No. 7300044

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed Company

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, OR IMPORTING IT, OR EXPORTING IT, 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.)

LETTUCE

Great Lakes 659-700

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* tenth *day of* April *in the year of our Lord one thousand nine hundred and* seventy three.

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(2-12-71)

UNITED STATES DEPARTMENT OF AGRICULTURE
CONSUMER AND 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 Great Lakes 659-700	2. KIND NAME Lettuce	FOR OFFICIAL USE ONLY PVPO NUMBER 73044	
3. GENUS AND SPECIES NAME Lactuca sativa	4. FAMILY NAME *(Botanical)* Compositae	FILING DATE 12-26-72	TIME 11:00 A.M.
	5. DATE OF DETERMINATION August 24, 1966	FEE RECEIVED $ 250	CHARGES
6. NAME OF APPLICANT(S) Asgrow Seed Company	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* Kalamazoo, Michigan 49080		8. TELEPHONE AREA CODE AND NUMBER (616) 382-4000

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION Delaware	11. DATE OF INCORPORATION March 22, 1968

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

Mr. ~~John A. Batcha~~ Allen R. Frooter
Asgrow Seed Company 9625-190-1
9620-190-1
Kalamazoo, Michigan 49001

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 12A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52, P.L. 91-577)*

[X] 12B. Exhibit B, Botanical Description of the Variety

[X] 12C. Exhibit C, Objective Description of the Variety

[X] 12D. Exhibit D, Data Indicative of Novelty

[X] 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

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. *(See Section 52, P.L. 91-577).*

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), P.L. 91-577) (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

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

14C. If "Yes," to 14B, how many generations of production beyond breeder seed?

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

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 (P.L. 91-577).

December 21, 1972
(DATE)

John A. Batcha
(SIGNATURE OF APPLICANT)
Assistant To The President

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(DATE)

(SIGNATURE OF APPLICANT)

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF THE VARIETY.

1963	Single plant selection from Great Lakes 659
1964	Seed increase
1965	Evaluation
1966	Evaluation
1967	Evaluation and increase of Mosaic Indexed seed
1968	Evaluation and seed increase
1969	Evaluation
1970	Evaluation
1971	Evaluation and seed increase
1972	Variety named Great Lakes 659-700

The history of this variety has shown it to be stable through two breeding station increases and at least two production increases.

EXHIBIT B

BOTANICAL DESCRIPTION OF THE VARIETY.

This white seeded variety has no special seed characteristics to distinguish it from other lettuce varieties. The seedling stage is characterized by a very unevenly cut and ragged appearing leaf margin as shown on the leaf outline. The flowering stage produces a seed stalk which is slower to emerge than Mesa 659 but is quite close in final height and size of inflorescence.

The mature plant of Great Lakes 659-700 is similar to Great Lakes 659. Size of plant and head are both close to Great Lakes 659 but uniformity, head protection by wrapper leaves, and tolerance to bolting are improved. This variety will stand warmer weather than Great Lakes 659 but not as much as Oasis and still make firm heads.

Plant Variety Protection Application
Asgrow Seed Company
Lettuce - Great Lakes 659-700
December 21, 1972

FORM GR-471 (4-3-72)

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

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
(LETTUCE)

INSTRUCTIONS: See reverse.

NAME OF APPLICANT(S): Asgrow Seed Company

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code): Kalamazoo, Michigan 49001

FOR OFFICIAL USE ONLY
PVPO NUMBER: 297 - 1 - 73044
VARIETY NAME OR TEMPORARY DESIGNATION: GREAT LAKES 659-700

Place the appropriate number that describes the varietal character of this variety in the boxes below.

1. PLANT TYPE: [4][2]
10 = CUTTING (Leaf) 20 = STALK 50 = BUTTERHEAD 60 = LATIN 70 = OTHER (Specify) ____

30 = COS: 31 = SELF-CLOSING GROUP; 32 = LOOSE-CLOSING GROUP

40 = CRISPHEAD: 41 = IMPERIAL GROUP; 42 = GREAT LAKES GROUP; 43 = VANGUARD; 44 = NEW YORK GROUP

2. SEED COLOR: [1] 1 = WHITE 2 = BLACK 3 = YELLOW

3. ANTHOCYANIN: [1] 1 = ABSENT 2 = PRESENT

4. LEAF CONTAINING ANTHOCYANIN: [4] 1 = COVERED 2 = SPOTTED 3 = ALONG MARGIN 4 = ABSENT 5 = OTHER (Specify) ____

5. LEAF SURFACE TEXTURE: [2] 1 = SMOOTH 2 = BLISTERED

6. LEAF SURFACE REFLECTANCE: [2] 1 = DULL 2 = GLOSSY 3 = OTHER (Specify) ____

7. LEAF MARGIN: [2] 1 = STRAIGHT 2 = WAVY 3 = CURLED

[3] 1 = ENTIRE 2 = DENTATE 3 = INCISED 4 = DEEPLY INCISED 5 = OTHER (Specify) ____

8. LEAF SHAPE: [1] 1 = ROUNDED 2 = POINTED

[1] 1 = BROADER THAN LONG 2 = LONGER THAN BROAD 3 = OTHER (Specify) ____

9. LEAF COLOR: (See reverse.) [7] 1 = RED 2 = REDDISH-BROWN 3 = YELLOW 4 = YELLOWISH-GREEN 5 = GREYISH-GREEN 6 = BLUE-GREEN 7 = DARK-GREEN 8 = VERY DARK GREEN

