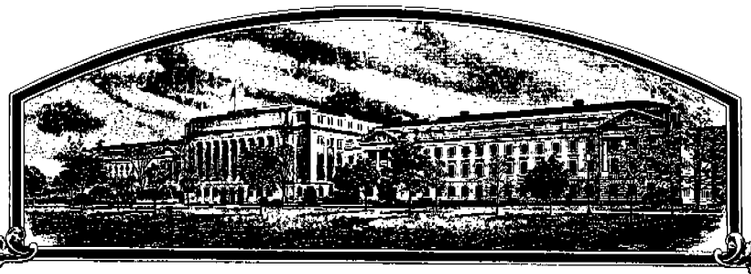

No. 7500004

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Wisconsin Agricultural Experiment Station

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, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT ETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS S BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

OAT

'Goodland'

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* 27th *day of* October *in the year of our Lord one thousand nine hundred and* seventy-six

Attest:

S. S. Rollin

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John C. Turley

Acting Secretary of Agriculture

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 GOODLAND	2. KIND NAME Oats	FOR OFFICIAL USE ONLY PV NUMBER 7500004
3. GENUS AND SPECIES NAME Avena sativa	4. FAMILY NAME *(Botanical)* Gramineae	FILING DATE 7.22.74 — TIME 9 A.M.
	5. DATE OF DETERMINATION Dec. 27, 1973	FEE RECEIVED $ 250.00 / $ 250.00 / $ 250.00 — BALANCE DUE $ — / $ — / $ —
6. NAME OF APPLICANT(S) Wis.Agr.Exp. Station H. L. Shands, Authorized	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* Agricultural Hall University of Wisconsin Madison, WI 53706	8. TELEPHONE AREA CODE AND NUMBER 608 262-3994 262-6527
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Wis. Agr. Exp. Station	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION

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

H. L. Shands, Agronomy Building, University of Wisconsin, Madison, WI 53706

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? Three
[X] FOUNDATION [X] 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.

July 12, 1974, (DATE) — H. L. Shands (SIGNATURE OF APPLICANT)

Revisions Aug. 12 and 27 1976, (DATE) — (SIGNATURE OF APPLICANT)

75 000 04

Exhibit A, Origin and Breeding History of the Goodland (CI 9202) Variety of Oats.

Goodland was developed primarily by workers at the Wisconsin Agricultural Experiment Station. The final cross Trispernia x Belar 2x Goodfield 3x Goodfield 4x Garland was made in the greenhouse in 1963-64. The F_1 was grown in the nursery in 1964 and the F_2 was grown as spaced plants in 1965. The F_3 was grown in head (panicle) rows in 1966. The F_4 was grown in head rows in 1967, and this was followed by tests in replicated trials at Madison in 1968, and at several University Experimental Farms for 4 years. There was minor ununiformity of plant height, with less than a half percent being somewhat taller than the remainder at time of distribution. More than 99.5 percent of the grain fluoresced, while the remainder did not. Progeny-row purification later eliminated ~~height and fluorescence non-uniformity~~ and thereby provided stability. Foundation seed was released to growers of certified seed in Wisconsin in the spring of 1974. 8/27/76

Revised Aug. 12, 1976

Exhibit B, Botanial Description of the Variety.

Goodland oats is classified as Avena sativa L. Plants are medium height to mid-short with mid-size leaves consisting of sheath, ligule, and blade. Panicle is equilateral with ascending branches during kernel filling but less erect at maturity. Rachis is straight. Caryopsis is retained in a semi-coriaceous lemma and a membraneous palea. Spikelet spearation is by fracture and floret separation is by disarticulation. Lemma color is yellow when mature. Kernel weight is near 29.5 mg. Groat percent is near 72. Lemma awns are absent or very infrequent.

Revised Aug. 12, 1976.

FORM GR-470 (REVERSE)

U. S. DEPARTMENT OF AGRICULTURE
SEP 9 1976
AMS, GRAIN DIV.
PVPO

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.

U. S. DEPARTMENT
RECEIVED
AUG 20 1976
AMS GRAIN DIV.
PVPO

FORM APPROVED: OMB NO. 40-R3712

FORM GR 470-35 (1976)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF VARIETY
OAT
(Avena spp.)

