No. 200300006

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Syngenta Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED 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 TWENTY 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 CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , 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.)

WATERMELON

'SP-1'

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 twelfth day of September, in the year two thousand three.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

...form number and date on all reproductions

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

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 OWNER: SYNGENTA SEEDS, INC. - VEGETABLES

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME:

3. VARIETY NAME: SP-1

4 ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country):
600 North Armstrong Place
Boise, ID 83704

5. TELEPHONE (include area code): (208)322-7272

6. FAX (include area code): (208)322-1436

FOR OFFICIAL USE ONLY

PVPO NUMBER: 200300006

FILING DATE: 10/11/2002

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.): Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION: Delaware

9. DATE OF INCORPORATION: 2/25/75

10 NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)
Charleen Orthel
Syngenta Seeds, Inc. - Vegetables
P.O. Box 4188
Boise, ID 83711-4188

FEES RECEIVED

FILING AND EXAMINATION FEES: $ 2705.00
DATE 10/11/2002

CERTIFICATION FEE: $ 432.00
DATE 8/4/03

11 TELEPHONE (Include area code): (208)327-7246

12. FAX (Include area code): (208) 322-1436

13. E_MAIL: charleen.orthel@syngenta.com

14. CROP KIND (Common Name): Watermelon

15 GENUS AND SPECIES NAME OF CROP: Citrullus lanatus

16. FAMILY NAME (Botanical): Cucurbitaceae

17. IS THE VARIETY A FIRST GENERATION HYBRID? ☐ YES ☑ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

- a. ☑ Exhibit A. Origin and Breeding History of the Variety
- b. ☑ Exhibit B. Statement of Distinctness
- c. ☑ Exhibit C. Objective Description of Variety
- d. ☑ Exhibit D. Additional Description of the Variety (Optional)
- e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
- f. ☑ Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)
- g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office) Rec'd 10/11/2002 to FOLLOW

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act) ☐ YES (If "yes", answer items 20 and 21 below) ☑ NO (If "no," go to item 22)

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☑ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? ☐ YES ☑ NO

IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? ☐ YES ☑ NO

IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER: Charleen Orthel

NAME (Please print or type): Charleen Orthel

CAPACITY OR TITLE: Customer Qual. Mgmt. Coor.

DATE: 10/4/02

SIGNATURE OF OWNER:

NAME (Please print or type):

CAPACITY OR TITLE:

DATE:

CAF

Exhibit A

Origin and Breeding History of the Variety

Watermelon SP-1 was developed for use as a pollenizer for triploid watermelons, in the production of triploid seedless watermelon. SP-1 was developed at Syngenta Seeds, Inc. Research Stations in Woodland, California and Naples, Florida, as a result of traditional, recombination breeding.

The following breeding goals and selection criteria were used for the development of watermelon variety SP-1:

1. Plants with more numerous and thin, lacy branches
2. Plants with small leaves and small, deep leaf lobes
3. Plants that produce fruit of small size (< 3 KG), with brittle rind (much earlier to break, compared to regular diploid and triploid watermelons)
4. Plants that produce a melon with skin color different from currently produced, commercially grown seedless watermelons

A diploid watermelon with the above mentioned characteristics would allow seedless watermelon growers to use it as a pollenizer in their seedless watermelon production fields, in order to maximize the yields of seedless fruits. Syngenta's 2002 field trials showed that 25 - 33% more seedless fruits were produced when pollenizer watermelon SP-1 was used as the pollenizer.

Two watermelon varieties were selected as parental lines to achieve the above breeding goals. One parental line is watermelon variety ESW1, originally collected from XinJiang province of P. R. China. The designation 0W824 was given to ESW1. 0W824 provided the traits of more numerous and thin, lacy branches, small leaves with small, deep leaf lobes and grayish green fruit skin with pencil lines, although the fruit is bigger than three (3) KG and the rind is very tough. The second parental line is watermelon variety Tiny Orchid, a commercial hybrid watermelon from Know-You Seed Company. The designation 0W823 was given to Tiny Orchid. 0W823 provided the traits of small fruit

(< 3KG), brittle rind (very easy to break compared to regular watermelon), and soft flesh texture, while the leaf size and leaf lobes are large.