10. HEADS: [1] 1 = SPHERICAL 2 = FLATTENED 3 = ELONGATE 4 = POINTED 5 = NON-HEADING

11. PLANT SIZE: (See reverse.) [2] 1 = SMALL 2 = MEDIUM 3 = LARGE

12. CULTURE: [1] 1 = SUMMER CROP 2 = WINTER CROP 3 = NOT SPECIFIC 4 = UNDER GLASS 5 = OTHER (Specify) ____

13. SIZE OF 10-DAY OLD SEEDLING GROWN UNDER CONSTANT LIGHT (Growth Chamber) **AT 25° C.:** (Place a zero in first box (i.e. [0][2]) when size is 9 mm. or less.)

[5][0] mm. LENGTH OF SEEDLING [1][2] mm. LENGTH OF COTYLEDON [0][4] mm. WIDTH OF COTYLEDON

14. DISEASE RESISTANCE TO: (Enter zeroes in box(es) where there is no special disease resistance.)

[0] 1 = TIPBURN [0] 2 = MOSAIC [0] 3 = DAMPING OFF [0] 4 = DOWNY MILDEW
[0] 5 = SCLEROTINIA ROT [0] 6 = BROWN BLIGHT [0] 7 = BIG VEIN [0] 8 = OTHER (Specify) ____

15. OUTLINE THE FOURTH LEAF: (For standardization purposes, the fourth leaf should be taken from a 20-day old plant grown under constant light.)

See attached sheet.

FORM GR-471 (REVERSE)

16. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY
Leaf color	Great Lakes 659
Leaf pigmentation	Great Lakes 659
Leaf shape	Great Lakes 659
Plant size	Great Lakes 659
Head size	Great Lakes 659

VARIETY	NO. OF DAYS TO HEAD MATURITY UNDER WINTER CROPPING	LOCATION	NO. OF DAYS TO HEAD MATURITY UNDER SUMMER CROPPING	LOCATION	NO. OF DAYS TO SEED STALK EMERGENCE UNDER SUMMER CROPPING	LOCATION
Submitted	120	Imperial Valley	71	Salinas Valley	74	Stratford, Cal.
Similar	120	Imperial Valley	71	Salinas Valley	73	Stratford, Cal.
Name of similar variety →	Great Lakes 659		Great Lakes 659		Mesa 659	

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

1. C. M. Rodenburg, 1960, Varieties of Lettuce, An International Monograph, Institunt Voor de Veredeling van Tuinbouwgewassen, Wageningen, Holland.

2. L. L. Morse, 1930, Field Notes on Lettuce, published by Ferry-Morse Seed Co.

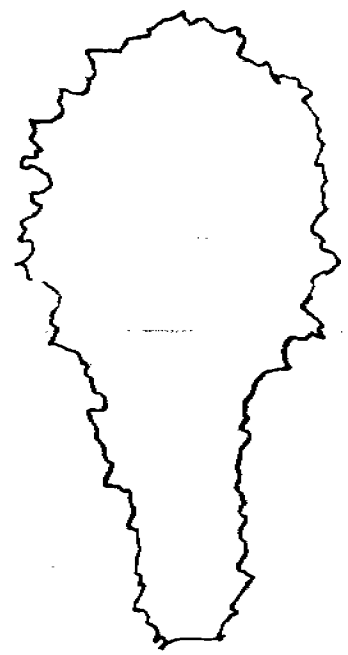
LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following lettuce varieties may be used as a guide to identify the eight colors listed on the form.