NAME OF APPLICANT(S): H. L. SHANDS

VARIETY NAME OR TEMPORARY DESIGNATION: GOODLAND

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)
Agronomy Bldg., University of Wisconsin
Madison, WI 53706

FOR OFFICIAL USE ONLY
PVPO NUMBER: 75 000 04

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.

1. SPECIES:

1 — 1 = SATIVA 2 = BYZANTINA 3 = OTHER (Specify)

2. GROWTH HABIT:

3 — 1 = WINTER 2 = SEMIWINTER 3 = SPRING

3 — JUVENILE GROWTH: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

STANDARD VARIETIES

1 = JAYCEE 2 = CLINTLAND 64 3 = CAYUSE 4 = NORLINE 5 = YANCEY 6 = FLORIDA 501

3. MATURITY (50% flowering): ~~8/2~~

8/27/76 — ~~2 7~~ DAYS EARLIER THAN ..... ~~4~~ STANDARD VARIETY 0 3 DAYS LATER THAN ..... 2 STANDARD VARIETY — 8/27/76

3 — Season: 1 = VERY EARLY (Jaycee) 2 = EARLY (Nodaway 70) 3 = MIDSEASON (Clintford) 4 = LATE (Lodi) 5 = VERY LATE (Garry) 6 = EXTREMELY LATE (Mackinaw)

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

0 7 2 CM. TALL

0 7 ~~1 9~~ CM. SHORTER THAN .... 2 ~~(Lodi)~~ STANDARD VARIETY — 8/27/76

CM. TALLER THAN ..... STANDARD VARIETY

5. STEM:

2 — DIAMETER: 1 = FINE (Kherson) 2 = MEDIUM (Clintford) 3 = COARSE (Nodaway 70)

1 — HAIRINESS AT UPPER CULM NODES: 1 = HAIRLESS 2 = HAIRY

1 — MATURE STEM COLOR: 1 = YELLOW 2 = REDDISH

6. LEAF: (Leaf Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the leaf color of the described variety.)

2 — CARRIAGE: 1 = DROOPING (Random) 2 = ERECT (Walken)

3 — COLOR: 1 = YELLOW GREEN 2 = LT. GREEN 3 = DK. GREEN 4 = BLUE GREEN

1 2 MM. WIDTH (First leaf below flag leaf)

1 — LEAF MARGIN: 1 = GLABROUS 2 = CILIATE

2 — LIGULE: 1 = ABSENT 2 = PRESENT

1 — LEAF SHEATH: 1 = HAIRLESS 2 = HAIRY

7. HEAD:

1 — PANICLE SHAPE: 1 = EQUILATERAL 2 = INTERMEDIATE 3 = SIDE PANICLE (Unilateral)

1 — ATTACHMENT OF LOWER WHORL OF BRANCHES: 1 = FIRST NODE 2 = SECOND NODE (False node)

2 — PANICLE SIZE: 1 = SMALL (Yancey) 2 = MEDIUM (Walken) 3 = LARGE (Markton)

1 — PANICLE WIDTH: 1 = NARROW (Gopher) 2 = MIDBROAD (Yancey) 3 = BROAD (Nodaway 70)

1 8 CM. PANICLE LENGTH 2 1 NUMBER OF BRANCHES 0 6 NUMBER OF WHORLS OF BRANCHES

1 — POSITION OF BRANCHES: 1 = ASCENDING (Yancey) 2 = SPREADING (Cayuse) 3 = DROOPING (Markton) 4 = PECTINATE (White Tartar) 5 = CONFUSED (Storm King)

75000 04

Exhibit D. Data Indicative of Novelty.

Novelty of Goodland oats is based on:

Parentage different from other oat varieties.

Increased groat protein.

Detail: Trispernia x Belar 2x Goodfield 3x Goodfield 4x Garland.

Groat protein % Madison, Wis.	1971	1972	1973	Avg.
Dal	19.5	20.9	20.1	20.16
Goodland	19.3	21.4	21.4	20.70

X1656-1 in Wisconsin Bulletin R2569 was named Goodland in 1974.

Average groat protein %, 6 locations Wisconsin 1973:

Dal	20.8
Goodland	22.4

8/27/76

Dal is most similar to Goodland oats.

~~There is considerable similarity between Goodland and Dal oats.~~

Positive difference: Goodland grain fluoresces ~~darkly~~ under U.V. light, while Dal does not fluoresce~~s~~ ~~lightly~~.

