	8	7	4	20	21	9
LSD (.05)									35

FRM: No U.S. No. 2's and Culls.

TABLE 11: 1997 Western Regional Potato Variety Trial - YIELD OF U.S. No. 2's & CULLS >4 OZ (CWT/A&%) - LATE HARVEST

Clone	CO	ID		OR			WA	Entry Mean
	SLV	AB	KIM	HRM	KLM	MAL	OTH	
TXNS112	2	32	99	24	32	69	140	57
	0	7	18	3	6	13	19	10
TXNS223	10	35	110	19	15	91	123	58
	2	8	18	3	3	17	17	10
TXNS278	4	31	83	15	11	84	129	51
	1	8	19	2	2	16	18	9
R. BURBANK	4	140	263	28	146	182	155	131
	1	29	45	5	26	31	23	23
R. NORKOTAH	4	24	21	11	5	25	95	26
	1	7	4	2	1	6	14	5
CORN-3	8	55	167	28	42	144	142	84
	2	12	27	3	6	25	23	14
CORN-8	4	34	154	40	34	78	121	66
	1	8	32	6	5	15	18	12
Means	5	50	128	24	41	96	129	68
	1	11	23	3	7	18	19	12
LSD (.05)								34

FRM graded by size: No U.S. No. 2's or culls > 4 oz.

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TABLE 12: 1996 Western Regional Potato Variety Trial - YIELD OF TUBERS < 4 OZ (CWT/A & %) - LATE HARVEST

Clone	CA	CO	ID		NM	OR			WA	Entry Mean
	TUL	SLV	AB	KIM	FRM	HRM	KLM	MAL	OTH	
TXNS112	67	33	63	70	33	160	75	54	39	66
	15	6	15	22	10	24	13	11	6	14
TXNS278	76	26	57	68	36	136	101	46	36	65
	16	5	16	18	11	22	19	10	5	14
R. BURBANK	55	82	72	86	48	113	99	69	57	76
	11	15	16	28	10	16	22	15	9	16
R. NORKOTAH	71	38	74	66	37	142	71	37	25	62
	20	10	24	23	12	32	16	10	4	17
Location Means	67	45	67	73	38	138	87	51	39	67
	16	9	18	23	11	24	18	12	6	15
LSD (.05)										17

FRM: < 1 7/8"

TABLE 12: 1997 Western Regional Potato Variety Trial - YIELD OF TUBERS < 4 OZ (CWT/A & %) - LATE HARVEST

Clone	CO	ID		NM	OR			WA	Entry Mean
	SLV	AB	KIM	FRM ¹	HRM	KLM	MAL	OTH	
TXNS112	36	33	48	51	72	53	53	66	51
	8	7	9	14	10	9	10	9	10
TXNS223	40	38	51	69	66	58	70	74	58
	10	8	9	17	9	10	13	10	11
TXNS278	31	45	45	53	50	61	53	60	50
	8	12	10	12	8	10	10	8	10
R. BURBANK	125	39	75	65	107	75	76	94	82
	27	8	13	15	18	13	13	14	15
R. NORKOTAH	60	34	39	42	56	41	48	60	48
	16	9	8	9	12	9	12	9	10
CORN-3	27	28	48	62	48	34	46	49	43
	6	6	8	14	6	5	8	8	7
CORN-8	24	42	41	52	43	35	43	43	40
	6	10	8	12	6	6	8	6	8
Means	49	37	50	56	63	51	56	64	53
	11	9	9	13	10	9	11	9	10
LSD (.05)									20

1 Graded by size: < 1 7/8".

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TABLE 13: 1996 Western Regional Potato Variety Trial - SPECIFIC GRAVITY - LATE HARVEST

Clone	CA TUL	CO SLV	ID		NM FRM	OR			WA OTH	Entry Means	
			AB	KIM		HRM	KLM	MAL			
TXNS112	1.076	1.073	1.079	1.084	1.079	1.073	1.067	1.073	1.068	1.075	f
TXNS278	1.071	1.072	1.077	1.084	1.079	1.073	1.070	1.068	1.067	1.073	f
R. BURBANK	1.079	1.080	1.085	1.083	1.079	1.082	1.083	1.075	1.078	1.080	bcde
R. NORKOTAH	1.072	1.073	1.080	1.081	1.077	1.068	1.065	1.068	1.069	1.073	f
Location Means	1.075	1.075	1.080	1.083	1.079	1.074	1.071	1.071	1.071	1.075	
LSD (.05)										0.005	

TABLE 13: 1997 Western Regional Potato Variety Trial - SPECIFIC GRAVITY - LATE HARVEST

Clone	CO SLV	ID		NM FRM	OR			WA OTH	Entry Means	
		AB	KIM		HRM	KLM	MAL			
TXNS112	1.077	1.076	1.072	1.082	1.068	1.069	1.071	1.065	1.072	i
TXNS223	1.080	1.078	1.075	1.084	1.067	1.071	1.071	1.065	1.074	ghi
TXNS278	1.079	1.079	1.070	1.082	1.066	1.070	1.072	1.063	1.073	hi
R. BURBANK	1.088	1.086	1.082	1.087	1.077	1.084	1.075	1.068	1.081	d
R. NORKOTAH	1.079	1.077	1.071	1.083	1.065	1.070	1.071	1.065	1.073	hi
CORN-3	1.085	1.078	1.074	1.086	1.068	1.076	1.076	1.063	1.076	fg
CORN-8	1.081	1.075	1.071	1.085	1.068	1.074	1.070	1.066	1.074	ghi
Means	1.081	1.078	1.074	1.084	1.068	1.073	1.072	1.065	1.075	
LSD (.05)									0.003	

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TABLE 14: 1996 Western Regional Potato Variety Trial - AVERAGE TUBER SIZE, AND TUBER SHAPE

