No. 7600039

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Moran Seeds, 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, 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

'Morangold'

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* 28th *day of* January *in the year of our Lord one thousand nine hundred and* seventy-seven

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

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	2. KIND NAME	FOR OFFICIAL USE ONLY	
Morangold	*Lettuce*	PV NUMBER 7600039	
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 2·9·76	TIME 10 A.M. ~~P.M.~~
Lactuca sativa	*Compositae*	FEE RECEIVED $ 250.00	BALANCE DUE $ —
	5. DATE OF DETERMINATION *April 2, 1975*	$ 250.00	$ —
		$ 250.00	$ —
6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*		8. TELEPHONE AREA CODE AND NUMBER
Moran Seeds, Inc.	*1155 Harkins Road* *Salinas, California 93901*		*(408)* *424-1875*

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	*California*	*8-15-63*

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

Donald G. Bergam
Vice-president
Moran Seeds, Inc.
1155 Harkins Road
Salinas, California 93901

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.)* [ ] YES [X] NO

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

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

February 6, 1976
(DATE)

Donald G. Bergam, Vice-president
(SIGNATURE OF APPLICANT)

00001

(DATE)

(SIGNATURE OF APPLICANT)

EXHIBIT A

Origin and Breeding History of the Variety

'Morangold' originated from a single plant selection made in 1971 in the breeding line F406A4-1-1-1, a sister line of the protected variety 'Cal K-60', PVPO number 7400014. The selection, designated as F406A4-1-1-1A, was earlier in maturity, slightly darker green with a slightly longer core than other plants in the line. Following four generations of mass selection, F406A4-1-1-1A was grown for seed multiplication during the summer of 1975. No variants were observed during the four generations of mass selection and subsequent seed multiplication, except for the natural rogue mutations normally found in crisphead lettuce varieties, indicating that the line was highly stable for plant and bolting type. Varietal performance trials conducted in the Imperial Valley and the central coastal valleys of California during 1974 and 1975 have also shown that 'Morangold' is very uniform for type and has retained the characteristics that distinguish it from 'Cal K-60' or other existing varieties.

EXHIBIT B

Botanical Description of the Variety

'Morangold' belongs to the crisphead class of lettuce varieties and to the Great Lakes varietal type. The variety most closely resembles 'Cal K-60'.

The seed is white with no special characteristics that distinguish it from other white seeded Great Lakes lettuce varieties. Seedling emergence is fairly rapid and vigorous with normal growth during seedling development.

The mature plant of 'Morangold' is medium dark green, slightly darker green than 'Cal K-60' but lighter green than 'Montemar'. The frame is medium large with medium high wrapper leaves arranged loosely around the head. Wrapper leaves are medium thick with a glossy surface reflectance and slightly blistered surface texture. Leaf margins are wavy and moderately incised. The cap leaf is more puckered or blistered in appearance than the wrapper leaves and is more subject to frost damage than 'Cal K-60' when grown in the Imperial Valley for harvest during late December and early January.

Heads are round with a slightly flattened base, have good to adequate cover and have little tendency to spiral. Head size is comparable to 'Cal K-60' and the variety has the ability to produce solid heads when grown during recommended planting periods in California. Butts are slightly flattened, medium smooth in appearance with slightly ribby petioles, a medium core diameter and a slightly longer core length than 'Cal K-60'. Harvested heads of 'Morangold' have no suckers of significant size.

'Morangold' is more concentrated in maturity and two to three days earlier than 'Cal K-60'. Based on average climatic conditions in the Salinas Valley, 'Morangold' planted during early July will mature in 62-66 days while 'Cal K-60' under similar cultural practices requires 64-69 days from planting to maturity. The number of days from planting to maturity is progressively greater the earlier or later the planting date departs from the early July planting period.

The seedstalk is uniformly medium tall and is similar in final height and size of inflorescence to 'Cal K-60'.

'Morangold' has moderate resistance to tipburn and resistance to the same races of downy mildew as Calmar.

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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.

EXHIBIT C

FORM GR-471
(4-3-72)

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

OBJECTIVE DESCRIPTION OF VARIETY
(LETTUCE)

INSTRUCTIONS: See reverse.

FOR OFFICIAL USE ONLY

PVPO NUMBER: 297 - 1 - 7600039

VARIETY NAME OR TEMPORARY DESIGNATION: MORANGOLD

NAME OF APPLICANT(S): Moran Seeds, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code):
1155 Harkins Road
Salinas, California 93901

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.) [3] 1 = SMALL 2 = MEDIUM 3 = LARGE

12. CULTURE: * [3] 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.)
[ ] mm. LENGTH OF SEEDLING [ ] mm. LENGTH OF COTYLEDON [ ] mm. WIDTH OF COTYLEDON

14. DISEASE RESISTANCE TO: (Enter zeroes in box(es) where there is no special disease resistance.)
[2] 1 = TIPBURN [1] 2 = MOSAIC [1] 3 = DAMPING OFF [2] 4 = DOWNY MILDEW
[1] 5 = SCLEROTINIA ROT [0] 6 = BROWN BLIGHT [0] 7 = BIG VEIN [ ] 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.)

*12. Culture: Coastal valleys of California - Plant December 1 to August 1
Imperial Valley - Plant September 25 to October 10 (Approximate)

EXHIBIT D

Data Indicative of Novelty

'Morangold' most closely resembles the variety 'Cal K-60'. Under similar climatic conditions and cultural practices, 'Morangold' is 2-3 days earlier and more concentrated in maturity than 'Cal K-60'. The mature plant is slightly darker green in color than 'Cal K-60' and slightly lighter green than 'Montemar'. The core is somewhat more elongated than 'Cal K-60'.

EXHIBIT E

Statement of the Basis of Applicant's Ownership

Moran Seeds, Inc., Salinas, California, believes it is the sole, original and first breeder of the attached described lettuce variety, 'Morangold', for which it solicits a certificate of protection; that it has sexually reproduced the variety; that it does not know and does not believe that 'Morangold' was ever a public variety before Moran Seeds, Inc. development thereof; that it is the sole owner of the variety; that 'Morangold' was not a public variety more than one year prior to the effective filing date of the application; that before the date of determination of the variety by Moran Seeds, Inc., or more than one year before the effective filing date of the application, the variety was not effectively available to workers in the United States and adequately described by a publication reasonably deemed a part of the public technical knowledge in this country; and that it has not filed an application for the protection of this variety in a foreign country prior to the date of this application.

Moran Seeds, Inc.

February 6, 1976
(Date)

By: Donald G. Bergam
Donald G. Bergam, Vice-president

#7600039

FORM GR-471 (REVERSE)

16. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY
Leaf color	*Cal K-60*
Leaf pigmentation	*Cal K-60*
Leaf shape	*Cal K-60*
Plant size	*Cal K-60*
Head size	*Cal K-60*

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	* *102*	*Imperial Valley*	** *62-66*	*Salinas Valley*	** *77*	*Salinas Valley*
Similar	* *108*	*Imperial Valley*	** *64-69*	*Salinas Valley*	** *79*	*Salinas Valley*
Name of similar variety →	*Merit*		*Cal K-60*		*Cal K-60*	

**Based on late September planting*
***Based on early July planting*

INSTRUCTIONS

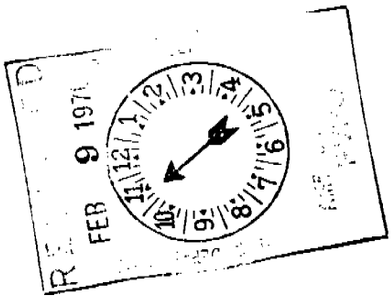
GENERAL: The following publications may be used as a reference aid for completing this form:

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

7600039

Amendment: *Application for Plant Variety Protection Certificate*

The applicant, Moran Seeds, Inc., Salinas, California, declares that a viable sample of basic seed necessary for the propagation of the lettuce variety 'Morangold' will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

Moran Seeds, Inc.

February 6, 1976
(Date)

By: Donald G. Bergam
Donald G. Bergam, Vice-president

ASSIGNMENT

WHEREAS, Moran Seeds, Inc. ("Moran"), a corporation duly organized and existing under the laws of the State of Delaware is the owner of United States Plant Variety Protection Certificates (the "Certificates"), listed in Exhibit A hereto and Pending United States Plant Variety Protection Applications (the "Applications"), listed in Exhibit B hereto; and

WHEREAS, in accordance with a Technology Transfer Agreement (the "Transfer Agreement") among Celanese Corporation ("Celanese"), Moran Seeds, Inc., Joseph Harris Company, Inc., CelPril Industries, Inc., Harris Moran International B.V. ("Sellers"), Virginia Chemicals, Inc., Les Produits Organiques du Santerre-Orsan S.A. ("Orsan"), HMS Acquisition Inc., CP Acquisition Inc., and Exploitatiemaatschappij Wolwevershaven B.V., dated January 10, 1985, and a Purchase Agreement dated December 7, 1985, as amended, among Celanese, Sellers and Orsan, Orsan has purchased from Moran said Certificates and Applications.

NOW, THEREFORE, in accordance with said Transfer Agreement and Purchase Agreement, Moran assigns to Orsan all of its rights, title and interest in and to said Certificates and Applications.

Moran hereby authorizes Orsan to apply for and obtain the recordation of this Assignment. Moran agrees that it shall, without further consideration, promptly and duly cause to be performed such lawful acts and execution of any other documents as Orsan may reasonably request in order for Orsan to obtain the full benefits of this Assignment and to permit Orsan to be duly recorded in each office, bureau and tribunal in the appropriate jurisdiction as the registered owner or proprietor of each of the rights hereby assigned. Such instruments and documents shall include, without limitation, such applications, affidavits and other documents for filing in such jurisdictions as Orsan may from time to time reasonably request.

By these presents Orsan does hereby accept this Assignment and authorize the recording thereof with the appropriate authorities aforesaid.

IN WITNESS WHEREOF, the parties have caused this Assignment to be executed by its proper officers thereunto duly authorized this 10th day of January, 1985.

MORAN SEEDS, INC.,
Assignor

By David A. Jenkins
David A. Jenkins
Vice President

LES PRODUITS ORGANIQUES DU
SANTERRE-ORSAN S.A.
Assignee

By: [illegible]
Title: Attorney-in-fact

STATE OF New York

COUNTY OF New York

Before me, a Notary Public, in and for said County, personally appeared David Jenkins who acknowledged that he is Vice President of Moran Seeds, Inc., the corporation which executed the foregoing instrument and who acknowledged he signed said instrument on behalf of said corporation by authority of its Board of Directors; and that said instrument is the free corporate act and deed of said Moran Seeds, Inc.

Sworn before me at New York this 10th day of January, 1985

Alex C. Lengyel
NOTARY PUBLIC

(Notary Public)

My Commission Expires:

ALEX C. LENGYEL
Notary Public, State of New York
No. [illegible]
Qualified in [illegible] County
Commission Expires March 30, 19[illegible]6

STATE OF New York

COUNTY OF New York

Before me, a Notary Public, in and for said County, personally appeared Patrice LaHorday who acknowledged that he is ~~President~~ Attorney-in-Fact of Les Produits Organiques du Santerre-Orsan S.A., the corporation which executed the foregoing instrument and who acknowledged he signed said instrument on behalf of said corporation by authority of its Board of Directors; and that said instrument is the free corporate act and deed of said Les Produits Organiques du Santerre-Orsan S.A.

Sworn before me at New York this 10th day of January, 1985.

Alex C. Lengyel
NOTARY PUBLIC

(Notary Public)

My Commission Expires:

ALEX C. LENGYEL
Notary Public, State of New York
No. [illegible]
Qualified in New York County
Commission Expires [illegible] 1986

Exhibit A

United States Plant Variety Protection Certificates

Cert. No.	Date Issued	Kind	Variety Name	Owner
7200145	10/30/74	Garden Bean	Gem	Moran Seeds, Inc.
7200146	11/15/74	Watermelon	Charleston 76	Moran Seeds, Inc.
7400013	5/9/74	Lettuce	Calmaria	Moran Seeds, Inc.
7400014	6/19/74	Lettuce	Cal K-60	Moran Seeds, Inc.
7400071	6/19/74	Lettuce	Cabrillo	Moran Seeds, Inc.
7600032	9/15/77	Lettuce	Vanagara	Moran Seeds, Inc.
7600039	12/8/77	Lettuce	Morangold	Moran Seeds, Inc.
7800028	5/31/79	Muskmelon	Valley Gold	Moran Seeds, Inc.
7900038	1/14/82	Garden Bean	Blue Duet	Moran Seeds, Inc.
7900039	7/15/82	Snapbean	Score	Moran Seeds, Inc.
7900066	11/27/79	Cauliflower	Snowball 123	Moran Seeds, Inc.
8000020	7/31/80	Muskmelon	Top Net	Moran Seeds, Inc.
8000082	12/10/81	Lettuce	Delmar	Moran Seeds, Inc.
8200019	10/28/82	Onion	OMO M	Moran Seeds, Inc. Oshita, Inc.
8200061	3/24/83	Watermelon	Sun Gold	Moran Seeds, Inc.
8200104	10/28/82	Tomato	Advantage	Moran Seeds, Inc.
8200105	11/26/82	Tomato	Moran 3053	Moran Seeds, Inc.
8200027	4/23/83	Lettuce	El Toro	Moran Seeds, Inc.
8100172	9/29/83	Lettuce	Van Mor	Moran Seeds, Inc.
8300113	8/31/84	Muskmelon	Top Net SR	Moran Seeds, Inc.

Exhibit B

Pending United States Plant Variety Protection Applications

Application No.	Filing Date	Kind	Variety Name	Owner
8100167	9/9/81	Lettuce	Yuma	Moran Seeds, Inc.
8300155	7/18/83	Celery	Bishop	Moran Seeds, Inc.
8300156	7/18/83	Celery	Deacon	Moran Seeds, Inc.
8300172	9/1/83	Tomato	Diego	Moran Seeds, Inc.
8400013	12/1/83	Lettuce	Greenfield	Moran Seeds, Inc.