No. 200700132

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Sakata Seed Corporation

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 PURPOSES, 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.)

*ZINNIA*

*'Profusion Knee High White'*

*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 eleventh day of August, in the year two thousand and eight.*

*Attest:*

*Commissioner*
*Plant Variety Protection Office*
*Agricultural Marketing Service*

*Secretary of Agriculture*

REPRODUCE LOCALLY. *Include 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: Sakata Seed Corporation

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME:

3. VARIETY NAME: Profusion Knee High White

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*: 2-7-1 Nakamachidai, Tsuzuki-ku, Yokohama, 224-0041 Japan

5. TELEPHONE *(include area code)*: +81-0-45-945-8800

6. FAX *(include area code)*: +81-0-45-945-8841

FOR OFFICIAL USE ONLY

PVPO NUMBER: #200700132

FILING DATE: February 13, 2007

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: JP

9. DATE OF INCORPORATION: December 12, 1942

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

Tom Day
Corinne Marshall
Sakata Seed America, Inc.
18095 Serene Dr.
Morgan Hill, CA 95037

FEES RECEIVED

FILING AND EXAMINATION FEES: $ 4382.00 DATE 2/13/07

CERTIFICATION FEE: $ 768.00 DATE 7/28/08

11. TELEPHONE (Include area code): (408) 778-7758

12. FAX (Include area code): (408) 779-1978

13. E-MAIL: cmarshall@sakata.com

14. CROP KIND *(Common Name)*: Zinnia

16. FAMILY NAME *(Botanical)*: Compositae (Asteraceae)

15. GENUS AND SPECIES NAME OF CROP: Zinnia hybrida

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

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? *(OPTIONAL)*

☐ YES ☑ NO

IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. 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. ☑ Exhibit F. Declaration Regarding Deposit

g. ☐ Voucher Sample *(3,000 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 ($4,382), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. 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 21 and 22 below)* ☑ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?

☐ YES ☐ NO

IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☐ YES ☐ NO

IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

*(If additional explanation is necessary, please use the space indicated on the reverse.)*

23. 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.)*

24. 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.)*

25. The owners declare that a viable sample of basic seed of the variety has been 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 | | SIGNATURE OF OWNER | |
|---|---|---|---|
| Corinne Marshall | | | |
| NAME *(Please print or type)* | | NAME *(Please print or type)* | |
| Corinne Marshall | | | |
| CAPACITY OR TITLE | DATE | CAPACITY OR TITLE | DATE |
| IPR Coordinator | 2/8/07 | | |

*(See reverse for instructions and information collection burden statement)*

ST-470 (02-06) designed by the Plant Variety Protection Office using Word 2003.

**GENERAL INSTRUCTIONS:** To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for $4,382 ($518 filing fee and $3,864 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice)*. **NEW:** With the application for a seed reproduced variety **or by direct deposit soon after filing**, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to **reproduce** the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of $768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

**Plant Variety Protection Office**
**Telephone:** (301) 504-5518 **FAX:** (301) 504-5291
**General E-mail:** PVPOmail@usda.gov
**Homepage:** http://www.ams.usda.gov/science/pvpo/PVPindex.htm

**SPECIFIC INSTRUCTIONS:**
To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and **provide evidence** that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. http://www.ams.usda.gov/lsg/seed.htm.

**ITEM**

19a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

**22. CONTINUED FROM FRONT** *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

**23. CONTINUED FROM FRONT** *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

Date of first sale: USA, 4/11/06 Japan, 3/7/06

**24. CONTINUED FROM FRONT** *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

*According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.*

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*To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.*

**Exhibit A**
**Breeding History of the Variety**

In 1986, 19 strains of diploid interspecific crosses between Zinnia angustifolia and Zinnia elegans were received in Misato, Japan from Dr. Dennis P. Stimart at the University of Maryland. Interspecific hybrid lines 1-7C and 1-22C were produced from the 19 strains.

In 1987, the interspecific hybrid lines 1-7C and 1-22C were crossed (female and male, respectively) and $F_1$ generation seed was obtained. The $F_1$ seeds produced by the hybridization were sown and plants were selected.

From 1987 to 1990, selection and single seed decent was practiced. In 1991, $F_4$ generation seed was obtained and the breeding was temporarily halted. In 1999 breeding continued and $F_5$ generation seed of line 7-15 was obtained. In the spring and summer of 1999, the line 7-15 was sown in the greenhouse and transplanted into the field in Misato, Japan in order to evaluate the stability and uniformity of traits. In the summer of 1999, the stability and uniformity of the new line were confirmed and the new line was named 'Profusion Knee High White'. The selection criteria used in the development of this variety was plant height and length of cut flower.