Clone	Average Tuber Size (oz)									Tuber Shape (1-5 length/width ratio: 1 = round, 5 = long)												
	ID			OR		TX	WA		Entry	CA	CO	ID			OR		TX	WA	Entry			
	AB	KIM		HRM		SPR	OTH		Mean	TUL	SLV	AB	KIM		HRM ¹		KLM	MAL	SPR	OTH		Mean
		E	L	E	L	E	E	L		L	L	L	E	L	E	L	L	L	E	E	L	
TXNS112	6.3	4.6	5.0	6.1	8.1	7.6	5.8	9.6	6.6	4.0	5.0	4.0	4.0	3.8	1.90	1.81	4.8	3.5	3.0	4.0	3.5	4.0
TXNS278	5.9	4.8	5.3	6.2	6.5	6.7	5.7	10.1	6.4	4.0	5.0	4.0	4.0	4.0	1.89	1.85	4.8	4.8	4.0	3.6	3.6	4.2
R. BURBANK	5.7	3.9	4.1	5.4	7.2	5.5	5.5	8.3	5.7	4.3	5.0	3.8	3.5	4.0	1.95	1.77	5.0	4.0	5.0	3.8	3.0	4.1
R. NORKOTAH	5.0	4.4	4.6	5.3	8.6	5.7	5.1	10.4	6.1	4.3	5.0	3.8	4.0	3.8	1.80	1.86	4.5	3.0	4.0	3.0	3.3	3.9
Location Means	5.7	4.4	4.8	5.8	7.6	6.4	5.5	9.6	6.2	4.2	5.0	3.9	3.9	3.9	1.9	1.8	4.8	3.8	4.0	3.6	3.4	4.0

1 Hermiston used tuber length to width ratio on 6 to 10 oz. tubers.

TABLE 14: 1997 Western Regional Potato Variety Trial - AVERAGE TUBER SIZE, AND TUBER SHAPE

Clone	Average Tuber Size (oz)									Tuber Shape (1-5 length/width ratio: 1 = round, 5 = long)												
	ID			OR		TX	WA		Entry	CA	CO	ID			OR		TX	WA	Entry			
	AB	KIM		HRM		SPR	OTH		Mean	TUL	SLV	AB	KIM		HRM ¹		KLM	MAL	SPR	OTH		Mean
	L	E	L	E	L	E	E	L		L	L	L	E	L	E	L	L	L	E	E	L	
TXNS112	7.2	7.5	8.2	5.7	8.5	3.7	7.9	7.8	7.1	5.0	5.0	4.0	4.3	4.0	1.89	1.92	4.8	3.8	4.0	3.7	4.0	4.3
TXNS223	7.1	6.6	8.4	5.8	8.7	3.7	8.5	7.5	7.0	-	5.0	4.8	4.3	4.0	2.03	2.00	4.8	3.8	4.0	4.0	4.0	4.4
TXNS278	6.7	6.8	7.6	5.5	8.4	4.8	8.5	8.3	7.1	4.0	5.0	4.3	4.0	4.0	1.90	1.91	5.0	3.5	4.0	4.0	4.0	4.3
R. BURBANK	7.8	6.6	7.0	5.0	6.2	3.1	6.5	6.5	6.1	4.5	5.0	4.0	3.5	3.5	1.91	1.90	5.0	4.0	5.0	3.5	3.3	4.1
R. NORKOTAH	6.7	7.2	7.7	5.6	7.2	3.9	8.7	7.7	6.8	4.7	5.0	4.0	3.8	4.0	1.76	1.97	5.0	3.0	4.0	3.5	4.0	4.2
CORN-3	9.0	8.0	8.7	6.3	10.2	4.1	8.6	8.3	7.9	5.0	5.0	4.0	3.8	3.8	1.94	1.95	5.0	4.3	4.0	3.7	4.0	4.3
CORN-8	7.4	7.8	8.8	6.4	10.4	4.1	8.3	9.4	7.8	5.0	5.0	4.5	3.5	3.8	2.02	2.02	5.0	4.0	4.0	4.0	4.0	4.3
Means	7.4	7.2	8.1	5.8	8.5	3.9	8.2	7.9	7.1	4.7	5.0	4.2	3.9	3.9	1.9	2.0	4.9	3.8	4.1	3.8	3.9	4.3

1 Length to width ratio.

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TABLE 15: 1996 Western Regional Potato Variety Trial - DEGREE OF RUSSETING, EYE DEPTH, AND SKIN COLOR

Clone	Degree of Russeting (1-5(hvy russet))												Eye Depth (1-5(shallow))							Skin Color						
	CA	ID			OR			TX	WA	Entry	CA	ID			OR		WA	Entry	OR							
	TUL	AB	KIM		HRM	KLM	MAL	SPR	OTH	Mean	TUL	AB	KIM		HRM	MAL	OTH	Mean	HRM	MAL						
	L		E	L	E	L		E	E	L	L		E	L	E	L	E	L	E	L						
TXNS112	4.8	4.0	4.5	4.5	4.0	5.0	4.8	4.5	4.0	4.0	4.0	4.0	4.4	3.7	3.3	3.8	4.0	4.3	3.3	3.0	3.8	2.6	3.5	4.0	4.6	5.0
TXNS278	4.5	4.0	4.3	4.8	4.0	5.0	5.0	4.8	4.0	4.3	4.0	4.4	4.0	3.0	4.0	4.0	4.0	4.0	3.4	2.3	3.8	2.3	3.4	4.0	4.4	5.0
R. BURBANK	3.0	3.0	3.0	4.0	4.0	5.0	4.5	3.8	3.0	3.0	3.0	3.6	4.0	3.5	3.8	4.0	4.0	3.5	2.8	3.8	3.0	3.6	4.0	3.9	4.0	
R. NORKOTAH	4.3	4.0	4.0	4.3	4.0	4.4	5.0	3.0	4.0	3.1	4.0	4.0	4.0	3.3	4.0	4.0	4.0	3.6	3.0	3.8	3.0	3.6	4.0	4.4	4.0	
Location Means	4.2	3.8	4.0	4.4	4.0	4.9	4.8	4.0	3.8	3.6	3.8	4.1	3.9	3.3	3.9	4.0	4.1	3.5	2.8	3.8	2.7	3.5	4.0	4.3	4.5	

Skin Color: 1-Red, 2-White, 3-Buff, 4-Brown, 5-Dark Brown

TABLE 15: 1997 Western Regional Potato Variety Trial - DEGREE OF RUSSETING, EYE DEPTH, AND SKIN COLOR

Clone	Degree of Russeting (1-5(hvy russet))											Eye Depth (1-5(shallow))					Skin Color				
	ID			OR			TX	WA	Entry	ID			OR		Entry	OR					
	AB	KIM		HRM	KLM	MAL	SPR	OTH	Mean	AB	KIM		HRM	MAL	Mean	HRM	MAL				
	L	E	L	E	L	L	E	E	L	L	E	L	E	L	L	E	L				
TXNS112	4.0	4.0	4.0	4.0	4.0	5.0	3.8	4.0	2.7	4.3	4.0	2.8	3.8	3.5	4.0	3.5	2.0	3.3	4.0	4.0	4.8
TXNS223	4.3	4.0	4.0	4.0	4.0	5.0	3.8	4.0	4.7	4.0	4.2	2.8	3.3	4.0	4.0	3.8	2.3	3.4	4.0	4.0	5.0
TXNS278	4.0	4.0	4.0	4.0	4.0	4.8	4.0	4.0	4.7	4.0	4.1	3.0	3.3	3.5	4.0	3.8	2.0	3.3	4.0	4.0	5.0
R. BURBANK	3.0	3.3	3.0	4.0	4.0	4.0	3.0	3.5	3.0	3.0	3.4	3.5	3.5	3.8	3.8	4.0	2.8	3.6	3.6	4.0	3.5
R. NORKOTAH	4.3	3.8	4.0	4.0	4.0	4.3	4.0	4.0	4.3	4.0	4.1	3.0	3.0	4.0	4.0	3.9	2.5	3.4	4.0	4.0	5.0
CORN-3	4.0	4.0	4.3	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.1	2.8	3.0	3.3	4.0	3.4	2.0	3.1	3.9	4.0	5.0
CORN-8	4.8	4.0	4.0	4.0	3.8	4.0	5.0	4.0	4.0	3.5	4.0	3.3	3.0	3.5	4.0	3.5	2.0	3.2	4.0	4.0	4.5
Means	4.1	3.9	3.9	4.0	4.0	4.7	3.8	3.9	3.8	3.9	4.0	3.0	3.3	3.7	4.0	3.7	2.2	3.3	3.9	4.0	4.7

Skin Color: 1-Red, 2-White, 3-Buff, 4-Brown, 5-Dark Brown

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TABLE 16: 1996 Western Regional Potato Variety Trial - GROWTH CRACKS AND SHATTER BRUISE

Clone	Growth Cracks (1-5(none))										Shatter Bruise (1-5(none))									
	CO SLV	ID				OR				WA		Entry Mean	ID AB	OR				WA		Entry Mean
		AB	KIM		HRM	KLM	MAL	OTH	L	E	L			E	L	MAL	OTH	L		
			E	L															E	
TXNS112	5.0	5.0	5.0	5.0	4.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.3	5.0	4.8	5.0	5.0	5.0	4.8	4.7
TXNS278	5.0	4.8	5.0	5.0	4.5	4.9	4.3	5.0	5.0	5.0	4.9	4.9	3.2	5.0	4.9	5.0	4.5	4.7	4.8	4.6
R. BURBANK	4.0	4.3	3.8	3.0	3.8	3.1	4.0	3.5	3.6	4.3	3.7	3.7	3.0	5.0	4.6	5.0	5.0	5.0	5.0	4.7
R. NORKOTAH	5.0	4.8	5.0	5.0	4.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	5.0	5.0	5.0	5.0	4.8
Location Means	4.8	4.7	4.7	4.5	4.5	4.5	4.6	4.6	4.7	4.8	4.7	4.7	3.3	5.0	4.8	5.0	4.9	4.9	4.9	4.7

TABLE 16: 1997 Western Regional Potato Variety Trial - GROWTH CRACKS AND SHATTER BRUISE

Clone	Growth Cracks (1-5(none))										Shatter Bruise (1-5(none))									
	CO SLV	ID				OR				WA		Entry Mean	ID AB	OR				WA		Entry Mean
		AB	KIM		HRM	KLM	MAL	OTH	L	E	L			E	L	MAL	OTH	L		
			E	L															E	
TXNS112	5.0	5.0	4.5	5.0	4.8	5.0	5.0	5.0	5.0	5.0	4.9	4.9	2.4	5.0	5.0	5.0	4.8	5.0	4.5	4.5
TXNS223	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9	2.8	5.0	5.0	5.0	4.5	5.0	5.0	4.6
TXNS278	5.0	5.0	4.3	4.8	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9	2.8	5.0	5.0	5.0	4.5	5.0	5.0	4.6
R. BURBANK	4.0	4.5	3.5	2.5	3.3	4.8	2.8	5.0	4.0	4.5	3.9	3.9	1.7	5.0	4.5	5.0	3.8	4.8	4.8	4.1
RANGER R.	-	4.8	4.5	4.5	4.3	4.3	5.0	5.0	4.5	5.0	4.7	4.7	2.5	5.0	4.8	4.3	4.3	4.5	4.5	4.2
R. NORKOTAH	5.0	5.0	4.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.5	5.0	5.0	5.0	4.5	5.0	5.0	4.5
CORN-3	5.0	5.0	4.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9	3.0	5.0	5.0	4.3	4.8	5.0	5.0	4.5
CORN-8	5.0	5.0	4.5	5.0	4.8	5.0	5.0	5.0	5.0	5.0	4.9	4.9	2.8	5.0	5.0	4.8	4.3	5.0	5.0	4.5
Means	4.9	4.9	4.3	4.6	4.7	4.9	4.7	5.0	4.8	4.9	4.8	4.8	2.6	5.0	4.9	4.8	4.4	4.9	4.9	4.4