The initial cross of OW824 X 0W823 was made during the summer of 2000 in California. The F_1 generation was grown in the greenhouse in the fall of 2000. The F_2 population was grown in Florida in the spring, and in California in the summer of 2001. Individuals with the traits required for the breeding goal were successfully identified and self-pollinated in F_2 populations grown in both locations. A total of seven (7) selections were made. The seven (7) F_3 lines were grown in the field in Florida and the greenhouse in California in the fall of 2001, for further evaluation and selection. Three (3) F_3 lines were identified to best meet our breeding goals and advanced to the F_4 generation. They all have the set of the traits required by the breeding goal. One line, NO1F3203B, is fixed for every trait concerned and observed. When the F_5 progeny were grown at the Naples research station in the open field, and at the Woodland research station in greenhouse, NO1F3203B proved to be both uniform and stable from progeny to progeny, for all the traits concerned and observed. A bulked harvest of N02S4054B was conducted. This line was then named as SP-1. SP-1 was used for stock increase at the Woodland research station in the cages during the summer of 2002. Over 1,200 plants were observed and they were uniform. This also further confirms that SP-1 is genetically stable. About 65 KG (i.e. over 1.2 million seeds) stock seed were produced.

The quick development and stabilizing of watermelon SP-1 was due mainly to the recessive feature of all the traits concerned.

Exhibit B

Novelty Statement for SP-1

Watermelon variety SP-1 is very unique based upon the following characteristics:

1. SP-1 is used only as a pollenizer for triploid watermelon in the production of seedless fruits.
2. The plant of SP-1 produces almost twice many branches compared to regular diploid watermelon. For example, SP-1 had 25.9 branched in average, while Sangria, a most commonly used pollenizer for triploids, had 13 branched in average, at fruit harvest stage.
3. The vine of SP-1 is thinner than most of the commercial grown watermelons. The stem diameter of SP-1 is only about 4 mm, while most regular watermelon stems are 7-8 mm in diameter.
4. The leaf size and leaf lobes of SP-1 are much smaller than those of regular watermelons (see attachment 1). The leaf area of field grown SP-1 is about 33 cm^2, while the leaf area for a field grown Sangria watermelon is about 274 cm^2.
5. The fruit of SP-1 is very small compared to any other commercial diploid and triploid watermelon. The average fruit size of SP-1 is only about 1.3 KG (see attachments 2 & 3).
6. The rind of SP-1 is very soft compared to regular watermelons, commercially grown in the U. S. When measured with a firmness tester, the firmness of SP-1 is 121 gram/mm^2, as compared to the rind of Sangria watermelon at 302 gram/mm^2.
7. The plant of SP-1 produces male flowers earlier than regular watermelon. For example, SP-1 male flower opens about 7-10 days earlier than regular diploid watermelon. Some of the SP-1 plants were even flowering in the transplant trays.
8. SP-1 flowering lasts longer than regular diploid watermelons. Most diploid watermelons stop flowering when the fruit starts quick growth, while the SP-1 plants were still flowering at fruit harvest time.

FORM GR-470-19
(1-15-73)

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

EXHIBIT C
(Watermelon)

OBJECTIVE DESCRIPTION OF VARIETY
WATERMELON *(CITRULLUS LANATUS)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Syngenta Seeds, Inc.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
P.O. Box 4188
600 N. Armstrong Pl.
Boise, Idaho 83711-4188

FOR OFFICIAL USE ONLY
EXPERIMENT NUMBER 20030000

VARIETY NAME OR TEMPORARY DESIGNATION
SP-1

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. TYPE:

[3] 1 = OBLONG 2 = ROUND LARGE 3 = ROUND SMALL *(icebox)*

2. AREA OF BEST ADAPTATION:

[4] 1 = SOUTH 2 = NORTHEAST/NORTHCENTRAL 3 = SOUTHWEST 4 = MOST AREAS

3. EMERGENCE TO ANTHESIS:

[0][8] NO. OF DAYS *EARLIER* THAN ..... [2] } 1 = CHARLESTON GREY
[ ][ ] NO. OF DAYS *LATER* THAN ..... [ ] } 2 = OTHER *(Specify)* Sangria

4. POLLINATION TO MATURITY:

[0][2] NO. OF DAYS *EARLIER* THAN ..... [ ] } 1 = CHARLESTON GREY
[ ][ ] NO. OF DAYS *LATER* THAN ..... [ ] } 2 = OTHER *(Specify)* Sangria

5. PLOIDY:

[1] 1 = DIPLOID 2 = TETRAPLOID 3 = TRIPLOID

6. PLANT

[1] Cotyledon: 1 = FLAT 2 = FOLDED [1] 1 = MONOECIOUS 2 = ANDROMONOECIOUS

Number of flowers per plant at first fruit set:

[4][5] STAMINATE [0][8] PISTILLATE [ ][ ] PERFECT [14] NO. OF MAIN STEMS AT CROWN

7. STEM:

[1] 1 = ROUND 2 = ANGULAR [0][4] MM. DIAMETER AT SECOND NODE

[3] 1 = GLABROUS 2 = SCABROUS 3 = PUBESCENT 4 = BRISTLED

[0][6] CM. VINE LENGTH ÷ NO. OF INTERNODES *(At last harvest)*

8. LEAF:

[1] 1 = OVATE 2 = OBOVATE 3 = ROUND [1] 1 = LONGER THAN WIDE 2 = LENGTH-WIDTH EQUAL 3 = WIDER THAN LONG

[1] Dorsal Surface: } 1 = SMOOTH 2 = PUBESCENT
[2] Ventral Surface: } [2] Color: 1 = LIGHT GREEN 2 = GRAY GREEN 3 = MEDIUM GREEN 4 = DARK GREEN

9. FLOWER *(At first fruit set):*

[0][3] Staminate: CM. ACROSS [0][3] Perfect: CM. ACROSS Pistillate [2] Color: 1 = LEMON YELLOW 2 = YELLOW 3 = ORANGE

5

200300006

FORM GR-470-19 (REVERSE)

10. MATURE FRUIT:

1 — 1 = ROUND 2 = OVAL 3 = CYLINDRICAL — 15 CM. LONG — 14 CM. DIAMETER AT MIDSECTION

01 — 1.3 Kg average KG. AVERAGE WEIGHT — 10 INDEX = LENGTH ÷ DIAMETER X 10

1 — 1 = SMOOTH 2 = SLIGHTLY GROOVED 3 = DEEPLY GROOVED

3 — Color: 1 = SOLID *(One color)* 2 = STRIPE 3 = MOTTLE/NET

2 — Primary Color: 1 = YELLOW GREEN *(Desert King)* 2 = LIGHT GREEN *(Charleston Grey)* 3 = MEDIUM GREEN *(Sugar Baby)*

5 — Secondary Color: 4 = DARK GREEN *(Florida Giant)* 5 = OTHER *(Specify)* pencil line

11. RIND:

2 — 1 = TENDER 2 = BRITTLE 3 = TOUGH — 02 THICKNESS MM. BLOSSOM END — 03 THICKNESS MM. SIDES

12. FLESH:

2 — 1 = CRISP 2 = SOFT — 2 — 1 = COARSE-FIBROUS 2 = FINE-LITTLE FIBER

6 — Color: 1 = YELLOW 2 = ORANGE 3 = PINK 4 = RED 5 = DARK RED 6 = white

6 — REFRACTOMETER % SOLUBLE SOLIDS OF JUICE *(Center of fruit)* — 12 % CHECK VARIETY *(Specify)* Sangria

0 % HOLLOW HEART — 0 % PLACENTAL SEPARATION — 0 % TRANSVERSE CRACK

13. SEED:

10 MM. LONG — 06 MM. WIDE — 02 MM. THICK

17 INDEX = LENGTH ÷ WIDTH X 10 — 53 GM. PER 1000 SEED — 350 NO. SEED PER FRUIT

08 — Color: 1 = WHITE 2 = WHITE-TAN TIPPED 3 = WHITE-PINK TIPPED 4 = TAN 5 = GREEN 6 = RED 7 = DARK BROWN 8 = DARK BROWN MOTTLED 9 = BLACK 10 = MOTTLED BLACK

14. DISEASE RESISTANCE: (0 = Untested, 1 = Susceptible, 2 = Resistant)

0 ANTHRACNOSE *(Race_____)* — 0 DOWNY MILDEW — 0 FUSARIUM WILT — 0 GUMMY STEM BLIGHT

0 SQUASH MOSAIC — 0 WATERMELON MOSAIC — 0 POWDERY MILDEW — 0 CUCUMBER MOSAIC

OTHER *(Specify)* _____

15. OTHER RESISTANCE: (0 = Untested, 1 = Susceptible, 2 = Resistant)

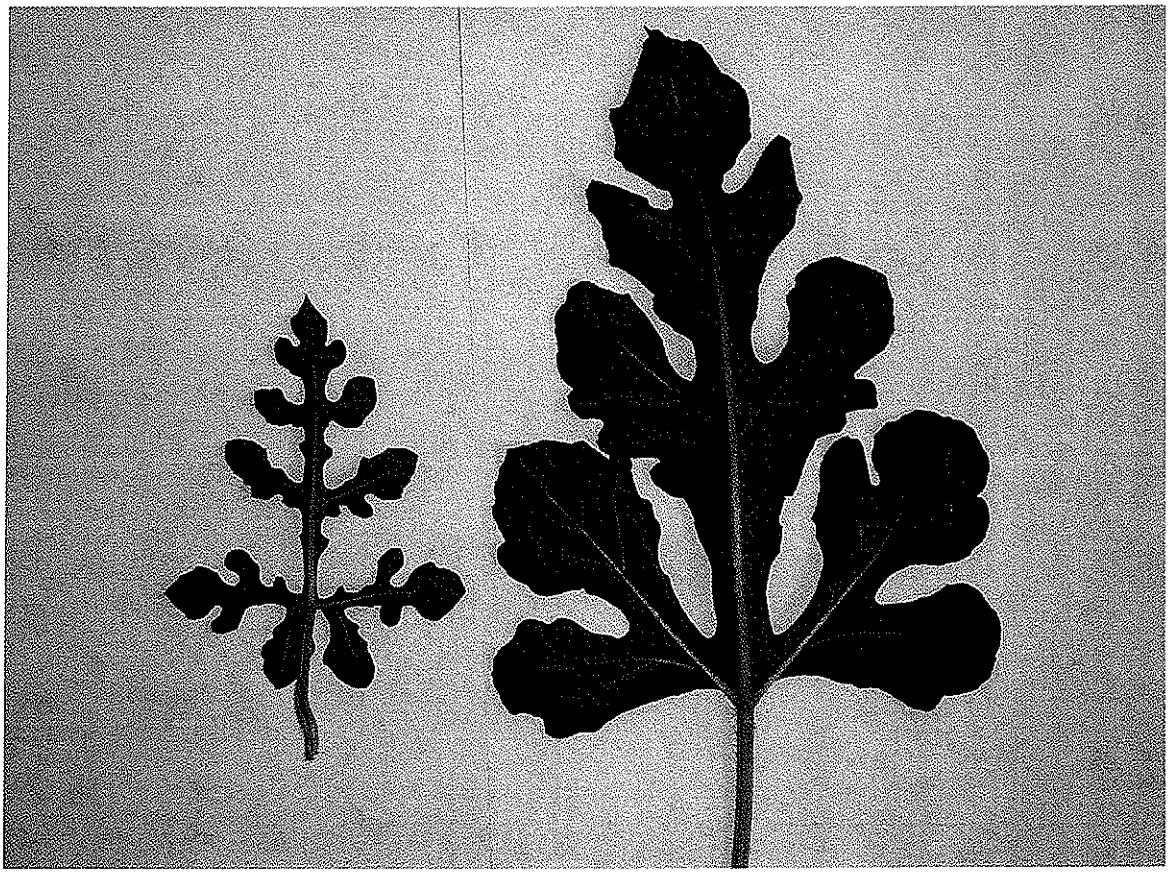
2 SUNBURN — 0 ROOT KNOT — OTHER *(Specify)* _____

16. NAME A VARIETY THAT MOST CLOSELY RESEMBLES THAT SUBMITTED:

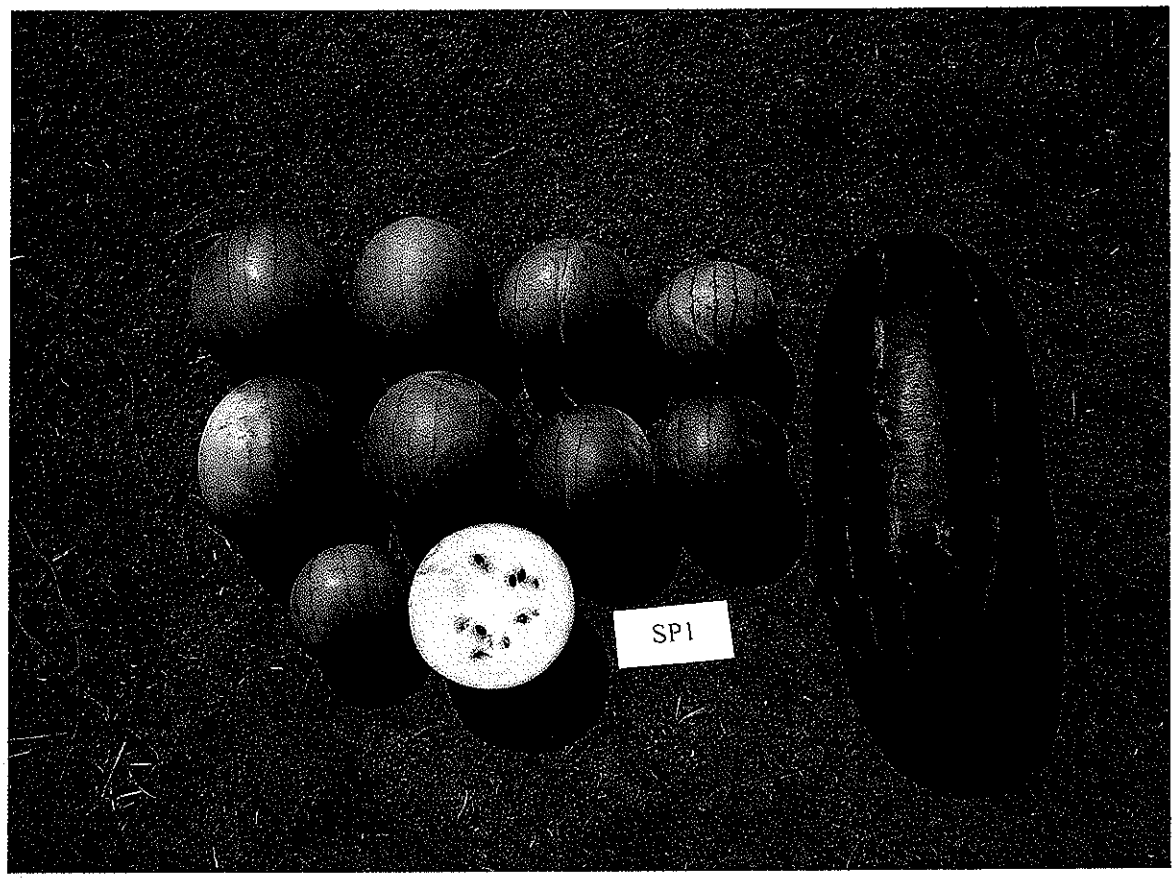
Days maturity	Minilee	Fruit shape	Minilee
Plant vigor	Minilee	Rind color	Minilee
Fruit Size	None	Flesh quality	None

REFERENCES:

1. Frey, K. J. 1966. Plant Breeding - Symposium. 1 ed. Iowa State University Press.
2. Ware, G. W. and McCollum, J. P. 1968. Producing Vegetable Crops. Interstate Printers & Publishers, Inc. Danville, Illinois.
3. Whitaker, T. W. and Davis, G. N. 1962. Cucurbits. Interscience Publishers, Inc. New York.
4. Nickerson's or any recognized color fan should be used to determine the plant colors of the described variety.
5. *Royal Horticultural Society Color Charts



Attachment 1. Leaf of SP-1 and commercial diploid watermelon Sangria.



Attachment 2. Fruits of SP-1 and commercial diploid watermelon Sangria.

Attachment 3. Fruits of SP-1 and commercial triploid seedless watermelon Tri-X-313.

Exhibit D

Additional Description for SP-1

Diploid watermelon SP-1 was developed to be a pollenizer for triploid watermelons, to produce seedless watermelon fruit. Due to unique plant and fruit characteristics, SP-1 is a superior pollenizer for seedless watermelon production. Syngenta's field trials demonstrated that growers could produce solid seedless fruit using SP-1 as a pollenizer. Growers can harvest 25-33% more seedless fruit compared to what they are now producing. Growers can freely select the best seedless varieties for their production programs when SP-1 is used as pollenizer because of its distinct fruit size, color and shape compared to commercial triploid watermelons. Using SP-1 as a pollenizer, growers can increase the yield potential of their triploid watermelon because of the simplified field management and pro-longed flowering periods of SP-1. SP-1 will change the way seedless watermelon is grown today.

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICATION OWNERSHIP

The watermelon variety, SP-1, is the result of a hand-pollinated cross between ESW1 and Tiny Orchid. The variety, SP-1, for which Plant Variety Protection is hereby being sought, was developed by Dr. Xingping Zhang, employee of Syngenta Seeds, Inc. – Vegetables. By agreement between the employees and Syngenta Seeds, Inc.- Vegetables, all rights to any invention, discovery or development made by the employee while employed by Syngenta Seeds, Inc. – Vegetables are assigned to Syngenta Seed, Inc. – Vegetables with no rights of any kind retained by the employees.