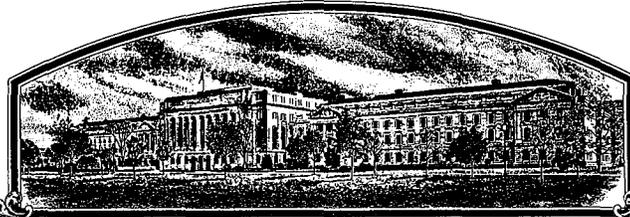


No.

9200063



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

United AgriSeeds, 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 *eighteen* 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 VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'0Q403'

In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington, D.C.
this 31st day of March in
the year of our Lord one thousand nine
hundred and ninety-three.

Attest:

Kenneth H. Egan
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Mike Egan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

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

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) United AgriSeeds, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. K1*K81-336-1A31B	3. VARIETY NAME 00403
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 103 Tomaras Ave. Savoy, IL 61874		5. PHONE (Include area code) (217)373-5300	
6. GENUS AND SPECIES NAME Zea Mays		7. FAMILY NAME (Botanical) Gramineae	
8. CROP KIND NAME (Common Name) Corn, Dent		9. DATE OF DETERMINATION 12/87	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Massachusetts		12. DATE OF INCORPORATION 8/28/81	

FOR OFFICIAL USE ONLY	
PVPO NUMBER	
9200063	
F I L I N G	Date Jan. 7, 1992 Time <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.
F E E S	Filing and Examination Fee: \$ 2150.- Date Jan. 7, 1992
R E C E I V E D	Certificate Fee: \$ 250.00 Date Mar. 1, 1993

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

John Rombach
United AgriSeeds, Inc.
~~103 Tomaras Ave.~~ **P.O. Box 637**
~~Savoy, IL 61874~~ **Marshalltown, IA 50158**

PHONE (Include area code): **515-752-4626**
(217) 373-5300

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a. Exhibit A, Origin and Breeding History of the Variety.
- b. Exhibit B, Novelty Statement.
- c. Exhibit C, Objective Description of Variety.
- d. Exhibit D, Additional Description of Variety.
- e. Exhibit E, Statement of the Basis of Applicant's Ownership.
- f. Seed Sample (2,500 viable untreated seeds), Date Seed Sample mailed to Plant Variety Protection Office 12/20/91
- g. Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. 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) of the Plant Variety Protection Act.)

YES (If "YES," answer items 16 and 17 below) NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

YES NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

FOUNDATION REGISTERED CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

YES (If "YES," through Plant Variety Protection Act Patent Act. Give date: _____.)

NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

YES (If "YES," give names of countries and dates)

NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) 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(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT [Owner(s)] (UNITED AGRISEEDS)	CAPACITY OR TITLE Manager	DATE 12/19/91
SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE <div style="text-align: right; font-size: 24pt;">1</div>

Exhibit A
Origin and Breeding History
Dent Corn
OQ403

The cross of Pioneer 3901 x K81-336 was made in Olivia, Minnesota, 1981. The development of OQ403 proceeds as follows. The above cross was grown in Hawaii and self-pollinated to produce F_2 (S_0) seed during the winter of 1981-82. The S_0 seed was then grown in the summer of 1982 and self-pollinated to produce S_1 seed. The S_1 seed was then sent to Hawaii during the winter of 1982-83 and self-pollinated. The S_2 seed produced in Hawaii was then grown in the summer of 1983 in Olivia and self-pollinated. The subsequent generations of this cross were also self-pollinated in Olivia. The selections were made on desired appearance and then ear-rowed each generation.

OQ403 appears stable and uniform after 8 generations of selfing. No off-type has been exhibited in evaluation. This line was named in 1987.

Exhibit A - Response

"Desired appearance" as it pertains to selection criteria represents the breeder's preference to select progeny for plants and ears that are generally less diseased than others, have acceptable agronomic characteristics such as resistance to lodging and have the ability to make a good female and/or male parent in a hybrid production field. No specific standards are used and selection criteria depends upon a breeder's personal preference for plant, ear and kernel characteristics.