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TABLE 17: 1996 Western Regional Potato Variety Trial - SCAB AND KNOBBINESS

Clone	Scab (1-5(none))									Entry Mean	Knobbiness (1-5(none))						Entry Mean	
	ID			OR			WA				CO SLV	ID		WA		Entry Mean		
	AB	KIM		HRM		KLM	MAL	OTH				AB	KIM		OTH			
		E	L	E	L			E	L				E	L	E			L
TXNS112	5.0	5.0	5.0	5.0	5.0	5.0	3.8	5.0	5.0	4.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
TXNS278	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	5.0	5.0	4.8	4.7	4.7
R. BURBANK	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	2.8	3.0	4.8	3.0	3.4	3.4
R. NORKOTAH	5.0	5.0	5.0	5.0	5.0	5.0	4.3	5.0	5.0	4.9	4.0	4.8	5.0	5.0	5.0	5.0	4.8	4.8
Location Means	5.0	5.0	5.0	5.0	5.0	5.0	4.5	5.0	5.0	4.9	4.0	4.5	4.4	4.5	5.0	4.5	4.5	4.5

TABLE 17: 1997 Western Regional Potato Variety Trial - SCAB AND KNOBBINESS

Clone	Scab (1-5 = none)									Entry Mean	Knobbiness (1-5 = none)						Entry Mean	
	ID			OR			WA				CO SLV	ID		WA		Entry Mean		
	AB	KIM		HRM		KLM	MAL	OTH				AB	KIM		OTH			
		L	E	L	E			L	L				E	L	L			E
TXNS112	5.0	5.0	4.8	5.0	5.0	5.0	4.3	5.0	5.0	4.9	4.0	5.0	4.5	4.3	5.0	4.7	4.6	4.6
TXNS223	5.0	5.0	4.8	5.0	5.0	5.0	4.3	5.0	5.0	4.9	5.0	5.0	3.8	4.3	5.0	5.0	4.7	4.7
TXNS278	5.0	5.0	4.8	5.0	5.0	5.0	4.3	5.0	5.0	4.9	5.0	5.0	4.0	4.0	5.0	4.7	4.6	4.6
R. BURBANK	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	3.5	2.3	1.5	4.7	3.0	3.2	3.2
R. NORKOTAH	5.0	5.0	4.8	5.0	5.0	5.0	4.5	5.0	5.0	4.9	4.0	5.0	4.5	4.8	5.0	4.3	4.6	4.6
CORN-3	5.0	5.0	4.8	5.0	5.0	5.0	4.8	5.0	5.0	5.0	4.0	5.0	4.5	3.8	5.0	5.0	4.6	4.6
CORN-8	5.0	5.0	4.8	5.0	5.0	5.0	3.8	5.0	5.0	4.8	4.0	5.0	4.0	3.8	4.7	5.0	4.4	4.4
Means	5.0	5.0	4.8	5.0	5.0	5.0	4.4	5.0	5.0	4.9	4.3	4.8	3.9	3.8	4.9	4.5	4.4	4.4

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TABLE 18a: 1996 Western Regional Potato Variety Trial - INTERNAL DEFECTS - HOLLOW HEART PLUS BROWN CENTER, AND BLACKSPOT SCORE

Clone	Percent Hollow Heart plus Brown Center												Blackspot (1-5(best) or %)											
	CA	CO	ID				OR				TX	WA	Entry Mean	CA	CO	ID			OR(%)			WA	Entry Mean	
	TUL	SLV	AB	KIM		HRM		KLM	MAL	SPR	OTH	TUL		SLV	AB	KIM	HRM	KLM	MAL	OTH				
	L			E	L	E	L	L	L	E	E	L	L			L	E	L	L	E	L			
TXNS112	17	0	8	0	3	0	8	15	0	0	5	0	5	2.1	5.0	2.3	3.1	4	1	0	0	5.0	5.0	3.8
TXNS278	0	0	10	0	0	0	0	30	3	0	0	0	4	4.3	5.0	2.4	3.3	5	1	0	0	4.1	5.0	4.0
R. BURBANK	0	0	5	45	31	21	12	10	0	0	29	50	17	3.0	3.5	2.6	3.9	19	0	0	0	4.8	4.9	3.8
R. NORKOTAH	0	0	3	0	0	0	0	10	0	0	0	3	1	2.2	4.8	2.6	3.0	5	0	0	0	5.0	5.0	3.8
Location Means	4	0	7	11	9	5	5	16	1	0	8	13	7	2.9	4.6	2.5	3.3	8	1	0	0	4.7	5.0	3.8

TABLE 18a: 1997 Western Regional Potato Variety Trial - INTERNAL DEFECTS - HOLLOW HEART PLUS BROWN CENTER, AND BLACKSPOT SCORE

Clone	Percent Hollow Heart plus Brown Center												Blackspot (1-5(best) or %)								
	CA	CO	ID				OR				WA	Entry Mean	CO	ID	OR(%)			WA	Entry Mean		
	TUL	SLV	AB	KIM		HRM		KLM	MAL	OTH	SLV		AB	HRM	KLM	MAL	OTH				
	L	L	L	E	L	E	L	L	L	E	L	L	L	E	L	L	E	L			
TXNS112	8	0	13	3	0	0	2	13	0	3	0	4	4.7	1.6	2	14	0	3	5.0	5.0	4.1
TXNS223	-	0	3	8	0	0	0	13	5	7	0	4	4.9	1.9	0	10	3	0	4.6	5.0	4.1
TXNS278	8	0	8	3	0	0	2	8	0	0	0	3	4.9	1.9	3	4	0	0	5.0	5.0	4.2
R. BURBANK	0	3	53	35	11	7	4	11	0	36	24	17	3.8	2.0	17	31	3	0	4.6	4.8	3.8
R. NORKOTAH	8	0	0	3	0	0	0	8	0	0	6	2	4.9	1.7	0	13	5	0	5.0	4.9	4.1
CORN-3	0	0	18	0	3	0	4	23	10	0	0	5	4.7	2.2	0	13	0	0	5.0	5.0	4.2
CORN-8	8	0	20	8	11	0	0	8	0	6	0	6	4.9	2.2	0	10	3	0	4.7	4.8	4.2
Means	6	0	16	9	4	1	2	12	2	8	4	6	4.7	1.9	3	14	2	0	4.9	4.9	4.1