8/27/76

Lesser differences: Goodland has lower oil percentage in groats and slightly higher protein than Dal. Goodland has no hairs at base of kernel while Dal has a few. Bushel weights of Goodland a little less than for Dal. Goodland plants have less height than Dal, and Goodland has shorter and narrower panicles than Dal. Goodland has less crown rust resistance than Dal, and has more susceptibility to Barley Yellow dwarf virus than Dal.

Single comparisons Goodland-Froker: Goodland has higher groat protein; or about 3 percent.

A single Goodland-Lodi comparison: Goodland has shorter plants and shorter panicles. Lodi grain fluoresces light color under U. V. light while Goodland fluoresces dark.

Revised Aug. 12, 1976

7500004

Exhibit E.

The Wisconsin Agricultural Experiment Station is the sole owner of Goodland oats.

Revised Aug. 12, 1976

8. RACHIS:

[2] 1 = RECURVED (Yancey) 2 = ERECT (Walken)

[1] SECOND FLORET RACHILLA SEGMENT: 1 = HAIRLESS 2 = HAIRY

[1 8] MM. SECOND FLORET RACHILLA SEGMENT LENGTH

[ ] RACHILLA HAIRS: 1 = SHORT 2 = LONG

9. SPIKELET:

[3] SPIKELET SEPARATION BY: 1 = ABSCISSION 2 = SEMIABSCISSION 3 = FRACTURE

[1] FLORET SEPARATION BY: 1 = DISARTICULATION 2 = HETEROFRACTURE 3 = BASIFRACTURE

[2 0] FLORETS PER SPIKELET (mean no.)

10. GLUMES: (Glume Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described variety.)

[0 7] MM. WIDTH [2 3] MM. LENGTH [0 9] NO. OF VEINS ON GLUMES [1] COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = STRIPED

11. LEMMA: (Lemma Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described variety.)

[1 5] MM. LENGTH

[1] HAIRINESS OF DORSAL SURFACE: 1 = HAIRLESS 2 = HAIRY

[2] COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = GRAY 5 = BLACK

12. AWN (First floret):

[2] OCCURENCE: 1 = ABSENT (Walken) 2 = INFREQUENT (Yancey) 3 = COMMON (Chilocco) 4 = FREQUENT (Random)

[ ] TYPE: 1 = NON-TWISTED 2 = TWISTED 3 = TWISTED GENICULATE

[ ] MM. AWN LENGTH

13. SEED:

[1] FLORESCENCE UNDER ULTRAVIOLET LIGHT: 1 = FLORESCENT 2 = NON-FLORESCENT

[1] BASAL HAIR: 1 = ABSENT (Florida 501) 2 = ABSENT TO FEW (Yancey) 3 = FEW TO SEVERAL (Lee) 4 = SEVERAL TO NUMEROUS (Florilee) 5 = NUMEROUS (Red Rustproof)

[ ] MM. BASAL HAIR LENGTH

[2 9 5] GMS. PER 1,000 SEEDS

[2 0 8] % GROAT PROTEIN

[2 1] MG. GROAT WEIGHT (each)

[0 6 5] % GROAT OIL

14. INSECTS: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

[1] CEREAL LEAF BEETLE [0] BLUEGRASS BILLBUG [0] GRAIN BUG (C. Sayi) [0] NEMATODE (Type) ____

[0] GREEN BUG (Biotype) ____ OTHER *(Specify)* ____

15. DISEASE: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

[1] HALO BLIGHT [0] POWDERY MILDEW [1] SEPTORIA LEAF BLOTCH [0] SOIL-BORNE MOSIAC

[0] HELMINTHOSPORIUM LEAF BLOTCH [1] YELLOW DWARF VIRUS [2] VICTORIA BLIGHT [0] OTHER *(Specify)* ____

SPECIFY RACES TESTED:

	RACES SUSCEPTIBLE	RACES RESISTANT
[ ] CROWN RUST.....	Int 264B	326
[ ] STEM RUST.....	(AB genes) 31	72 2AH
[ ] COVERED SMUT.....		
[ ] LOOSE SMUT.....		

16. INDICATE VARIETY YOU BELIEVE MOST CLOSELY TO RESEMBLE THAT SUBMITTED:

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT TILLERING	Dal	LEAF COLOR	Dal
LEAF SIZE	Dal	LEAF CARRIAGE	Dal
SEED COLOR	Holden	SEED SHAPE	Dal

COMMENTS: