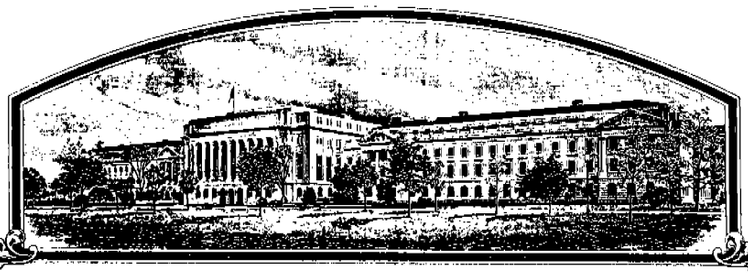

No. 7500082

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Seed Research Associates, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, R IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT RIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. HE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS ASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS ED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Plainsman V'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* seventh *day of* September *in the year of our Lord one thousand nine hundred and* seventy-six

Earl L Butz

Secretary of Agriculture

Attest:

S. L. Rola

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

FORM GR-470
(12-15-72)

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

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION Plainsman V	2. KIND NAME Hard Red Winter Wheat	FOR OFFICIAL USE ONLY PV NUMBER 7500082
3. GENUS AND SPECIES NAME Triticum aestivum	4. FAMILY NAME *(Botanical)* Graminaeae	FILING DATE 4.15.75 / TIME 8 A.M.
	5. DATE OF DETERMINATION June 1972	FEE RECEIVED $ 250 / $ 250 / $ 250 — BALANCE DUE $ — / $ — / $ —
6. NAME OF APPLICANT(S) Seed Research Associates Inc.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* Route 2 Scott City, Kansas, 67871	8. TELEPHONE AREA CODE AND NUMBER AC 316 872-2807

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION Kansas	11. DATE OF INCORPORATION June, 1973

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

Kenneth L. Goertzen, President
Seed Research Associates Inc.
Route 2
Scott City, Kansas,67871

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [x] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [x] 13B. Exhibit B, Botanical Description of the Variety
- [x] 13C. Exhibit C, Objective Description of the Variety
- [x] 13D. Exhibit D, Data Indicative of Novelty
- [x] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [x] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [x] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [x] FOUNDATION [ ] REGISTERED [x] CERTIFIED

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

4/10/75 (DATE) — Kenneth L. Goertzen (SIGNATURE OF APPLICANT)

00001

(DATE) — (SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

RECEIVED
APR 15 1975
U. S. DEPARTMENT

13A. Origin and Breeding History of Plainsman V

Triticum aestivum cross: SRAI 1970 (spring habit, semi dwarf with brown chaff) crossed with SRAI 1900 (winter habit, short semi dwarf, genetically high protein line with brown chaff)

A single plant was selected from this cross which was 26 inches in height, had 12 heads with a 3 seed per spikelet tendency with large seed and brown chaff. Increase from this single plant selection was started in 1972. The protein was 16.8%.

It is a pure line with no known variants. Certification is being applied for in 1975. It was included in the Kansas Intrastate Nursery dryland test in 1974 and again in 1975. In 1974 it outyielded the checks at the 10 locations and was significantly higher in protein at the 10 locations.

13B. Botanical Description of Plainsman V

The seed is hard red with genetically high protein. The seed is elliptical with a short small brush. The crease is narrow, mid deep with rounded cheeks. The germ is large.

Plainsman V had a green coleoptile. Leaf prior to jointing is 4 m.m. wide and 9.7 c.m. long.

The spike is awned, fusiform, lax with brown chaff. The position of spike at maturity is erect.

Glumes are brown, hard and leathery. The outer glume is 4 m.m. wide and 11 m.m. long. Shoulder narrow, oblique, and beak acuminate. Beak from 3 mm. to 5 m.m.

Awns are brown. Awns on 2nd and 3rd spikelet 6 cm. long. Three seeds per spikelet under favorable conditions.

FORM APPROVED. OMB NO. 40-R3712

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

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

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S): Seed Research Associates Inc.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*): Route 2, Box 48, Scott City, Kansas, 67871

FOR OFFICIAL USE ONLY

PVPO NUMBER: 7500082

VARIETY NAME OR TEMPORARY DESIGNATION: Plainsman V

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

1. KIND:

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

2. TYPE:

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

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

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

[ ][ ][ ] FIRST FLOWERING [ ][ ][ ] LAST FLOWERING

4. MATURITY (*50% Flowering*):

[ ][3] NO. OF DAYS *EARLIER* THAN Eagle [ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

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

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

[ ][7][2] CM. HIGH

[ ][ ] CM. TALLER THAN [ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

[1][2] CM. SHORTER THAN Eagle [ ]

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

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

7. ANTHER COLOR:

[1] 1 = YELLOW 2 = PURPLE

8. STEM:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

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

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

[1] Internodes: 1 = HOLLOW 2 = SOLID

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

[ ][9] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[ ] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

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

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

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

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

[ ][7] MM. LEAF WIDTH (*First leaf below flag leaf*)

[2][3] CM. LEAF LENGTH (*First leaf below flag leaf*):

00004

4 of 11

75-82

FORM GR-470-6 (REVERSE)

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

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

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

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

[1][0] CM. LENGTH

[1][5] MM. WIDTH

12. GLUMES AT MATURITY:

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

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

[1] 1 Glabrous 2 Pubescent

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

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

13. COLEOPTILE COLOR:

[ ] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

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

16. SEED:

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

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

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

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

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

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

[7] MM. LENGTH

[3] MM. WIDTH

[3][0] GM. PER 1000 SEEDS

17. SEED CREASE:

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

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

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

[2] STEM RUST *(Races)* _____

[2] LEAF RUST *(Races)* _____

[0] STRIPE RUST *(Races)* _____

[0] LOOSE SMUT

[0] POWDERY MILDEW

[1] BUNT

[2] OTHER *(Specify)* Soil borne mosaic

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

[0] SAWFLY

[0] APHID *(Bydv.)*

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[ ] OTHER *(Specify)* _____

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

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

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

INSTRUCTIONS

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

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

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

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

00005

EXHIBIT D: Plainsman V - Application No. 7500082

Most similar variety is Triumph 64

	Plainsman V	Triumph 64
Season	very early Jan 1 to heading 136 days	very early Jan. 1 to heading 137 days
Height	Semi dwarf (72 cm)	Normal (103 cm.)
Grain Texture	hard	hard
Grain Color	red	red
Straw Strength	strong (0% lodging)	med. to weak (20% lodging)
Glume color	brown	straw
Awn type	bearded	bearded
Growth habit	winter	winter
Genetically high protein	Yes	No

Hard Red Winter Wheat Quality Research Unit, ARS
Manhattan, Kansas

00009

Table 1. Chemical, Milling, and Baking Data for Special Plant Breeders' Samples of Hard Winter Wheat Progenies Harvested in Scott County, Kansas in 1973 1/