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TABLE 18b: 1996 Western Regional Potato Variety Trial - INTERNAL DEFECTS - VASCULAR DISCOLORATION, AND INTERNAL BROWN SPOT

Clone	Percent Vascular Discoloration									Percent Internal Brown Spot										
	CA	ID				OR				Entry	CA	ID				OR			WA	Entry
	TUL	AB	KIM		HRM		KLM	MAL	Mean	TUL	AB	KIM		HRM		KLM	MAL	OTH	Mean	
	L		E	L	E	L				L		E	L	E	L		E	L		
TXNS112	8	3	3	0	4	18	0	8	5	0	0	0	0	0	0	0	0	0	0	0.0
TXNS278	0	0	3	0	4	17	0	0	3	0	0	0	0	2	0	0	0	0	0	0.2
R. BURBANK	0	0	0	0	6	17	0	3	3	0	3	0	0	2	7	0	0	0	3	1.5
R. NORKOTAH	0	0	3	3	0	12	0	0	2	0	0	0	0	0	0	0	0	0	0	0.0
Location means	2	1	2	1	4	16	0	3	3	0	1	0	0	1	2	0	0	0	1	0.4

TABLE 18b: 1997 Western Regional Potato Variety Trial - INTERNAL DEFECTS - VASCULAR DISCOLORATION, AND INTERNAL BROWN SPOT

Clone	Percent Vascular Discoloration									Percent Internal Brown Spot										
	CA	ID				OR				Entry	CA	ID				OR			WA	Entry
	TUL	AB	KIM		HRM		KLM	MAL	Mean	TUL	AB	KIM		HRM		KLM		OTH	Mean	
	L	L	E	L	E	L	L	L		L	L	E	L	E	L	L	E	L		
TXNS112	0	0	8	5	67	0	0	3	10	0	0	3	0	0	0	0	0	0	0	0.3
TXNS223	-	0	0	0	52	1	0	0	8	-	0	0	3	0	0	0	0	0	0	0.4
TXNS278	0	0	5	3	31	0	0	0	5	0	0	0	3	0	0	3	0	0	0	0.7
R. BURBANK	0	0	0	10	47	2	0	0	7	0	0	0	5	2	0	8	0	0	0	1.7
R. NORKOTAH	0	0	0	3	29	0	0	0	4	0	0	0	3	0	1	0	0	0	0	0.4
CORN-3	17	0	3	0	77	3	0	0	12	0	0	0	0	0	0	0	0	0	0	0.0
CORN-8	0	0	3	13	49	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0.0
Means	3	0	3	5	50	1	0	0	8	0	0	0	2	0	0	2	0	0	0	0.5

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TABLE 19: 1996 Western Regional Potato Variety Trial - FRENCH FRY COLOR (00-4.0(darkest), or reflectance), AND PERCENT SUGAR ENDS

Clone	Field Fry			Fry 45						Fry 40			Reflectance 45			% Sugar Ends						
	ID	OR	Entry	CO	ID		OR		Entry	ID	Entry		OR			ID		OR			Entry	
	KIM	HRM	Mean	SLV	AB	KIM	HRM	KL	M	Mean	AB	KIM	Mean	MAL	HRM		AB	KIM	HRM	KLM	MAL	Mean
	E	E		L	L	L	L	L		L	L		E	L		L	L	E	L			
TXNS112	0.2	0.5	0.4	4.0	2.6	1.9	2.0	2.5	2.6	3.9	3.3	3.6	34.4	33.0	27.3	58	34	0	10	0	13	19
TXNS278	0.2	0.6	0.4	3.0	2.2	2.1	2.0	3.0	2.5	3.8	4.0	3.9	37.2	40.1	27.2	59	33	0	8	0	10	18
R. BURBANK	0.5	0.6	0.6	2.0	1.7	1.3	1.6	1.0	1.5	3.6	3.9	3.8	34.5	39.5	30.6	0	13	0	15	0	25	9
R. NORKOTAH	0.2	0.5	0.4	3.0	2.2	2.1	2.3	1.9	2.3	4.0	4.0	4.0	36.8	40.8	24.9	59	34	0	13	0	3	18
Location Means	0.3	0.6	0.4	3.0	2.2	1.9	2.0	2.1	2.2	3.8	3.8	3.8	35.7	36.5	27.5	44	29	0	11	0	13	16

TABLE 19: 1997 Western Regional Potato Variety Trial - FRENCH FRY COLOR (00-4.0(darkest), or reflectance), AND PERCENT SUGAR ENDS