Dent Corn
OQ403

Exhibit B - Statement of Novelty

"OQ403" is most similar to NS501 but much earlier. "OQ403" silks about 9 days earlier and reaches black layer about 15 days earlier than NS501. "OQ403" is 26cm taller than NS501 and ear placement is 12cm lower as compared to NS501. The top ear internode is 6cm longer on "OQ403" verses NS501. Whereas NS501 has a two ear tendency, "OQ403" will only put on a single ear. "OQ403" has very dark green leaves as opposed to medium green for NS501. "OQ403" has a 6cm shorter ear node leaf. "OQ403" has 10 less lateral branches as compared to NS501. The peduncle length on "OQ403" is 3cm longer than NS501. "OQ403" has green silks whereas NS501 has salmon colored silks. Cob color is different in that "OQ403" has a pink cob and NS501 has a red cob.

00403 (1991)	REPETITIONS										
Tassel Tip Height	72.00	71.00	76.00	73.00	72.00	74.00	71.00	71.00	72.00	69.00	IN
Ear Height	25.00	23.00	29.00	31.00	29.00	30.00	28.00	27.00	29.00	21.00	IN
Internode Length	6.25	6.75	6.25	6.50	6.00	5.75	5.75	6.00	6.50	6.50	IN
Earnode Leaf Widest Pt.	2.75	2.50	2.50	2.75	2.50	2.75	2.50	2.75	2.75	3.25	IN
Earnode Leaf Length	23.50	22.50	23.50	22.00	22.75	25.50	22.00	22.50	22.75	21.00	IN
# of Leaves	11.00	10.00	11.00	11.00	11.00	9.00	9.00	10.00	10.00	10.00	
# Lateral Branches	4.00	4.00	5.00	6.00	7.00	4.00	4.00	5.00	5.00	5.00	
Peduncle Length	4.00	4.50	3.50	3.25	3.25	1.75	2.75	2.75	3.00	3.00	IN
Shank Length	4.50	4.25	6.50	5.50	5.50	5.50	5.50	5.50	6.00	6.00	IN
# Shank Internodes	6.00	6.00	6.00	8.00	8.00	8.00	6.00	6.00	6.00	6.00	
Ear Length	6.00	5.75	5.50	5.25	5.50	5.25	5.25	5.00	5.50	5.50	IN
Ear Diameter-Midpoint	35.00	37.00	33.00	34.00	35.00	35.00	34.00	33.00	33.00	35.00	MM
Ear Weight	60.00	77.00	65.00	50.00	76.00	80.00	79.00	58.00	72.00	68.00	GM
# of Rows	16.00	16.00	12.00	14.00	14.00	12.00	12.00	12.00	12.00	14.00	
Kernel Length	8.00	10.00	9.00	10.00	9.00	10.00	9.00	10.00	10.00	9.00	MM
Kernel Width	9.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	MM
Kernel Thickness	6.00	5.00	6.00	5.00	5.00	6.00	5.00	5.00	5.00	5.00	MM
Weight/100 kernels	19.30	18.80	17.10	18.80	19.00						GM
Cob Diameter-Midpoint	23.00	23.00	25.00	24.00	25.00	23.00	23.00	23.00	23.00	24.00	MM

CONTROL N5501 (1991)	REPETITIONS										
Tassel Tip Height	64.00	65.00	61.50	64.00	64.00	55.00	55.00	57.50	56.00	58.00	IN
Ear Height	31.00	34.00	27.00	30.00	30.00	26.00	24.00	27.00	29.00	27.00	IN
Internode Length	4.00	4.00	3.75	4.25	4.25	3.00	4.25	4.25	4.25	4.75	IN
Earnode Leaf Widest Pt.	2.75	3.00	3.00	3.00	2.75	3.00	3.00	3.25	3.25	3.00	IN
Earnode Leaf Length	25.00	27.00	24.75	24.50	24.50	25.50	26.50	26.50	23.50	24.50	IN
# of Leaves	12.00	11.00	11.00	11.00	11.00	9.00	9.00	10.00	11.00	11.00	
# Lateral Branches	14.00	15.00	16.00	14.00	14.00	14.00	14.00	15.00	17.00	17.00	
Peduncle Length	1.00	1.50	1.75	1.75	1.75	1.25	1.75	2.00	2.50	2.50	IN
Shank Length	15.00	13.00	10.00	13.00	9.50						CM
# Shank Internodes	8.00	7.00	8.00	6.00	5.00						
Ear Length	6.00	5.75	5.00	5.25	5.50						IN
Ear Diameter-Midpoint	35.00	35.00	35.00	34.00	37.00						MM
Ear Weight	83.10	82.40	71.70	63.00	92.70						GM
# of Rows	14.00	12.00	12.00	14.00	16.00						
Kernel Length	10.00	10.00	10.00	10.00	10.00						MM
Kernel Width	8.00	7.00	8.00	7.00	7.00						MM
Kernel Thickness	4.00	4.00	5.00	3.00	4.00						MM
Weight/100 kernels	15.80	22.30	22.00	21.00	17.70						GM
Cob Diameter-Midpoint	24.00	27.00	25.00	25.00	25.00						MM

Exhibit B - Means and Comparisons

9200063

DD403 (1991)	MEAN	STD DEV	t STAT	t.05 CONF LVL
Tassel Tip Height	183.13 CM	4.86 CM	8.020	2.101
Ear Height	69.09 CM	8.19 CM	0.902	2.101
Internode Length	15.81 CM	0.87 CM	11.290	2.101
Earnode Leaf Widest Pt.	6.86 CM	0.58 CM	3.171	2.101
Earnode Leaf Length	57.91 CM	3.05 CM	4.429	2.101
# of Leaves	10.20	0.79	0.962	2.101
# Lateral Branches	4.90	0.99	18.995	2.101
Peduncle Length	8.06 CM	1.89 CM	4.741	2.101
Shank Length	13.91 CM	1.71 CM	1.595	2.160
# Shank Internodes	6.60	0.97	0.312	2.160
Ear Length	13.84 CM	0.72 CM	0.261	2.160
Ear Diameter-Midpoint	34.40 MM	1.26 MM	1.123	2.160
Ear Weight	68.50 GM	10.11 GM	1.620	2.160
# of Rows	13.40	1.65	0.205	2.160
Kernel Length	9.40 MM	0.70 MM	1.786	2.160
Kernel Width	8.80 MM	0.42 MM	5.090	2.160
Kernel Thickness	5.30 MM	0.48 MM	3.893	2.160
Weight/100 kernels	18.60 GM	0.86 GM	0.774	2.306
Cob Diameter-Midpoint	23.60 MM	0.84 MM	2.909	2.160

CONTROL NS501 (1991)	MEAN	STD DEV
Tassel Tip Height	152.40 CM	10.42 CM
Ear Height	72.39 CM	7.31 CM
Internode Length	10.35 CM	1.16 CM
Earnode Leaf Widest Pt.	7.62 CM	0.42 CM
Earnode Leaf Length	64.07 CM	2.85 CM
# of Leaves	10.60	0.97
# Lateral Branches	15.00	1.25
Peduncle Length	4.51 CM	1.21 CM
Shank Length	12.10 CM	2.30 CM
# Shank Internodes	6.80	1.30
Ear Length	13.97 CM	1.00 CM
Ear Diameter-Midpoint	35.20 MM	1.10 MM
Ear Weight	78.58 GM	11.45 GM
# of Rows	13.60	1.67
Kernel Length	10.00 MM	0.00 MM
Kernel Width	7.40 MM	0.55 MM
Kernel Thickness	4.00 MM	0.71 MM
Weight/100 kernels	19.76 GM	2.87 GM
Cob Diameter-Midpoint	25.20 MM	1.10 MM

00403 (1992)	REPETITIONS												
Tassel Tip Height	75.00	71.00	71.00	73.00	72.00	72.00	60.00	61.00	66.00				IN
Ear Height	29.00	28.00	24.00	23.00	21.00	25.00							IN
Internode Length	4.50	5.00	4.50	6.00	6.50	6.00	7.00	7.00	6.00				IN
Earnode Leaf Widest Pt.	3.00	4.00	3.00	3.50	3.50	4.00							IN
Earnode Leaf Length	26.00	26.00	26.00	26.00	29.00	27.00							IN
# of Leaves	9.00	11.00	8.00	11.00	10.00	9.00							
# Lateral Branches	7.00	5.00	5.00	4.00	5.00	4.00	6.00	5.00	4.00				
Peduncle Length	3.00	6.00	3.00	6.00	5.00	4.00	3.50	3.50	2.50				IN
Shank Length	15.00	10.00	13.00	8.50	14.00	7.00	10.00	15.00	9.00	14.50	19.00	14.00	CM
	7.00	16.00											CM
# Shank Internodes	7.00	7.00	8.00	7.00	8.00	6.00	9.00	7.00	8.00	9.00	6.00	6.00	
	8.00	9.00											
Ear Length	10.00	12.00	13.00	12.50	14.00	14.00	14.50	16.00	14.00	14.50	13.00	15.00	CM
	14.00	15.00	14.50	14.50	14.50	13.00							CM
Ear Diameter-Midpoint	4.00	4.00	3.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	CM
	4.00	4.00	4.00	4.00	4.00	4.00							CM
Ear Weight	57.80	58.00	42.60	60.50	73.90	82.00	107.10	96.00	80.90	90.00	83.40	82.30	GM
	70.40	89.10	86.50	95.60	78.40	89.40							GM
# of Rows	14.00	12.00	16.00	12.00	14.00	16.00	14.00	14.00	14.00	14.00	12.00	12.00	
	14.00	12.00	14.00	14.00	14.00	14.00							
Kernel Length	10.00	10.00	10.00	10.00	11.00	11.00	10.00	10.00	11.00	10.00	11.00	10.00	MM
Kernel Width	9.00	8.00	8.00	9.00	8.00	8.00	9.00	8.00	9.00	8.00	9.00	8.00	MM
Kernel Thickness	4.00	4.00	4.00	4.00	5.00	4.00	4.00	4.00	3.00	4.00	5.00	4.00	MM
Weight/100 kernels	20.90	25.10											GM
Cob Diameter-Midpoint	24.00	24.00	26.00	25.00	24.00	26.00	24.00	24.00	25.00	24.00	23.00	25.00	MM

CONTROL NS501 (1992)	REPETITIONS												
Tassel Tip Height	66.00	67.00	69.00	70.00	70.00	71.00	64.00	65.00	67.00				IN
Ear Height	21.00	21.00	19.00	26.00	23.00	26.00							IN
Internode Length	5.00	6.00	6.00	5.00	5.00	5.00	7.00	6.00	5.00				IN
Earnode Leaf Widest Pt.	3.00	3.50	4.00	3.50	3.00	3.00							IN
Earnode Leaf Length	27.00	29.00	30.00	32.00	30.00	31.00							IN
# of Leaves	11.00	10.00	12.00	10.00	11.00	9.00							
# Lateral Branches	14.00	15.00	11.00	12.00	14.00	13.00	12.00	10.00	10.00				
Peduncle Length	3.50	3.00	4.00	2.00	3.00	2.50	2.50	4.00	4.00				IN
Shank Length	7.50	5.00	13.50	11.50	15.50	22.50	12.50	13.50	8.50	18.00	22.00	21.00	CM
# Shank Internodes	8.00	9.00	7.00	8.00	10.00	8.00	4.00	6.00	8.00	9.00	7.00	8.00	
Ear Length	13.00	11.50	12.50	14.50	15.50	15.00	15.50	13.00	14.00	13.00	16.00	16.00	CM
	14.50	13.50											CM
Ear Diameter-Midpoint	3.50	3.50	4.00	3.50	4.00	4.00	3.50	3.50	4.00	3.50	3.50	4.00	CM
	3.50	3.50											CM
Ear Weight	62.40	62.70	60.40	100.70	101.70	108.20	98.30	69.40	70.20	52.30	76.70	87.30	GM
	59.50	59.20											GM
# of Rows	14.00	12.00	12.00	12.00	12.00	10.00	10.00	12.00	12.00	12.00	10.00	8.00	
Kernel Length	11.00	11.00	11.00	11.00	10.00	10.00	11.00	10.00	10.00	10.00			MM
Kernel Width	9.00	9.00	9.00	9.00	9.00	10.00	8.00	8.00	9.00	9.00			MM
Kernel Thickness	4.00	4.00	4.00	4.00	4.00	5.00	4.00	3.00	4.00	4.00			MM
Weight/100 kernels	31.00	27.10											GM
Cob Diameter-Midpoint	25.00	30.00	26.00	27.00	25.00	26.00	26.00	27.00	26.00	26.00			MM

Exhibit B - Means and Comparisons

9200063

QQ403 (1992)	MEAN	STD DEV	t STAT	t.05 CONF LVL
Tassel Tip Height	175.26 CM	13.68 CM	0.637	2.120
Ear Height	63.50 CM	7.70 CM	1.248	2.228
Internode Length	14.82 CM	2.46 CM	0.649	2.120
Earnode Leaf Widest Pt.	8.89 CM	1.14 CM	0.615	2.228
Earnode Leaf Length	67.73 CM	3.08 CM	3.363	2.228
# of Leaves	9.67	1.21	1.163	2.228
# Lateral Branches	5.00	1.00	10.061	2.120
Peduncle Length	10.30 CM	3.33 CM	1.666	2.120
Shank Length	12.29 CM	3.68 CM	1.008	2.064
# Shank Internodes	7.50	1.09	0.327	2.064
Ear Length	13.78 CM	1.36 CM	0.648	2.042
Ear Diameter-Midpoint	3.97 CM	0.12 CM	4.086	2.042
Ear Weight	79.11 GM	16.17 GM	0.548	2.042
# of Rows	13.67	1.24	4.403	2.048
Kernel Length	10.33 MM	0.49 MM	0.730	2.086
Kernel Width	8.42 MM	0.51 MM	1.995	2.086
Kernel Thickness	4.08 MM	0.51 MM	0.374	2.086
Weight/100 kernels	23.00 GM	2.97 GM	1.493	4.303
Cob Diameter-Midpoint	24.50 MM	0.90 MM	3.607	2.086

CONTROL NS501 (1992)	MEAN	STD DEV
Tassel Tip Height	171.87 CM	6.22 CM
Ear Height	57.57 CM	7.30 CM
Internode Length	14.11 CM	1.85 CM
Earnode Leaf Widest Pt.	8.47 CM	1.04 CM
Earnode Leaf Length	75.78 CM	4.37 CM
# of Leaves	10.50	1.05
# Lateral Branches	12.33	1.80
Peduncle Length	8.04 CM	1.91 CM
Shank Length	14.25 CM	5.76 CM
# Shank Internodes	7.67	1.56
Ear Length	14.11 CM	1.40 CM
Ear Diameter-Midpoint	3.68 CM	0.25 CM
Ear Weight	75.42 GM	19.07 GM
# of Rows	11.33	1.56
Kernel Length	10.50 MM	0.53 MM
Kernel Width	8.90 MM	0.57 MM
Kernel Thickness	4.00 MM	0.47 MM
Weight/100 kernels	29.05 GM	2.76 GM
Cob Diameter-Midpoint	26.40 MM	1.43 MM

Formula Used to Calculate Standard Deviation:

$$\text{Standard Deviation} = \sqrt{\frac{\sum (V_i - \bar{x})^2}{N-1}}$$

\bar{x} = sample mean
 N = sample size
 V_i = the ith item

Formula Used to Calculate t Statistic:

$$S^2 \text{ Pooled} = \frac{(N_1-1)(SD_1)^2 + (N_2-1)(SD_2)^2}{(N_1 + N_2 - 2)}$$

$$S \text{ Pooled} = \sqrt{S^2 \text{ Pooled}}$$

$$t \text{ Statistic} = \frac{\bar{x}_1 - \bar{x}_2}{S \text{ Pooled} \sqrt{\frac{1}{N_1} + \frac{1}{N_2}}}$$

\bar{x} = sample mean
 SD = standard deviation
 N = sample size

- * t Statistic compared to value at t.05 confidence level.
- * Measurements taken in inches are converted to centimeters using a conversion factor of 2.54.

Formula Used to Calculate Heat Units:

$$\text{U.S. Heat Units (Growing Degree Days)} = \frac{T_{\max} + T_{\min}}{2} - 50^\circ \text{F}$$

T_{\max} = Maximum Daily Temperature. If T_{\max} is greater than 86 degrees F, then T_{\max} is equal to 86 degrees F.
 T_{\min} = Minimum Daily Temperature. If T_{\min} is less than 50 degrees F, then T_{\min} is equal to 50 degrees F.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
COMMODITIES SCIENTIFIC SUPPORT DIVISION
BELTSVILLE, MARYLAND 20705
OBJECTIVE DESCRIPTION OF VARIETY
CORN (ZEA MAYS)

NAME OF APPLICANT(S) United AgriSeeds, Inc. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 103 Tomaras Ave. Savoy, IL 61874	FOR OFFICIAL USE ONLY PVPO NUMBER 9200063
	VARIETY NAME OR TEMPORARY DESIGNATION 0Q403

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

1. TYPE:

1 - SWEET 2 - DENT 3 - FLINT 4 - FLOUR 5 - POP 6 - ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

1 - NORTHWEST 2 - NORTHCENTRAL 3 - NORTHEAST 4 - SOUTHEAST
5 - SOUTHCENTRAL 6 - SOUTHWEST 7 - MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "Comments" (pg. 3) state how heat units were calculated)

<input type="text" value="5"/> <input type="text" value="1"/>	DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="1"/> <input type="text" value="8"/>	HEAT UNITS
<input type="text" value=""/>	DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY	<input type="text" value=""/>	HEAT UNITS
<input type="text" value=""/>	DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE	<input type="text" value=""/>	HEAT UNITS

4. PLANT:

CM. HEIGHT (To tassel tip) CM. EAR HEIGHT (To base of top ear)

CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

1 - NONE 2 - 1-2 3 - 2-3 4 - >3

Number of Ears Per Stalk:

1 - SINGLE 2 - SLIGHT TWO-EAR TENDENCY
3 - STRONG TWO-EAR TENDENCY 4 - THREE-EAR TENDENCY

Cytoplasm Type:

1 - NORMAL 2 - "T" 3 - "S" 4 - "C" 5 - OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

1 - LIGHT GREEN (HY) 2 - MEDIUM GREEN (WF9) 3 - DARK GREEN (B14) 4 - VERY DARK GREEN (K166)

Angle from Stalk (Upper half):

1 - < 30° 2 - 30-60° 3 - > 60°

Sheath Pubescence:

1 - LIGHT (W22) 2 - MEDIUM (WF9)
3 - HEAVY (OH26)

Marginal Waves:

1 - NONE (HY) 2 - FEW (WF9) 3 - MANY (OH7L)

Longitudinal Creases:

1 - ABSENT (OH51) 2 - FEW (OH56A)
3 - MANY (PA11)

Width:

CM. WIDEST POINT OF EAR NODE LEAF

Length:

CM. EAR NODE LEAF

NUMBER OF LEAVES PER MATURE PLANT

6. Tassel:

NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

1 - < 30° 2 - 30-40° 3 - > 45°

Peduncle Length:

CM FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

1 - LIGHT (WF9) 2 - MEDIUM 3 - HEAVY (KY21)

Anther Color: } 1 - YELLOW 2 - PINK 3 - RED 4 - PURPLE 5 - GREEN
 Glume Color: } 6 - OTHER (Specify) _____

Pollen Restoration for Cytoplasm (0 = Not Tested, 1 = Partial, 2 = Good)

"T" "S" "C" OTHER (Specify Cytoplasm and degrees of restoration) _____

7. EAR (Husked Ear Data Except When Stated Otherwise):

CM LENGTH MM. MID-POINT DIAMETER GM. WEIGHT

Kernel Rows:

1 - INDISTINCT 2 - DISTINCT NUMBER

1 - STRAIGHT 2 - SLIGHTLY CURVED 3 - SPIRAL

Silk Color (Exposed at Silking Stage):

1 - GREEN 2 - PINK 3 - SALMON 4 - RED

Husk Color:

FRESH } 1 - LIGHT GREEN 2 - DARK GREEN
 DRY } 4 - RED 5 - PURPLE 6 - BUFF

Husk Extension: (Harvest Stage)

1 - SHORT (Ears Exposed) 2 - MEDIUM (Barely Covering Ear)
3 - LONG (8-10CM Beyond Ear Tip)
4 - VERY LONG (> 10 CM)

Husk Leaf:

1 - SHORT (< 8 CM) 2 - MEDIUM (8-15 CM)
3 - LONG (> 15 CM)

Shank:

CM LONG NO. OF INTERNODES

Position at Dry Husk Stage:

1 - UPRIGHT 2 - HORIZONTAL 3 - PENDUL

Taper:

1 - SLIGHT 2 - AVERAGE 3 - EXTREME

Drying Time (Unhusked Ear):

1 - SLOW 2 - AVERAGE 3 - FAST

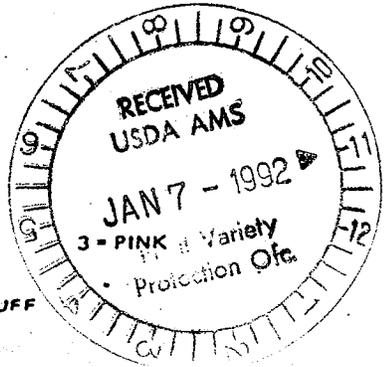
8. KERNEL (Dried):

Size (From Ear Mid-Point):

MM LONG MM. WIDE MM. THICK

Shape Grade (% Rounds)

1 - < 20 2 - 20-40 3 - 40-60 4 - 60-80 5 - > 80



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8. KERNEL (Dried):

1 Pericarp Color: 1 = COLORLESS 2 = RED-WHITE 3 = TAN 4 = BRONZE
 5 = BROWN 6 = LIGHT RED 7 = CHERRY RED
 8 = VARIEGATED (Describe) _____

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1 Aleurone Color: 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

5 1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 6 = RED
 7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) _____

3 Endosperm Color: 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE CAP.

Endosperm Type:

3 1 = SWEET (sh1) 2 = EXTRA SWEET (sh2) 3 = NORMAL STARCH 4 = HIGH AMYLOSE STARCH
 5 = WAXY STARCH 6 = HIGH PROTEIN 7 = HIGH LYSINE 8 = OTHER (Specify) _____

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19 GM. WEIGHT /100 SEEDS (Unsize Sample)

9. COB:

24 MM. DIAMETER AT MID-POINT

Strength:

2 1 = WEAK 2 = STRONG

Color:

2 1 = WHITE 2 = PINK 3 = RED 4 = BROWN
 5 = VARIEGATED 6 OTHER (Specify) _____

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

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<input type="checkbox"/>	STALK ROT (Diplodia)	<input type="checkbox"/>	STALK ROT (Fusarium)	<input type="checkbox"/>	STALK ROT (Gibberella)
<input type="checkbox"/> 1	NORTHERN LEAF BLIGHT	<input type="checkbox"/> 1	SOUTHERN LEAF BLIGHT	<input type="checkbox"/>	SMUT
<input type="checkbox"/>	SOUTHERN RUST	<input type="checkbox"/>	CORN SMUT	<input type="checkbox"/>	BACTERIAL WILT
<input type="checkbox"/>	BACTERIAL LEAF BLIGHT	<input type="checkbox"/>	MAIZE DWARF MOSAIC	<input type="checkbox"/>	STUNT
<input type="checkbox"/>	OTHER (Specify) _____				

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

<input type="checkbox"/>	CORNBORER	<input type="checkbox"/>	EARWORM	<input type="checkbox"/>	SAPBEETLE	<input type="checkbox"/>	APHID
<input type="checkbox"/>	ROOTWORM (Northern)	<input type="checkbox"/>	ROOTWORM (Western)				
<input type="checkbox"/>	ROOTWORM (Southern)	<input type="checkbox"/>	OTHER (Specify) _____				

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity		Kernel Type	
Plant Type		Quality (Edible)	
Ear Type		Usage	

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.
 Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut (Numerous Authors)
 Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize, Cornell A.E.S., Mem. 180. 1935.
 The Mutants of Maize. 1968. Crop Science Society of America, Madison, Wisconsin
 Stringfield, G.H. Maize Inbred Lines of Ohio, Ohio A.E.S. Bul. 831. 1959.
 Butler, D.R. 1954 - A System for the Classification of Corn Inbred Lines - PhD. Thesis, Ohio State University.

COMMENTS:

Exhibit D - Response

Additional information - NS501 1991 data

Days to 50% silking: 52
Heat Units to 50% silking: 1316.5
Internode length: See Exhibit B data
Leaf sheath pubescence: Heavy
Silk color: Salmon
Dry husk color: Buff
Husk extension length: Medium

Exhibit E
Statement of the Basis of Applicants Ownership

The variety OQ403, for which Plant Variety Protection is being sought, was developed by breeders employed by United AgriSeeds, Inc. of Savoy, Illinois. United AgriSeeds, Inc. believes it is the sole, original, and first breeder of the OQ403 variety of dent corn for which it solicits a certificate of protection.