Variety	C.I. or State No.	Wheat 2/ Wt. Per Bu. lbs.	Wheat 2/ Ash %	Wheat 2/ Protein %	Wheat 2/ Flour Yield %	Flour 2/ Ash %	Flour 2/ Protein %	Bread-baking Data 2/ Absorption %	Mixing Time 3/ min.	$KBrO_3$ Requirement mg.	Crumb Grain	Loaf Volume As Rec'd cc.	Loaf Volume Corrected To 14.5% P cc.
Scout	13546	58.7	1.65	13.7	75.0	.44	12.7	64.4	3¾	2	S	1032	1168
LB 731 Plainsman V		60.3	1.32	16.5	75.0	.45	15.6	70.0	8	0-1	S	1211	1132
LB 732 Dual XI		52.5	1.66	15.5	73.0	.49	14.6	63.4	3⅞	2	S	1208	1200
LB 733 Dual VII		57.3	1.76	15.3	71.8	.48	14.7	67.3	7⅛	0-1	S	1181	1166
LB 734 Dual VI		59.3	1.87	15.7	74.8	.53	14.9	66.9	3¼	2-3	S	1154	1125
LB 735 Dual V		55.4	1.94	15.7	71.4 4/	.53	15.1	62.8	6	1	S	1185	1141

1/ Chemical data expressed on a 14% moisture basis.

2/ S, Q, and U - Satisfactory, questionable, and unsatisfactory quality with respect to properties in question. A satisfactory rating is inferred in the absence of a designated one. One unsatisfactory rating, in general, characterizes a variety as undesirable for hard wheat milling and breadmaking purposes. Crumb colors were satisfactory for all entries.

3/ Mixing time used in baking is evaluated in conjunction with other mixing properties obtained from the 10-g. mixogram.

4/ Softer than average hard wheat milling properties but entirely satisfactory.

(54)

00010

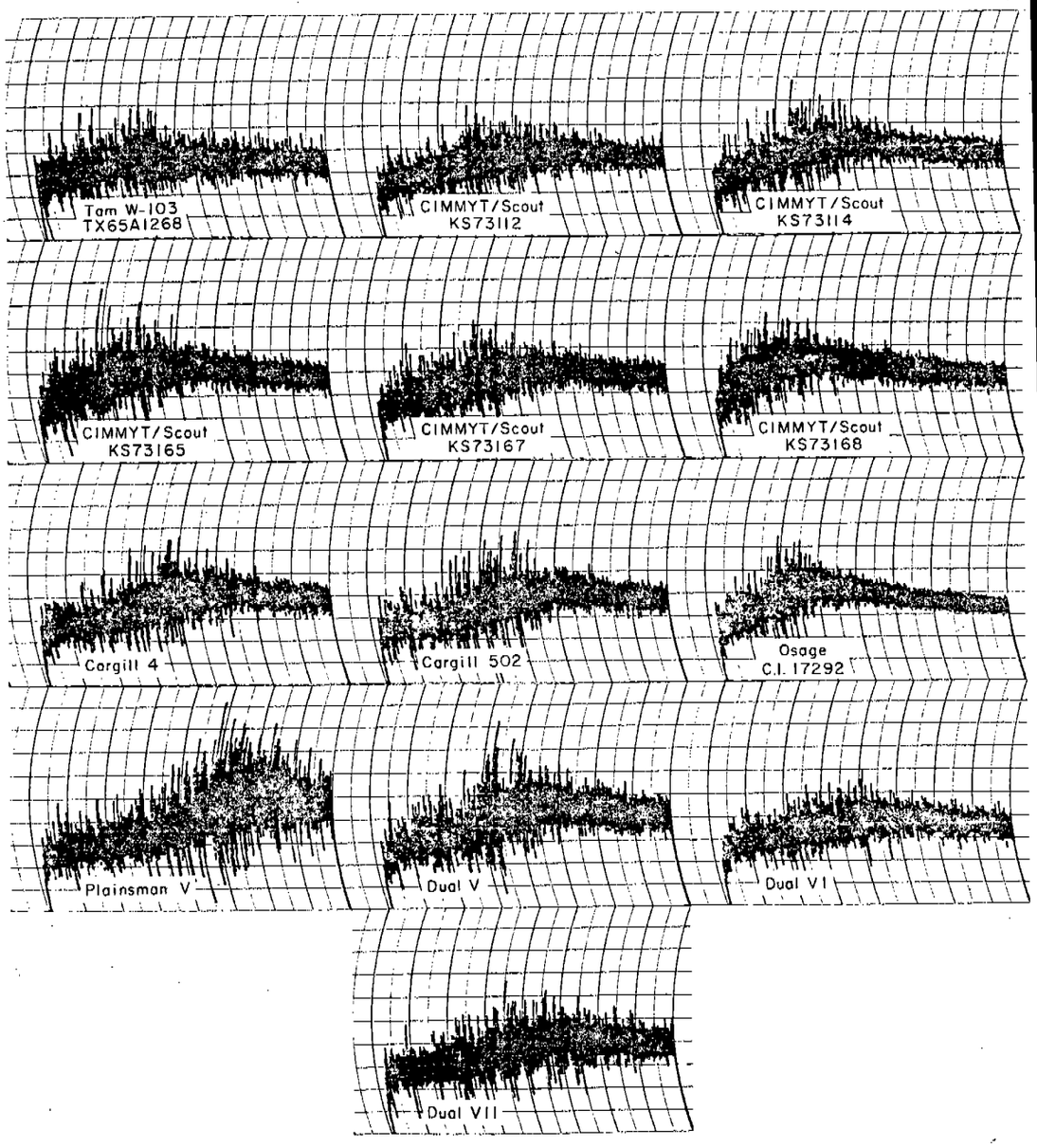

Fig. 2. Mixograms (10-g.) for the Kansas Intrastate Nursery composites of hard winter wheat progenies harvested in 1974.

AMERICAN SEED TRADE ASSOCIATION, INC.

asta
first - the seed ®

OFFICE OF THE EXECUTIVE
VICE PRESIDENT

HAROLD D. LODEN
Suite 964, Executive Building
1030 15th Street, N.W.
Washington, DC 20005
Telephone (202) 223-4080

June 16, 1981

Mr. Bernard Leese
Commissioner, PVP
Plant Variety Protection Office
USDA/AMS
National Agricultural Library
Fifth Floor
Beltsville, Maryland 20705

Dear Bernard:

Enclosed herewith for your file and information is a recent news release from The Kansas City Star, which may be of interest to you.

With best regards, I am

Very truly yours,

Harold D. Loden
Executive Vice President

HDL:emd

Enclosure

are planting and whether it is pro- ... legged wheat in south-central Kan- ... The Plant Variety Protection Act was

Wheat continued from pg. 1A

central Kansas and Grant and Kay counties in north-central Oklahoma.