Clone	Field Fry			Fry 45						Fry 40			Reflectance 45			% Sugar Ends						
	ID	OR	Entry	CO	ID		OR		Entry	ID	Entry		OR			ID		OR			Entry	
	KIM	HRM	Mean	SLV	AB	KIM	HRM	KL	M	Mean	AB	KIM	Mean	HRM			AB	KIM	HRM	KLM		Mean
	E	E		L	L	L	L	L		L	L		E	L		L	E	L	E	L	L	
TXNS112	0.3	0.0	0.2	4.0	2.0	3.4	2.0	1.0	2.5	4.0	3.9	4.0	45	27		63	20	79	0	0	0	27
TXNS223	0.9	0.0	0.5	4.0	2.0	2.6	2.2	1.5	2.5	4.0	3.9	4.0	47	25		67	42	67	0	10	0	31
TXNS278	0.6	0.0	0.3	4.0	2.0	2.6	2.0	1.0	2.3	4.0	3.8	3.9	46	27		59	64	54	0	3	0	30
R. BURBANK	0.3	0.0	0.2	2.0	1.2	2.3	1.6	1.0	1.6	3.9	3.3	3.6	45	30		29	9	83	0	8	0	21
R. NORKOTAH	0.3	0.0	0.2	3.0	2.4	2.7	1.8	1.0	2.2	4.0	4.0	4.0	45	29		67	27	29	0	3	0	21
CORN-3	0.5	0.0	0.3	3.0	2.5	3.5	2.3	1.3	2.5	4.0	3.8	3.9	45	25		75	18	58	0	3	0	26
CORN-8	0.6	0.0	0.3	3.0	2.1	2.6	1.9	1.0	2.1	4.0	3.6	3.8	45	28		63	34	71	0	3	0	28
Means	0.5	0.0	0.3	3.3	2.0	2.8	2.0	1.1	2.2	4.0	3.8	3.9	45	27		60	31	63	0	4	0	26

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TABLE 20: 1996 Western Regional Potato Variety Trial - SOLIDS, DEXTROSE, SUCROSE, PROTEIN, VITAMIN C,
AND GLYCOALKALOIDS - ABERDEEN

Clone	Solids Oven Dry (%)	Sugars		Protein (%DWB)	Vitamin C (mg/100g FWB)	Glycoalkaloids (mg/100gFWB)
		Dextrose (%DWB)	Sucrose (%DWB)			
TXNS112	20.5	0.25	0.21	4.7	20.8	2.1
TXNS278	19.8	0.22	0.22	4.7	21.6	2.8
R. BURBANK	20.9	0.10	0.18	4.9	18.3	3.0
R. NORKOTAH	20.1	0.20	0.22	4.9	22.8	1.9
Means	20.3	0.19	0.21	4.8	20.9	2.5

Glycoalkaloids: The 1996 Lenape Check from Aberdeen was

TABLE 20: 1997 Western Regional Potato Variety Trial - SOLIDS, DEXTROSE, SUCROSE, PROTEIN, VITAMIN C,
AND GLYCOALKALOIDS - ABERDEEN

Clone	Solids Oven Dry (%)	Sugars		Protein (%DWB)	Vitamin C (mg/100g FWB)	Glycoalkaloids (mg/100gFWB)
		Dextrose (%DWB)	Sucrose (%DWB)			
TXNS112	19.7	0.22	0.16	4.7	20.5	1.8
TXNS223	19.4	0.24	0.16	5.1	20.0	1.4
TXNS278	19.4	0.21	0.15	5.0	21.1	1.9
R. BURBANK	21.9	0.11	0.17	4.2	21.5	2.4
R. NORKOTAH	18.9	0.18	0.13	4.8	19.5	1.9
CORN-3	19.4	0.23	0.16	5.3	18.8	1.3
CORN-8	19.9	0.22	0.15	4.6	19.8	1.8
Means	19.8	0.20	0.16	4.8	20.16	1.8

Glycoalkaloids: The 1997 Lenape check from Aberdeen was 22.9 mg/100g

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TABLE 21: 1996 Western Regional Potato Variety Trial - DISEASE EVALUATION AND METRIBUZIN REACTION

Clone	Vert. Wilt/ Early Dying		Early Blight AB ¹	Late Blight		Common Scab AB ¹	Root Knot Nematode HRM ²	Foliar HRM	PLRV		Erwinia Soft Rot AB ¹	Fusarium Dry Rot AB ¹	Metribuzin Reaction AB ⁴
	AB ¹	HRM ²		Foliar AUDPC	Tuber % by Wt ³				Net Necrosis HRM ²	KIM ¹			
TXNS112	S	S	MS	-	-	R	S	S	MS	-	MS	S	VR
TXNS278	S	S	S	-	-	R	S	S	MS	-	S	MS	VR
R. BURBANK	S	MS	MS	S	R	R	S	VS	MS	S	S	S	VR
R. NORKOTAH	VS	VS	S	VS	VS	R	S	VS	MS	MS	MS	MS	VR

- 1 Evaluations made at Aberdeen, Idaho by Dennis Corsini
- 2 Evaluations made at Hermiston, Oregon by Dan Hane
- 3 Evaluations made at Mt. Vernon, Washington by Debbie Inglis
- 4 Evaluations made at Aberdeen, Idaho by Steve Love

TABLE 21: 1997 Western Regional Potato Variety Trial - DISEASE EVALUATION AND METRIBUZIN REACTION

Clone	Vert. Wilt/ Early Dying		Early Blight AB ¹	Late Blight		Common Scab AB ¹	PLRV Foliar HRM ²	Erwinia Soft Rot AB ¹	Fusarium Dry Rot AB ¹	Metribuzin Reaction AB ⁴
	AB ¹	HRM ²		Foliar MV	Tuber ³					
TXNS112	S	S	S	VS	MR	R	MR	S	S	-
TXNS223	S	VS	S	VS	S	R	MS	S	S	-
TXNS278	VS	S	S	S	MR	R	MR	S	MS	-
R. BURBANK	S	S	MS	VS	MR	R	VS	S	S	MR
R. NORKOTAH	VS	VS	VS	VS	MS	R	S	S	MS	VR
CORN-3	S	S	S	S	S	MS	S	-	MS	-
CORN-8	S	S	S	VS	S	R	MS	S	S	-

- 1 Evaluations made at Aberdeen, Idaho by Dennis Corsini
- 2 Evaluations made at Hermiston, Oregon by Dan Hane
- 3 Evaluations made at Mount Vernon, Washington by Debbie Inglis; very little tuber blight occurred in 1997.
- 4 Evaluations made at Aberdeen, Idaho by Steve Love