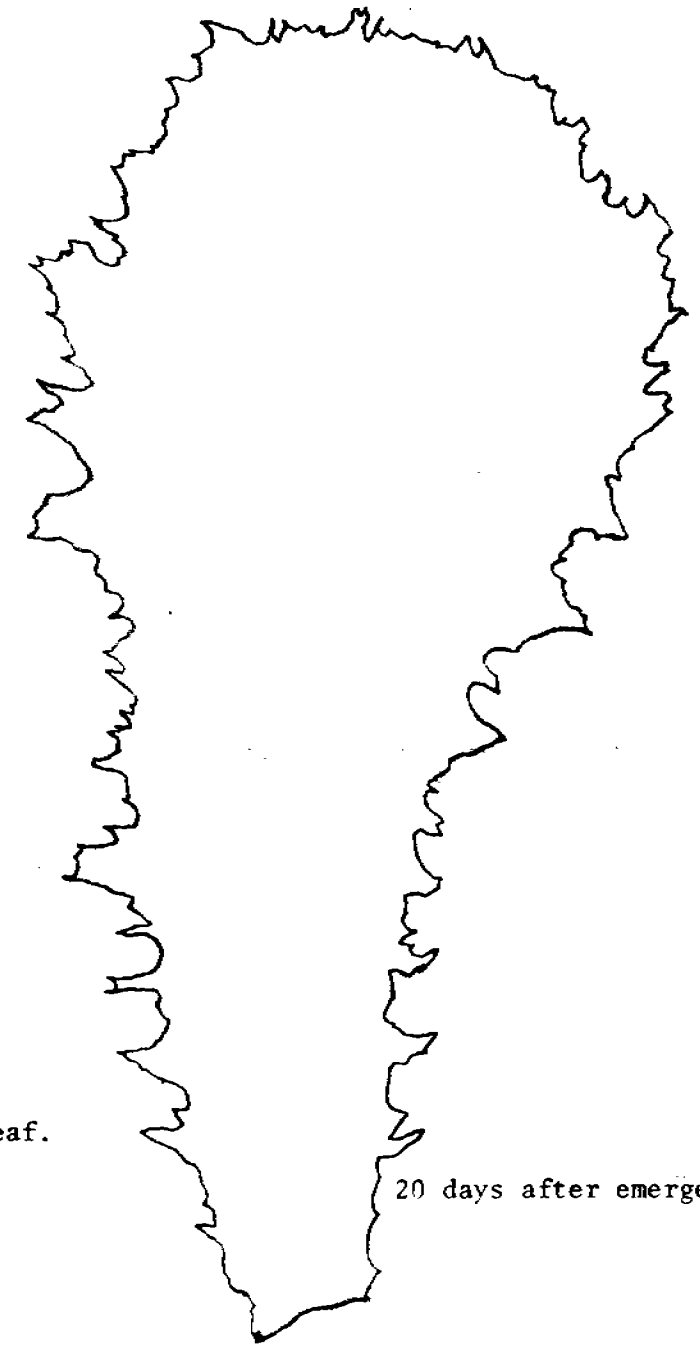
Color	Variety
Red	"Salad Trim"
Reddish-brown	"Ruby"
Yellow	"Salad Bowl"
Yellowish-green	"Oakleaf"
Greyish-green	"White Boston"
Bluish-green	"Bibb"
Dark-green	"Imperial" group
Very dark green	"Deer Tongue"

PLANT SIZE: The following varieties may be used as a guide to identify the plant type size:

TYPE	COMPARABLE VARIETIES		
	SMALL	MEDIUM	LARGE
Cutting (leaf)	Boston-Curled	Prize Head	Grand Rapids
Stalk (stem)	Celtuce	--	--
Cos	Express	Parris Island	Giant White
Crisphead	Mignonette	Hanson (Merit)	Climax
Butterhead	Tom Thumb	Big Boston	Mammoth Butter
Latin	Sucrine	Creole	Deer Tongue

Plant Variety Protection Application
Asgrow Seed Company
Lettuce - Great Lakes 659-700
December 21, 1972





Outline of fourth true leaf.

20 days after seeding

20 days after emergence

EXHIBIT D

DATA ON NOVELTY.

The seedling measurements of Great Lakes 659-700 show a difference when compared with the most similar variety Great Lakes 659. Total seedling length is the most noticable difference with Great Lakes 659 measuring 59.08 mm. and Great Lakes 659-700 measuring 50.53 mm. Other measurements were:

	Great Lakes 659	Great Lakes 659-700
Hypocotyl length	8.0	7.1
Cotyledon length	11.3	12.2
Cotyledon width	3.7	3.9

Bolting difference is pronounced. Figures taken from seed fields in the San Joaquin Valley show that Great Lakes 659-700 was slow to bolt. Great Lakes 659-700 planted on May 13, and Mesa 659 planted on May 12, were compared as follows: Great Lakes 659-700 on July 24 was bolting 10-15% with seed stalks 12" high. Mesa 659 on the same date was bolting 40% with seed stalks 12-18" high. This shows Great Lakes 659-700 bolting slower than Mesa 659 which is in turn a slower bolting variety than Great Lakes 659.

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANTS OWNERSHIP.

The new plant variety, Great Lakes 659-700, was developed under the investigation, support, and corporate objectives of Asgrow Seed Company (a subsidiary of The Upjohn Company) utilizing contributive parent stocks and facilities owned or controlled by the company.