Company spokesman Keith Emke, a cereal chemist at the Dixie Portland mill in Arkansas City in Cowley County, said whole fields of the distinctive red-brown Plainsman V wheat have been found among the golden grain that typically fills Kansas fields.

Emke said several farmers have been found to have planted the wheat without the flour mill's permission, and that more violations are being discovered every day.

Emke refused to reveal the names of alleged violators until they are notified by Dixie Portland attorneys.

Preliminary estimates by the Kansas Crop and Livestock Improvement Association indicated possibly 25 percent, or about 165,000 acres, of the wheat in the two counties are Plainsman V.

But Lowell Burchett, secretary of the non-profit Kansas Crop Improvement Association, estimated that as much as 50 percent of the wheat planted in Sumner and Cowley counties could be of the bootlegged variety. Burchett's estimate, which has been supported by other expert observers, means more than 300,000 acres could be holding Plainsman V.

Emke said his company has licensed farmers to grow only 30,000 acres of the wheat.

He said he has run half-page ads in local newspapers warning farmers who are growing the variety illegally that they could face up to $10,000 in fines if they sell the wheat for seed and possibly face an injunction through civil court that would prevent them from harvesting their crop until legal disposition of the grain is determined.

For farmers, successful defense of the Plant Variety Protection Act will mean a change in the way they have always planted wheat—traditionally without regard to origin of the seed. Farmers will need to pay closer attention not only to the variety they are planting and whether it is pro-

cording to one source.

Emke then began contracting with farmers to grow a small amount of the wheat for blending in Dixie Portland mills.

But two years ago, he said, some farmers, on the side, began selling some of the wheat they had raised under contract. By the time Dixie Portland attorneys were able to halt the sales, the seed had been widely distributed.

Farmers like Plainsman V for many reasons: The wheat is a high-yielding, early maturing, semi-dwarf (short straw) variety that is winter-hardy and resistant to certain diseases.

"When you get a variety that matures so early and still produces such a high yield, that's . . . a remarkable thing," Burchett said.

But domestic millers cringe at the thought of having the nation's prime wheat-producing area overrun with the wheat.

Emke, vice president of quality control for Dixie Portland's five flour mills, said Plainsman V flour is too strong in both protein and gluten content for bread-making purposes and is good only when a small amount is used to strengthen other wheat flours.

"If that variety commanded the same acreage as Newton wheat (Kansas' most popular variety) it would totally upset the wheat reputation of this state," said one cereal chemist at a Wichita flour mill. He likened bread dough made from Plainsman V flour to a rubber ball.

"You have to understand," Emke said, "that while a little bit of this wheat is very desirable for flour mills, any more of it and suddenly it turns into a horrible detriment."

Emke said his company began contracting with farmers within 100 miles of Arkansas City to grow the wheat when Kansas wheat was averaging about 10 percent protein and was low in gluten content.

Since then, he said, new varieties have raised Kansas crops' average protein—to about 12 percent—and gluten strengths, making it unnecessary for his company to contract for Plainsman V beyond this harvest year.

Emke said, however, that the company intends to honor old contracts, some of which have four years to run, and that it still intends to pursue violations of the Plant Variety Protection Act.

Last year the act was tested for the first time in court when Kansas City-based North American Plant Breeders won a settlement against a company that was selling North American's Lud barley variety undery a different name.

North American won $7,000 and stopped the unlicensed firm from selling the seed.

"There is a principle involved here that can't be ignored," Emke said.

"There are a lot of farmers who know about the plant protection act but they feel no one is going to support it," he said. "Maybe with the public varieties (those developed and released by land grant universities) no one will. But the commercial companes aren't going to let them get away with it."

Illegal crops may plague wheat harvest in Kansas

By Karen Freiberg
The Star's agribusiness editor

Arkansas City, Kan.—The apparently widespread planting of bootlegged wheat in south-central Kan-

effects, not only on the area's farmers and developers of new varieties of wheat, but also on Kansas—a state that historically outproduces other wheat states by a large margin.

The Plant Variety Protection Act was

Kay counties in north-central Oklahoma.

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For farmers, successful defense of the Plant Variety Protection Act will mean a change in the way they have always planted wheat—traditionally without regard to origin of the seed. Farmers will need to pay closer attention not only to the variety they are planting and whether it is protected by law, but also whether they are buying it from a licensed dealer.

For owners and developers, continued violation of the law will cause them to be less willing to invest in new variety development.

For the state, infiltration by Plainsman V wheat could damage its reputation.

Plainsman V was developed by Ken Goertzen, a Scott City, Kan., wheat breeder. Goertzen sold the patent to Dixie Portland for about $100,000 plus royalties on all bushels produced by the company, ac-

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Illegal crops may plague wheat harvest in Kansas

By Karen Freiberg

The Star's agribusiness editor

Arkansas City, Kan.—The apparently widespread planting of bootlegged wheat in south-central Kansas may sour the 1981 harvest in this historically rich agricultural region.

Payday for wheat farmers here comes once a year. But as the annual harvest ritual moves into full swing in the state's southernmost counties, that payday may be marred by stiff penalties and court-ordered injunctions preventing the harvesting of some farmers' crops.

The problem: Some Kansas farmers, apparently disregarding the Plant Variety Protection Act of 1970, allegedly have illegally planted large amounts of Plainsman V wheat, a variety that is protected from public distribution.

The outcome could have far-reaching effects, not only on the area's farmers and developers of new varieties of wheat, but also on Kansas—a state that historically outproduces other wheat states by a large margin.

The Plant Variety Protection Act was passed by Congress to stimulate development of better plant varieties. Companies that pump millions of dollars into research for new varieties can patent their plants in a manner similar to industrial patents, giving owners first crack at recovering their investment through seed sales.

But owners of the patent for Plainsman V—Memphis-based Dixie Portland Flour Mills Inc.—say farmers who obtained seeds through illegal channels have indiscriminately planted it in at least four counties: Cowley and Sumner in south-

See Wheat, pg. 8A, col. 1

File - Wheat application # 7500082

FYI

U. S. DEPARTMENT OF AGRICULTURE

Memorandum

AGRICULTURAL MARKETING SERVICE
Livestock, Poultry, Grain & Seed Div.
Seed Regulatory Branch 612/725-2923
113 Federal Office Building
Minneapolis, MN 55401

TO : L. D. Herink

DATE : August 3, 1981

FROM : G. D. Koskinen, Officer in Charge
SRB Minneapolis, MN

SUBJECT: Plainsman V Wheat

Kansas seed control and seed certification officials were contacted on July 31, 1981.