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TABLE 22: 1996 Western Regional Potato Variety Trial - MERIT SCORES (1-5(best))

Clone	Process						Fresh							
	CO SLV	AB	ID		OR HRM L	Entry Mean	CA TUL L	CO SLV	AB	ID		OR HRM L	TX SPR E	Entry Mean
			KIM							KIM				
			E	L						E	L			
TXNS112	1.0	3.2	3.4	3.3	2.0	2.6	4.0	4.0	4.8	4.3	4.3	3.0	3.8	4.0
TXNS278	1.0	2.6	3.4	3.0	2.0	2.4	4.3	3.0	4.0	3.8	4.5	3.0	3.5	3.7
R. BURBANK	4.0	3.6	2.4	2.9	3.0	3.2	2.8	4.0	3.0	1.5	1.5	2.0	2.8	2.5
R. NORKOTAH	1.0	2.9	3.3	2.8	1.0	2.2	4.0	1.0	3.5	3.5	4.0	3.0	3.0	3.1
Location Means	1.8	3.1	3.1	3.0	2.0	2.6	3.8	3.0	3.8	3.3	3.6	2.8	3.3	3.4

TABLE 22: 1997 Western Regional Potato Variety Trial - MERIT SCORES (1-5(best))

Clone	Process						Fresh							
	CO SLV L	AB L	ID		OR HRM L	Entry Mean	CA TUL L	CO SLV L	AB L	ID		OR HRM L	TX SPR E	Entry Mean
			KIM							KIM				
			E	L						E	L			
TXNS112	1.0	2.0	2.5	1.5	1.0	1.6	5.0	4.0	4.0	3.3	3.5	4.0	4.3	4.0
TXNS223	1.0	2.0	2.5	2.0	1.0	1.7	-	3.0	3.3	2.0	3.8	5.0	4.3	3.6
TXNS278	1.0	2.0	2.5	1.5	1.0	1.6	4.0	2.0	3.5	3.0	3.5	5.0	4.3	3.6
R. BURBANK	4.0	2.5	3.0	2.5	4.0	3.2	2.3	3.0	2.8	1.8	1.5	5.0	3.3	2.8
R. NORKOTAH	1.0	2.0	2.5	1.5	2.0	1.8	4.3	1.0	4.0	3.8	4.3	5.0	3.5	3.7
CORN-3	1.0	2.0	2.5	1.0	1.0	1.5	3.7	5.0	3.5	3.0	2.5	4.0	4.3	3.7
CORN-8	1.0	2.0	2.5	1.5	1.0	1.6	3.8	3.0	3.5	3.0	2.3	4.0	4.3	3.4
Means	1.4	2.1	2.6	1.6	1.6	1.9	3.8	3.0	3.5	2.8	3.1	4.6	4.0	3.5

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TABLE 23: 1996 Western Regional Potato Variety Trial - SUMMARY

Clone	FIELD DATA				YIELD					TUBER DESCRIPTION							INTERNAL DEFECTS				FRY QUALITIES				MERIT	
	% STND	% DEAD	VINE SIZE	VINE MAT.	TOT YLD	LATE HARVEST				S.G.	SIZE	SHAP	GRTH CRCK	SHTR BRS	SCAB	KNOB	0- 5 (best)			% VD	FLD	45F	40F	% SE	PROC	FRSH
						% #1's	% > 10/12	% CUL	% < 4								HH	BS	IBS							
TXNS112	98	73	3.5	2.2	495	82	23	6	14	75	6.6	4.0	5.0	4.7	4.9	5.0	5	3.8	0	5	0.4	2.6	3.6	19	2.6	4.0
TXNS278	97	73	3.3	2.3	481	80	24	8	14	73	6.4	4.2	4.9	4.6	5.0	4.7	4	4.0	0	3	0.4	2.5	3.9	18	2.4	3.7
R. BURBANK	97	72	4.1	2.5	509	68	17	19	16	80	5.7	4.1	3.7	4.7	5.0	3.4	17	3.8	1	3	0.6	1.5	3.8	9	3.2	2.5
R. NORKOTAH	97	94	2.4	1.3	395	79	17	4	17	73	6.1	3.9	5.0	4.8	4.9	4.8	1	3.8	0	2	0.4	2.3	4.0	18	2.2	3.1
Means	97	78	3.3	2.1	470	77	20	9	15	75	6.2	4.0	4.7	4.7	4.9	4.5	7	3.8	0	3	0.4	2.2	3.8	16	2.6	3.4

TABLE 23: 1997 Western Regional Potato Variety Trial - SUMMARY

Clone	FIELD DATA				YIELD					TUBER DESCRIPTION							INTERNAL DEFECTS				FRY QUALITIES				MERIT	
	% STND	% DEAD	VINE SIZE	VINE MAT.	TOT YLD	LATE HARVEST				S.G.	SIZE	SHAP	GRTH CRCK	SHTR BRS	SCAB	KNOB	0- 5 (best)			% VD	FLD	45F	40F	% SE	PROC	FRSH
						% #1's	% > 10/12	% CUL	% < 4								HH	BS	IBS							
TXNS112	98	77	3.0	2.4	546	82	28	10	10	75	7.1	4.3	4.9	4.5	4.9	4.6	4	4.1	0	10	0.2	2.5	4.0	27	1.6	4.0
TXNS223	99	77	2.7	2.6	554	81	24	10	11	74	7.0	4.4	4.9	4.6	4.9	4.7	4	4.1	0	8	0.5	2.5	4.0	31	1.7	3.6
TXNS278	97	75	2.7	2.7	508	82	27	9	10	73	7.1	4.3	4.9	4.6	4.9	4.6	3	4.2	1	5	0.3	2.3	3.9	30	1.6	3.6
R. BURBANK	99	58	3.7	3.3	550	65	12	23	15	81	6.1	4.1	3.9	4.1	5.0	3.2	17	3.8	2	7	0.2	1.6	3.6	21	3.2	2.8
R. NORKOTAH	98	88	2.2	2.1	463	85	21	5	10	73	6.8	4.2	4.7	4.2	4.9	4.6	2	4.1	0	4	0.2	2.2	4.0	21	1.8	3.7
CORN-3	99	75	3.4	2.8	589	80	37	14	7	76	7.9	4.3	5.0	4.5	5.0	4.6	5	4.2	0	12	0.3	2.5	3.9	26	1.5	3.7
CORN-8	98	90	2.7	2.3	533	81	35	12	8	74	7.8	4.3	4.9	4.5	4.8	4.4	6	4.2	0	8	0.3	2.1	3.8	28	1.6	3.4
Means	98	77	2.9	2.6	535	79	26	12	10	75	7.1	4.3	4.7	4.4	4.9	4.4	6	4.1	0.5	8	0.3	2.2	3.9	26	1.9	3.5

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Exhibit D Supplement to - 1998 and 1999 Composite Wisconsin Data From Four Trials Each Year.

Table 1. 1998
Conclusions:

Table 1 shows the average 1998 yield, etc. from four Wisconsin locations for standard Russet Norkotah and 3 three Texas Russet Norkotah mutant selections - TXNS112, TXNS223, and TXNS278.

1. It is clearly shown that in Wisconsin in 1998 the three Texas mutant selections produced higher total yields and yields of U.S. No 1's than did standard Russet Norkotah indicating that they are clearly different in these traits.
2. The data also clearly shows that TXNS112 and TXNS223 exhibit a higher percentage of hollow heart in Wisconsin in 1998 than did standard Russet Norkotah and TXNS278.

Table 2. 1999
Conclusions:

Table 2 shows average 1999 yield, etc. from four Wisconsin locations for standard Russet Norkotah and three Texas Russet Norkotah mutant selections - TXNS112, TXNS223, and TXNS278 plus two Colorado selections - CORN-3 and CORN-8.

1. It is clearly shown that TXNS223 produced higher total yield than did standard Russet Norkotah and the highest yield among all selections as was the case in 1998 above.
2. It is clearly shown that TXNS112 and TXNS223 produced higher marketable yields than standard Russet Norkotah and the two Colorado selections indicating that these selections are clearly different.
3. It is clearly shown (as in 1998) that TXNS112 and TXNS223 exhibit a higher percentage of hollow heart than standard Russet Norkotah and TXNS278.
4. CORN-8 had the highest percentage of hollow heart with CORN-3 having the lowest further indicating genetic distinctness among all of the five entries tested.

Table 1. Average total yield, yield U.S. No 1's, percent U.S. No.1, specific gravity, percent brown center, percent hollow heart, percent internal brown spot, percent vascular discoloration, and percent stem end discoloration for 3 Russet Norkotah strains and Russet Norkotah from four trial locations¹ across Wisconsin, 1998.

	Total Yield Cwt/A	Yield U.S. No 1's Cwt/A	% U.S. No 1's	Specific Gravity	% Brown Center	% Hollow Heart	% Internal Brown Spot	% Vascular Discoloration	% Stem End Discoloration
Russet Norkotah	389	342	87	1.066	1.3	0.0	0.0	0.0	0.0
TXNS112	422	365	87	1.064	2.5	5.0	0.0	0.0	0.0
TXNS223	479	401	84	1.065	1.3	3.8	0.0	0.0	0.0
TXNS278	451	387	86	1.063	0.0	2.5	0.0	0.0	1.3
Average	435	373	86	1.065	1.3	2.8	0.0	0.0	0.3

¹Hancock - Early Harvest, Hancock Late Harvest, Antigo, Spooner, and Endeavor

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Table 2. Average total yield, yield U.S. No 1's, percent U.S. No.1, specific gravity, percent brown center, percent hollow heart percent internal brown spot, percent vascular discoloration, and percent stem end discoloration for 5 Russet Norkotah strains and Russet Norkotah from four trial locations¹ across Wisconsin, 1999.

	Total Yield Cwt/A	Yield U.S. No 1's Cwt/A	% U.S. No 1's	Specific Gravity	% Brown Center	% Hollow Heart	% Internal Brown Spot	% Vascular Discoloration	% Stem End Discoloration
Russet Norkotah	372	314	85	1.061	1.3	7.5	0.0	10.0	2.5
TXNS112	409	332	78	1.062	5.0	25.0	0.0	5.0	0.0
TXNS223	426	345	81	1.064	6.3	21.3	0.0	3.8	1.3
TXNS278	403	295	73	1.063	2.5	9.4	4.0	8.0	0.0
CORN 3	411	298	73	1.065	3.8	5.0	3.8	7.5	0.0
CORN 8	400	305	76	1.064	3.8	31.3	2.5	7.5	3.8
Average	404	315	78	1.063	3.8	16.6	1.7	7.0	1.3

¹Hancock, Antigo, Spooner, and Endeavor

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

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.

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

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) Texas Agricultural Experiment Station	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER TXNS 223	3. VARIETY NAME Russet Norkotah 223
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) Room 110 Administration Building College Station, TX 77843-2147	5. TELEPHONE (include area code) 409.847.8682	6. FAX (include area code) 409.845.1402
7. PVPO NUMBER 9900140		

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

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

10. Is the applicant the original owner? 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):

TAES policy and handbook manual provide that all germplasm and varieties developed by its employees in the course of their duties are owned by TAES. A copy of this policy is provided for your records.

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 complete 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.

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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.

Exhibit F. Verification of Tissue Culture for Russet Norkotah 223

If the Plant Variety Protection certificate is issued, TAES agrees to submit a viable tissue culture of Norkotah 223 to an agreed upon public depository which will be maintained for the duration of the certificate.

PLANT

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