Seed Control officials Glen Searcy and Bruce Kramer stated there was a problem as stated in the article. The problem developed in part because Dixie-Portland did not maintain tight control on the seed their contract growers had. Dixie-Portland signed 5 year contracts with their growers and would furnish certified seed the first year. They then instructed their growers to save part of their crop for seed for the next planting. Farmers apparently saved more seed than they needed for their own planting and would sell what was left over as uncertified seed. Glen Searcy stated there is widespread planting of uncertified seed because of this practice by Dixie-Portland of instructing their own contract growers to plant uncertified seed.

Seed certification official Lowell Burchett said the first article on this problem was in a Kansas City newspaper. After that he said a lot of reporters inquired about this problem. He had an interview with a reporter for the Wall Street Journal last week so it will probably appear in that paper. Burchett said that Dixie-Portland has filed civil suits against the growers who violated their contracts by selling uncertified seed. He thinks this will take care of the problem. Peak year for this problem will probably be this year.

cc:J. Triplitt, Montgomery, AL

UGUST 5, 1981

WALL STREET JOURNAL

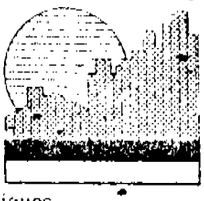
ESTATE

ive Financing' Can Give s and Sellers Headaches

By LAWRENCE ROUT
Staff Reporter of THE WALL STREET JOURNAL

MANY HOME SELLERS and buyers, "creative financ- is the only way to strike deals in these days of tight ey and high interest rates. But pitfalls await those who forced to turn to financing routes other than conven- erm mortgages.

ers are trying to put deals together, and people are bit- Edward O'Neill, a law professor at Catholic University in Washington, D.C. "But I think are getting into these things with- inking about them."



han half of all single-family home lve some form of creative financ- ng to a recent survey by the Na- iation of Realtors. Of the brokers % say more than three-quarters of are done with unconventional techniques.

most common form of creative financing, the seller yer some of the purchase price, typically at below-mar- rates and for about three years. The buyer makes a nt and monthly payments to the seller, just as he would t the same time, the seller keeps paying off his mortgage erty.

BIGGEST CONCERN, Mr. O'Neill says, involves the t-term nature of seller loans. "The notes come due in e years," he says, "and I'd like to know where people going to get the money to pay them off. Everybody's hop- es will come down, and they can then borrow from a hey've been saying that for two years now, and I don't oing to happen in time."

es don't fall, Mr. O'Neill says, some buyers may not qual- gages. They may have to pay very high rates at finance or they may not be able to get the money at all. "They're le awakening," Mr. O'Neill says, "because if they can't ney, the seller (who lent them the money) will foreclose," e made three years of payments for nothing.

her problem for the buyer is that the seller may not pay tgage to the bank, which can then take title on the house. promises to make the payments, but he has frequently oss the country and is hard to check on," says Robert hicago lawyer. Mr. Ryken says contracts should provide notify the buyer when the seller doesn't make a payment. yers should then be allowed to send payments to the bank to the seller.

LERS COULD GET HURT if they don't get large enough mpayments, Mr. Ryken says. For instance, the buyer y not pay taxes or he may allow the house to deteriorate. he buyer then defaults on payments to the seller, the origi- ayment may not be enough for the seller to pay off the restore the house.

estate experts also warn that creative financing distorts rices. If a buyer pays $80,000 but gets a $5,000 break on the he's really paying $75,000. But the legal price remains t's good for the broker who gets a commission," says associate professor of finance at the University of e seller pays that commission."

INSIDE:

MEXICO'S ATTEMPT to raise oil price fizzles, page 31.
SUNFLOWER FUTURES fail to blossom, page 40.
ICC CHAIRMAN slows deregulation, back page.

Illegal Crop Of Wheat Irks Farmers, Mill

By DELIA FLORES
Staff Reporter of THE WALL STREET JOURNAL

Some farmers in southeastern Kansas have just harvested a different kind of wheat, something known as Plainsman Five. It's red. And it's illegal.

Only farmers under contract to Dixie-Portland flour mill can legally grow Plainsman Five. But that hasn't stopped bootleggers from obtaining the seed and planting hundreds of thousands of acres, many of them in Sumner County.

The wheat, coveted for the high protein content that increases its value, has created quite a stir in farm country. The farmers who legally grow it are furious at the bootleggers. The bootleggers say no one should own the right to grow anything. And Dixie-Portland, intent on protecting its rights, has been mailing letters to farmers threatening to take them to court.

Easy to Spot

To track down violators, the company has been sending scouts into farmers' fields and dispatching airplanes to search for the short, red plants. "It just stands up and screams at you," says Kathy Kolarik, a seed producer in Sumner County. "You can spot it a mile away."

But detection is only the first step. Although the color red is nearly proof that wheat is Plainsman Five, the company microscopically tests suspicious plants. It also examines land maps to determine whether the plant is growing legally or illegally. Dealing with the problem "is really kind of a nightmare," says Keith Ehmke, the mill's director for quality control.

The dispute started in 1975 when Dixie-Portland, a Dixie-Portland, a Federal Co. subsidiary in Arkansas City, Kan., bought the rights to Plainsman Five from a private seed company that developed the strain and then contracted with some nearby farmers to grow the wheat exclusively for its mill.

But after the first harvest, the wheat's reputation spread and other farmers wanted it. The price a farmer gets for wheat depends partly on its protein content. In a region where most wheat contains 10% to 12% protein, Plainsman Five stands out with a content as high as 22%. The wheat also is resistant to a local virus, matures early and yields more than other varieties.

Farmers who legally grow the wheat say some of their neighbors stole Plainsman Five during moonlight raids on grain bins and pickup trucks. But other farmers, legally entitled to grow the grain, simply violated the contracts and gave or sold the wheat to friends.

Getting a Return

At first, Dixie-Portland didn't try to track down the thieves. But the problem has grown so severe this summer that the company has intensified its efforts to combat violations. "It's an investment, and we are entitled to get our money back from the cost of developing," says Mr. Ehmke.

Dixie-Portland isn't the only one angry at the bootleggers. Some flour mills suspect that bootleggers have hidden Plainsman Five in other types of wheat to raise protein levels, says Lowell Burchett of the Kansas Crop Improvement Office. Once buyers suspect an unknown mix, they demand discounts or drop out of the market. Doubts about uniformity lead to lower prices, and then, Mr. Burchett says, "you pay your dues in a real way."

The conflict pits neighbor against neighbor in other ways, too. A contract farmer might have to haul his wheat 40 miles to Dixie-Portland while a bootlegger can take his to a closer mill for a higher profit. "It's hard to be congenial to a neighbor who's cutting your throat," Mrs. Kolarik observes.

But to some farmers, a tradition of independence is at stake. Ervin Urban, who farms 1,700 acres with his two sons, says, "If a neighbor has some wheat we want, we feel we have a right to go and buy it. I've lived 50 years, and no one has told me I can or can't grow this or that wheat."

"Just Good Wheat"

He says he bought Plainsman Five seed from a friend two years ago and planted it, not knowing it was protected. "It didn't matter to me what it was," he says. "I just knew it was good wheat."

It mattered to Dixie-Portland. The company sent a letter threatening prosecution if he didn't stop. He did, but the mill accused him of growing it again this year. Mr. Urban says he had to hire a lawyer to explain that he's actually growing another variety of wheat with a reddish tint similar to Plainsman Five. Dixie-Portland dropped the matter.

To Freeman Dillard, another farmer in Sumner County, the whole affair signals changing times. "Twenty-five years ago," he says, "a contract would not have been necessary, because a man's word was his bond."

13 E. Plainsman V was developed by Seed Research Associates Inc. plant breeders, Kenneth L. Goertzen and Betty L. Goertzen.

Protein Determinations from
1974 Kansas Intra-state Nursery 1/
All Dryland Summerfallow
NOT FOR PUBLICATION WITHOUT PERMISSION

1974 Entry No.	Kind	Protein % 2/ Wheat	Protein % 2/ Flour	Rank Wheat	Rank Flour
1	Parker Checks	12.4	11.4	8	7
2	Eagle	12.3	11.3		10
3	Nicoma	12.0	10.9		
4	Baca	12.0	10.8		
5	W 332	12.3	11.0		
6	Tam W101	12.1	10.9		
7	Clarks Cream	12.8	11.7	6	6
8	Kaw/Atlas 50, KS691402 exp.	13.1	11.9	4	4
9	Kaw	11.8	10.6		
10	Kaw/Atlas 66, KS71077 exp.	13.6	12.3	2	3
11	Ot/5* Sut, 70H208 exp.	12.2	11.1		
12	Ot/5* Sut, 70H210 exp.	11.8	10.6		
13	Funk 7173	12.4	11.1		
14	Funk 7171	12.2	11.2		
15	Tam W103	11.6	10.5		
16	CIMMYT/Scout, KS73112 exp.	11.6	10.3		
17	CIMMYT/Scout, KS73114 exp.	12.1	10.8		
18	CIMMYT/Scout, KS73165 exp.	12.6	11.4	7	7
19	CIMMYT/Scout, KS73167 exp.	11.7	10.5		
20	CIMMYT/Scout, KS73168 exp.	12.4	11.4	8	7
21	Cargill 4	12.4	11.3	8	10
22	Cargill 502	11.9	10.8		
23	Osage	12.1	11.0		
24	Plainsman V High Protein	14.4	13.8	1	1
25	Dual V	13.4	12.6	3	2
26	Dual VI discarded	12.3	11.3	9	10
27	Dual VII	13.0	11.9	5	4

1/ Preliminary data furnished by Karl Finney, Hard Red Winter Wheat Quality Laboratory, Manhattan, Kansas.

2/ Protein data are 10-station averages expressed on a 14% moisture basis.

TUS ; BOTHRIOCHLOA MACRA : SPOROBOLUS ELONGATUS : ERAGROSTIS SPP. : CHLORIS TRUNCATA : POA S
IEBERANA ; DANTHONIA SPP ; MICROLAENA STIPOIDES : AGROPYRON SCABRUM : AGROSTIS AVENACEA : HO
RDEUM LEPORINUM ; BROMIS MOLLIFORMIS ; VULPIA SPP. : IN AUSTRALIA : NEW SOUTH WALES
THE HISTORY OF THE NORTHERN TABLELANDS PRIOR TO EUROPEAN SETTLEMENT IS DISCUSSED. AND THE
SPP. COMPOSITION OF THE 3 MAJOR PASTURE TYPES THOUGHT TO OCCUR IS DESCRIBED. THE CHARACTERIS
TICS OF THE CURRENTLY IMPORTANT NATIVE AND NATURALIZED GRASS SPP.: THEMEDA AUSTRALIS. SORGHU
M LEIOCLADUM. ARISTIDA RAMOSA. CYMBOPOGON REFRACTUS. BOTHRIOCHLOA MACRA. SPOROBOLUS ELONGATU
S. ERAGROSTIS SPP.. CHLORIS TRUNCATA. POA SIEBERANA. DANTHONIA SPP.. MICROLAENA STIPOIDES. A
GROPYRON SCABRUM. AGROSTIS AVENACEA. HORDEUM LEPORINUM. BROMUS MOLLIFORMIS AND VULPIA SPP. A
RE DESCRIBED. THE EFFECTS OF GRAZING ON THE SPP. COMPOSITION OF NATURAL PASTURES IS DESCRIBE
D. THE GRAZING BEHAVIOUR OF MERINO SHEEP LEADS TO A STRIKING ZONATION OF HERBACEOUS SPECIES
RESULTING FROM UNEVEN GRAZING INTENSITY AND DISTRIBUTION OF DUNG AND URINE. DATA FROM FIELD
TRIALS AT SHANNON VALE INDICATED THAT THE PROPORTION OF WHITE CLOVER IN THE PASTURE DEPENDED
ON BOTH STOCKING RATE AND SUPERPHOSPHATE RATE AND THAT THE PROPORTION OF DANTHONIA SPP. INC
REASED WHEN WHITE CLOVER DECREASED. WOOL PRODUCTION DATA ARE ALSO PRESENTED WHICH SHOW THAT
HIGH LEVELS OF PRODUCTIVITY/HA CAN BE OBTAINED FROM TOPDRESSED NATURAL PASTURES. A SCHEME IS
PRESENTED SHOWING THE INTERRELATIONSHIPS BETWEEN THE ORIGINAL AND THE PRESENT PASTURE TYPES
AS AFFECTED BY GRAZING INTENSITY AND THE ADDITION OR DEPLETION OF PLANT NUTRIENTS.;JEB
CAB: V80(11) ;HERBAGE ABS. 04829(050)

****

PROFILE # 650017-001 NOV. 28, 1980 QUESTION WT. +250
TITLE: THE EFFECTS OF GRAZING AND SEASON ON THE STABILITY OF CHLORIS SPP. (WINDMILL GRASSES) IN NA
TURAL PASTURE AT TRANGIE. NEW SOUTH WALES.; (EN:)
AUTHOR: MICHALK, D. L.;HERBERT, P. K. (DEP. OF AGRIC.. TRANGIE. N.S.W.; AUSTRALIA 2823.)
SOURCE: AUSTRALIAN RANGELAND JOURNAL;1978, 1: 2: 106-111: EN:

KEYWDS: ENTEROPOGON ACICULARIS : CHLORIS TRUNCATA : STOCKING RATE;ENTEROPOGON ACICULARIS : CHLORIS
TRUNCATA ; GROUND COVER;ENTEROPOGON ACICULARIS . CHLORIS TRUNCATA . SEEDLING : SURVIVAL
A STUDY OF THE DENSITY AND BASAL DIAMETER OF CHLORIS ACICULARIS ENTEROPOGON ACICULARIS (CU
RLY WINDMILL GRASS) AND C. TRUNCATA (WINDMILL GRASS) WAS MADE AT STOCKING RATES OF 3.7 OR 4.
9 SHEEP/HA DURING 8 YR. THE PROPORTION OF GROUND COVERED BY THESE SPP. VARIED WIDELY WITH SE
ASON AND TO A LESSER EXTENT WITH GRAZING PRESSURE. THE DENSITY OF BOTH SPP. INCREASED IN GOO
D SEASONS, WHILE THE MEAN DIAM. DECREASED BECAUSE OF THE NUMBER OF NEW SEEDLINGS. ALTHOUGH C
. TRUNCATA SEEDLINGS WERE MORE NUMEROUS IN GOOD SEASONS. THEY DID NOT SURVIVE AS WELL AS DID
C. ACICULARIS SEEDLINGS DURING PROLONGED DRY PERIODS.;JEB
CAB: V80(11) ;HERBAGE ABS. 05268(050)

****

PROFILE # 650017-001 NOV. 28, 1980 QUESTION WT. +250
TITLE: REGENERATION OF GILGAIS IN THE EASTERN GOLDFIELDS REGION OF WESTERN AUSTRALIA.; (EN:)
AUTHOR: HACKER, R. B. (DEP. OF AGRIC., SOUTH PERTH, W.A., AUSTRALIA.)
SOURCE: AUSTRALIAN RANGELAND JOURNAL;1978, 1: 2: 194-196: EN:

KEYWDS: ; KANGAROOS ; ERAGROSTIS SETIFOLIA ; HELIPTERUM CHARSLEYAE : ERAGROSTIS DIELSII : GRAZING
EXCLOSURE;OSGRASSLAND (SPECIFIED TYPES) : TROPICAL : CROP MANAGEMENT : SOIL TYPES (GENETIC
: VERTISOLS ; GILGAI SOILS ; PLANT RESPONSE SF 32: ;SF 287: ;SF 145.33: ;SF 28: ;SF 14
THE EFFECT OF EXCLOSURE FROM GRAZING ANIMALS ESPECIALLY KANGAROOS ON GILGAI FORMATIONS NEA
R KALGOORLIE, WESTERN AUSTRALIA WAS STUDIED. THE GILGAI SUSTAINED HEAVY GRAZING PRESSURE CAU
SING A DEPLETION OF THE PERENNIAL GRASS CLIMAX, MAINLY ERAGROSTIS SETIFOLIA, AND INCREASES I
N FORBS AND ANNUALS INCLUDING HELIPTERUM CHARSLEYAE AND E. DIELSII. IN SEPT. 1971 WHEN THE A
REA WAS FENCED OFF THE AMOUNT OF STANDING FORAGE INSIDE AND OUTSIDE THE EXCLOSURE WAS VIRTUA
LLY NIL DUE TO HEAVY GRAZING AND DROUGHT. IN SEPT. 1973 THERE WAS NO SIGNIFICANT DIFFERENCE
IN TOTAL BIOMASS INSIDE AND OUTSIDE THE ENCLOSURE BUT THE PROPORTION OF GRASSES INSIDE WAS M
UCH GREATER (1029 KG/HA) THAN OUTSIDE THE ENCLOSURE (172 KG/HA). THE MAIN SPP. INSIDE WAS E
SETIFOLIA, WHEREAS MOST OF THE GRASS OUTSIDE WAS E. DIELSII. BY NOV. MOST OF THE ANNUALS AN
D FORBS HAD DIED LEAVING E. SETIFOLIA AS ALMOST PURE STAND BOTH INSIDE AND OUTSIDE THE ENCLO
SURE.;JEB
CAB: V80(11) ;HERBAGE ABS. 05270(050)

****

PROFILE # 650017-001 NOV. 28, 1980 QUESTION WT. +250
TITLE: CARACTERISTICAS DE CLIMA Y SUELO DE LA SUB EST. DE PASTOS DE SANTI SPIRITUS. CLIMATE AND SO
IL CHARACTERISTICS OF THE PASTURE SUBSTATION OF SANTI SPIRITUS.; (ES:)
AUTHOR: BARRERA, C.
SOURCE: PRIMER SEMINARIO CIENTIFICO TECNICO, PROVINCIA DE LAS TUNAS. 18 AL 20 DE MAYO DE 1978. TOM
O 1.; HAVANA, CUBA: CENTRO DE INFORMACION Y DOCUMENTACION AGROPECUARIO.;undated. 21-22: ES:

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TITLE: TESTING AND SELECTION OF AFRICAN LOVEGRASS (ERAGROSTIS CURVULA) FOR SOIL CONSERVATION IN SO
UTH-WESTERN NEW SOUTH WALES.: (EN:)
AUTHOR: JOHNSTON, W. H.:AVEYARD, J. M. (WAGGA WAGGA SOIL CONSERVATION RES. CENT., SOUTH WAGGA W
AGGA, N.S.W., AUSTRALIA 2650.)
SOURCE: AUSTRALIAN PLANT INTRODUCTION REVIEW:1977. 12: 2: 27-40: EN:

KEYWDS: ERAGROSTIS CURVULA : SOIL : CONSERVATION:ERAGROSTIS CURVULA : DROUGHT : TOLERANCE.ERAGROSTI
S CURVULA : PALATABILITY : GROWTH HABIT:ERAGROSTIS CURVULA : GENOTYPES : IN AUSTRALIA : NEW
SOUTH WALES:OSSOIL CONSERVATION (SPECIFIED MEASURES) : GRASS ESTABLISHMENT : ERAGROSTIS CURV
ULA SF 260.3; :SF 328.7: :SF 26: :SF 32
70 ACCESSIONS OF E. CURVULA WERE SCREENED AT WAGGA WAGGA, NEW SOUTH WALES IN 1975. THEY WE
RE RATED ON THE BASIS OF BULK AND PALATABILITY TO SHEEP. ADDITIONAL OBSERVATIONS INCLUDED HA
BIT, DROUGHT TOLERANCE AND STALK:LEAF RATIO. 6 GROUPS WERE DEFINED IN TERMS OF BULK AND PALA
TABILITY. ROBUSTA TYPES WERE GENERALLY MORE PRODUCTIVE AND CONFERTA TYPES MORE PALATABLE THA
N OTHER GROUPS. 16 ACCESSIONS WERE SELECTED FOR FURTHER STUDY.:JEB
CAB: V80(11) :HERBAGE ABS. 04960(050)
****
PROFILE # 650017-001 NOV. 28. 1980 QUESTION WT. +250
TITLE: SEED PRODUCTION IN NEW ZEALAND RYEGRASSES. 1. EFFECT OF GRAZING.: (EN:)
AUTHOR: BROWN, K. R. (GRASSLANDS DIV., DSIR, CHRISTCHURCH, NEW ZEALAND.)
SOURCE: NEW ZEALAND JOURNAL OF EXPERIMENTAL AGRICULTURE:1980. 8: 1: 27-32: EN:

KEYWDS: LOLIUM MULTIFLORUM : LOLIUM MULTIFLORUM VAR. WESTERWOLDICUM : LOLIUM PERENNE : GRAZING:LOLI
UM MULTIFLORUM : LOLIUM MULTIFLORUM VAR. WESTERWOLDICUM : LOLIUM PERENNE : SEED : PRODUCTION
:LOLIUM MULTIFLORUM : LOLIUM MULTIFLORUM VAR. WESTERWOLDICUM : LOLIUM PERENNE : TILLERING
ITALIAN RYEGRASS CV. (A) GRASSLANDS PAROA, (B) WESTERWOLDS RYEGRASS CV. GRASSLANDS TAMA AN
D (C) PERENNIAL RYEGRASS CV. GRASSLANDS NUI WERE GROWN AS MONOCULTURES EITHER UNGRAZED FROM
MID-MARCH OR GRAZED IN JUNE AND AGAIN JUST BEFORE CLOSING FOR SEED IN LATE SEPT. IN 3 OF 5 C
OMPARISONS, LARGE PRE-FLOWERING DIFFERENCES FAVOURING UNGRAZED CROPS WERE INCREASED IN THE P
OST-FLOWERING PERIOD. FOR THE REMAINING 2 COMPARISONS, POST-FLOWERING DEVELOPMENT WAS RETARD
ED IN THE UNGRAZED CROPS BY SEVERE MOISTURE STRESS. HOWEVER, ALTHOUGH MOISTURE STRESS ELIMIN
ATED THE PRE-FLOWERING ADVANTAGE HELD BY UNGRAZED CROPS. SEED YIELDS FROM THEM DID NOT DIFFE
R SIGNIFICANTLY FROM THOSE OF THE GRAZED CROPS WHICH WERE MORE MILDLY STRESSED. SEED YIELDS
WERE (A) 510, (B) 700 AND (C) 730 KG/HA ON UNGRAZED AND (A) 480, (B) 420 AND (C) 690 KG/HA O
N GRAZED PLOTS AT KIRWEE IN 1975-6. LARGE PLANT AND TILLER POPULATIONS WERE NOT A NECESSARY
PREREQUISITE FOR LARGE SEED HEAD POPULATIONS. THIS WAS SUGGESTED BY A NEGATIVE RELATIONSHIP
BETWEEN PLANTS/M, TILLERS/PLANT, AND PERCENTAGE OF TILLERS PRODUCING A HEAD.:JEB
CAB: V80(11) :HERBAGE ABS. 04881(050)
****
PROFILE # 650017-001 NOV. 28. 1980 QUESTION WT. +250
TITLE: MIDMAR - A NEW DIPLOID ITALIAN RYEGRASS CULTIVAR.: (EN: AF)
AUTHOR: RHIND, J. M. L. C.:GOODENOUGH, D. C. W. (AGRIC. RES. INST. FOR NATAL, CEDARA, NATAL, SO
UTH AFRICA.)
SOURCE: PROCEEDINGS OF THE GRASSLAND SOCIETY OF SOUTHERN AFRICA:1976. 11: 119-121: EN: AF

KEYWDS: LOLIUM MULTIFLORUM : VARIETIES : MIDMAR
A NEW DIPLOID CV. OF ITALIAN RYEGRASS, SOUTH AFRICA'S MOST IMPORTANT TEMPERATE FORAGE GRAS
S SP., HAS RECENTLY BEEN RELEASED BY THE DEPARTMENT OF AGRICULTURAL TECHNICAL SERVICES (NATA
L REGION), NAMED MIDMAR. THE CV. WAS EVOLVED FROM A WIDE RANGE OF LOCAL AND EXOTIC ACCESSIO
S BY THE APPLICATION OF STANDARD GRASS BREEDING TECHNIQUES. MIDMAR IS SUPERIOR TO MOST EXIST
ING COMMERCIALLY AVAILABLE MATERIAL IN SUCH RESPECTS AS DM YIELD, WINTER PRODUCTION, RESISTA
NCE TO LEAF RUST AND UNIFORMITY. CERTIFIED SEED IS AVAILABLE IN COMMERCIAL QUANTITIES.:JA
CAB: V80(11) :HERBAGE ABS. 04945(050)
****
PROFILE # 650017-001 NOV. 28. 1980 QUESTION WT. +250
TITLE: GENERAL EFFECTS OF MANAGEMENT AND GRAZING BY DOMESTIC LIVESTOCK ON THE RANGELANDS OF THE NO
RTHERN TABLELANDS OF NEW SOUTH WALES.: (EN:)
AUTHOR: WHALLEY, R. D. B.:ROBINSON, G. G.:TAYLOR, J. A. (DEP. OF BOT., NEW ENGLAND UNIV., ARMID
ALE, N.S.W., AUSTRALIA 2351.)
SOURCE: AUSTRALIAN RANGELAND JOURNAL:1978. 1: 2: 174-190: EN:

KEYWDS: AUSTRALIA : NEW SOUTH WALES : RANGELANDS:GRASSLANDS : NATURAL : RANGELAND : IN AUSTRALIA :
NEW SOUTH WALES:THEMEDA AUSTRALIS : SORGHUM LEIOCLADUM : ARISTIDA RAMOSA : CYMBOPOGON REFRAC

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PROFILE # 650017-001 NOV. 28. 1980 QUESTION WT. +250
TITLE: PLONOWANIE WYBRANYCH ODMIAN TRAW KRAJOWYCH I ZAGRANICZNYCH PRZY ROZNYM SPOSOBIE UZYTKOWANIA W WARUNKACH GORSKICH. YIELDS OF SELECTED NATIVE AND FOREIGN GRASS CULTIVARS GROWN IN MOUNTA IN AREAS UNDER DIFFERENT SYSTEMS OF MANAGEMENT.: (PL: RU. EN)
AUTHOR: JAGLA. S.;KOPEC. S. (ZAKLAD GOSPODARKI GORSKIEJ. IMUZ. 31-136 KRAKOW. POLAND.)
SOURCE: WIADOMOSCI INSTYTUTU MELIORACJI I UZYTKOW ZIELONYCH;1978. 13: 4: 179-195: PL: RU. EN

KEYWDS: DACTYLIS GLOMERATA : FESTUCA PRATENSIS : PHLEUM PRATENSE : VARIETIES . IN POLAND:DACTYLIS G LOMERATA : FESTUCA PRATENSIS : PHLEUM PRATENSE : CUTTING : VS. GRAZING:DACTYLIS GLOMERATA : FESTUCA PRATENSIS : PHLEUM PRATENSE : CUTTING : FREQUENCY:DACTYLIS GLOMERATA : FESTUCA PRATE NSIS : PHLEUM PRATENSE : CHEMICAL COMPOSITION : PROTEIN:DACTYLIS GLOMERATA : FESTUCA PRATENS IS : PHLEUM PRATENSE : CHEMICAL COMPOSITION : FIBRE

IN TRIALS IN 1973-5 AT 600 M ALT. AT JAWORKI. THE PERFORMANCE OF THE POLISH COCKSFOOT CV. BRUDZYNSKA, MEADOW FESCUE CV. SKRZESZOWICKA SK-6 AND TIMOTHY CV. SKRZESZOWICKA SK-45 AND THE FOREIGN COCKSFOOT CV. BARAULA. MEADOW FESCUE CV. SEQUANA AND TIMOTHY CV. ODENWALDER WAS COM PARED UNDER A SIMULATED GRAZING OR CUTTING MANAGEMENT. THE PLANTS WERE SOWN IN BLOCKS AND UN DER THE SIMULATED GRAZING MANAGEMENT 6 CUTS WERE TAKEN IN 1973 AND 5 IN 1974 AND '75. UNDER THE CUTTING MANAGEMENT 3 CUTS WERE TAKEN IN EACH YR. UNDER BOTH SYSTEMS OF MANAGEMENT SWARDS WERE GIVEN 40 KG N/HA IN THE SPRING AND AFTER EACH CUT. THE DM YIELDS WERE SIMILAR FOR ALL THE CV. UNDER GRAZING (7.0-9.6 T/HA) AND CUTTING (8.4-9.7 T/HA) MANAGEMENT. PROTEIN YIELDS W ERE ALSO SIMILAR FOR ALL CV. BUT WERE HIGHER UNDER THE GRAZING (1.4-1.7 T/HA) THAN UNDER THE CUTTING (0.95-1.1 T/HA) MANAGEMENT. INCREASING THE NUMBER OF CUTS RESULTED IN A MORE RAPID REDUCTION IN THE PROPORTION OF SOWN SPP. DATA ARE PRESENTED ON THE GROWTH AND DEVELOPMENT OF THE 6 CV., ON THE DISTRIBUTION OF YIELD THROUGH THE GROWING SEASON. ON THE BOTANICAL COMPOS ITION OF THE SWARDS AND ON THE PERCENTAGES OF PROTEIN AND FIBRE IN THE GRASSES UNDER THE DIF FERENT MANAGEMENT SYSTEMS.:GMC
CAB: V80(11) :HERBAGE ABS. 04948(050)
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PROFILE # 650017-001 NOV. 28. 1980 QUESTION WT. +250
TITLE: IS IT POSSIBLE TO RECONCILE GRAZING AND THE FULL UTILIZATION OF HERBAGE GRASSES? A NEW APPR OACH TO AN OLD PROBLEM. 2. PROBLEMS OF GRASS EXPLOITATION IN RESTRICTED GRAZING (1): CONDITI ONS OF A GRAZING SYSTEM.:
AUTHOR: GILLET. M.;HUGUET. L.;BREISCH. H.;ROY. A. LE;POSNY. P.
SOURCE: IS IT POSSIBLE TO RECONCILE GRAZING AND THE FULL UTILIZATION OF HERBAGE GRASSES? A NEW APP ROACH TO AN OLD PROBLEM. 1. UNDER GRAZING FORAGE GRASSES ARE ACTUALLY TOO FEW OR POORLY USED : WHY?; PEUT-ON CONCILIER PATURE ET PLEIN EMPLOI DES GRAMINEES FOURRAGERES? NOUVELLE APPROCH E D'UN VIEUX PROBLEME. 1. EN PATURE DES GRAMINEES FOURRAGERES SONT ACTUELLEMENT TROP PEU OU MAL EMPLOYEES: POURQUOI?FOURRAGES;1979. NO.79: 111-121. 128: FR:

KEYWDS: GRAZING SYSTEMS : PADDOCK : STRIP-GRAZING : INTENSIVE

THE PROBLEMS RAISED BY INTENSIVE AND RATIONAL GRAZING (PADDOCK OR STRIP-GRAZING) INCLUDING REMOVAL OF SHOOT APICES PREVENTING HEADING ARE DISCUSSED. RECOMMENDATIONS FOR MANAGEMENT OF SUCH GRAZING SYSTEMS ARE GIVEN. IT IS STRESSED THAT TIME OF GRAZING MUST BE DETERMINED BY C LIMATE AND OTHER FACTORS AFFECTING PASTURE GROWTH. AND THAT THE RESTING PERIOD SHOULD BE MOR E THAN OR EQUAL TO THE GRAZING PERIOD.:JEB
CAB: V80(11) :HERBAGE ABS. 04791(050)
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PROFILE # 650017-001 NOV. 28. 1980 QUESTION WT. +250
TITLE: SOME CHARACTERISTICS OF THE PROTECTION REGIME IN PARTS OF THE UKRAINIAN STEPPE RESERVE.: (UK: EN. RU)
AUTHOR: OSICHNYUK, V. V. (INSTITUT BOTANIKI IM. M.G. KHOLODNOGO. KIEV. UKRAINIAN SSR.)
SOURCE: UKRAINS'KII BOTANICHNII ZHURNAL;1979. 36: 4: 347-352: UK: EN. RU

KEYWDS: GRASSLANDS : NATURAL : STEPPE : PROTECTION EFFECTS:STIPA SPP. : FESTUCA SPP. : BROMUS INERM IS : AGROPYRON REPENS : BOTANICAL COMPOSITION : GRASSLANDS : PROTECTION EFFECTS

IN "MIKHAILOVSKAYA TSELINA". "KHOMUTOVSKAYA STEP" AND "KAMENNYE MOGILY". PARTS OF THE UKRA INIAN STEPPE RESERVE. COMPLETE PROTECTION OF STEPPE VEGETATION WEAKENED THE TUFTED GRASSES S UCH AS STIPA AND FESTUCA SPP.. INCREASED THE RHIZOMATOUS GRASS SPECIES SUCH AS BROMOPSIS BRO MUS INERMIS AND ELYTRIGIA AGROPYRON REPENS. REDUCED THE NUMBER OF SPP. IN PLANT COMMUNITIES AND THE NUMBER OF XEROPHYTIC SPP. AND INCREASED THE NUMBER OF SPP. TYPICAL OF THE MORE N. ME SOPHYTIC STEPPES. FOR PREVENTING THESE CHANGES THE REGIME OF COMPLETE PROTECTION WAS REPLACE D IN SOME AREAS OF THE RESERVES BY MOWING. MOSTLY ONCE IN 2 YR.:AVB
CAB: V80(11) :HERBAGE ABS. 05295(050)
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