Since the original breeding was performed, 'Profusion Knee High White' has been sexually reproduced and judged stable for at least 5 generations. 'Profusion Knee High White' is uniform for all traits as described in Exhibit C. 'Profusion Knee High White' shows no variants other than what would normally be expected due to environment.

**Exhibit B**
**Statement of Distinctness**

'Profusion Knee High White', to the best of our knowledge, is most similar to the commercially available *Zinnia hybrida* variety 'Profusion White'. 'Profusion Knee High White' is distinct from 'Profusion White' in plant internode length, 33 vs. 77 mm, respectively. The internode length of 30 plants of both 'Profusion White' and 'Profusion Knee High White' was analyzed by measuring the length (in mm) of the main stem peduncle for each set of plants in two independent greenhouse trials in Salinas, CA. Data presented below in Figure 1. is from two trials conducted in Salinas, California. One trial was performed from February through April 2006 and the other trial was performed from February through April 2007.

**Figure 1.**
**Distinctness Data: Profusion White vs. Profusion Knee High White**
**Main stem peduncle length (in mm), Salinas, CA**

| Spring (February-April) 2006 | | | Spring (February-April) 2007 | | |
|---|---|---|---|---|---|
| Plant No. | White | KH Wht. | Plant No. | White | KH Wht. |
| 1 | 28 | 54 | 1 | 32 | 62 |
| 2 | 35 | 66 | 2 | 41 | 78 |
| 3 | 36 | 87 | 3 | 38 | 81 |
| 4 | 37 | 59 | 4 | 36 | 116 |
| 5 | 28 | 55 | 5 | 51 | 90 |
| 6 | 35 | 70 | 6 | 23 | 72 |
| 7 | 35 | 65 | 7 | 19 | 94 |
| 8 | 67 | 96 | 8 | 27 | 70 |
| 9 | 33 | 67 | 9 | 33 | 48 |
| 10 | 42 | 49 | 10 | 48 | 80 |
| 11 | 38 | 86 | 11 | 25 | 76 |
| 12 | 39 | 85 | 12 | 31 | 118 |
| 13 | 23 | 115 | 13 | 40 | 90 |
| 14 | 42 | 59 | 14 | 29 | 102 |
| 15 | 36 | 103 | 15 | 44 | 88 |
| 16 | 31 | 77 | 16 | 14 | 70 |
| 17 | 51 | 75 | 17 | 19 | 52 |
| 18 | 32 | 79 | 18 | 41 | 70 |
| 19 | 50 | 94 | 19 | 32 | 112 |
| 20 | 20 | 93 | 20 | 45 | 90 |
| 21 | 36 | 73 | 21 | 55 | 82 |
| 22 | 30 | 49 | 22 | 26 | 60 |
| 23 | 10 | 120 | 23 | 21 | 74 |
| 24 | 27 | 90 | 24 | 30 | 100 |
| 25 | 17 | 54 | 25 | 27 | 58 |
| 26 | 36 | 103 | 26 | 25 | 52 |
| 27 | 40 | 50 | 27 | 50 | 74 |
| 28 | 22 | 68 | 28 | 42 | 68 |
| 29 | 20 | 95 | 29 | 36 | 57 |
| 30 | 28 | 76 | 30 | 18 | 50 |
| **Avg.** | **33.47** | **77.07** | | **33.27** | **77.80** |
| **St. Dev.** | **11.09** | **19.74** | | **10.81** | **19.38** |

**Spring Trial 2006**
t-Test: Paired Two Sample for Means

| *Spring 2006* | *White* | *KH White* |
|---|---|---|
| Mean | 33.466667 | 77.06666667 |
| Variance | 123.01609 | 389.5126437 |
| Observations | 30 | 30 |
| Pearson Correlation | -0.107109 | |
| Hypothesized Mean Diff. | 0 | |
| df | 29 | |
| t Stat | -10.09666 | |
| P(T<=t) one-tail | 2.652E-11 | |
| t Critical one-tail | 1.6991271 | |
| P(T<=t) two-tail | 5.303E-11 | |
| t Critical two-tail | 2.0452308 | |

**Spring Trial 2007**
t-Test: Paired Two Sample for Means

| *Spring 2007* | *White* | *KH White* |
|---|---|---|
| Mean | 33.266667 | 77.8 |
| Variance | 116.82299 | 375.7517241 |
| Observations | 30 | 30 |
| Pearson Correlation | 0.2626101 | |
| Hypothesized Mean Diff. | 0 | |
| df | 29 | |
| t Stat | -12.47128 | |
| P(T<=t) one-tail | 1.767E-13 | |
| t Critical one-tail | 1.6991271 | |
| P(T<=t) two-tail | 3.534E-13 | |
| t Critical two-tail | 2.0452308 | |

**Exhibit B**
**Statement of Distinctness**

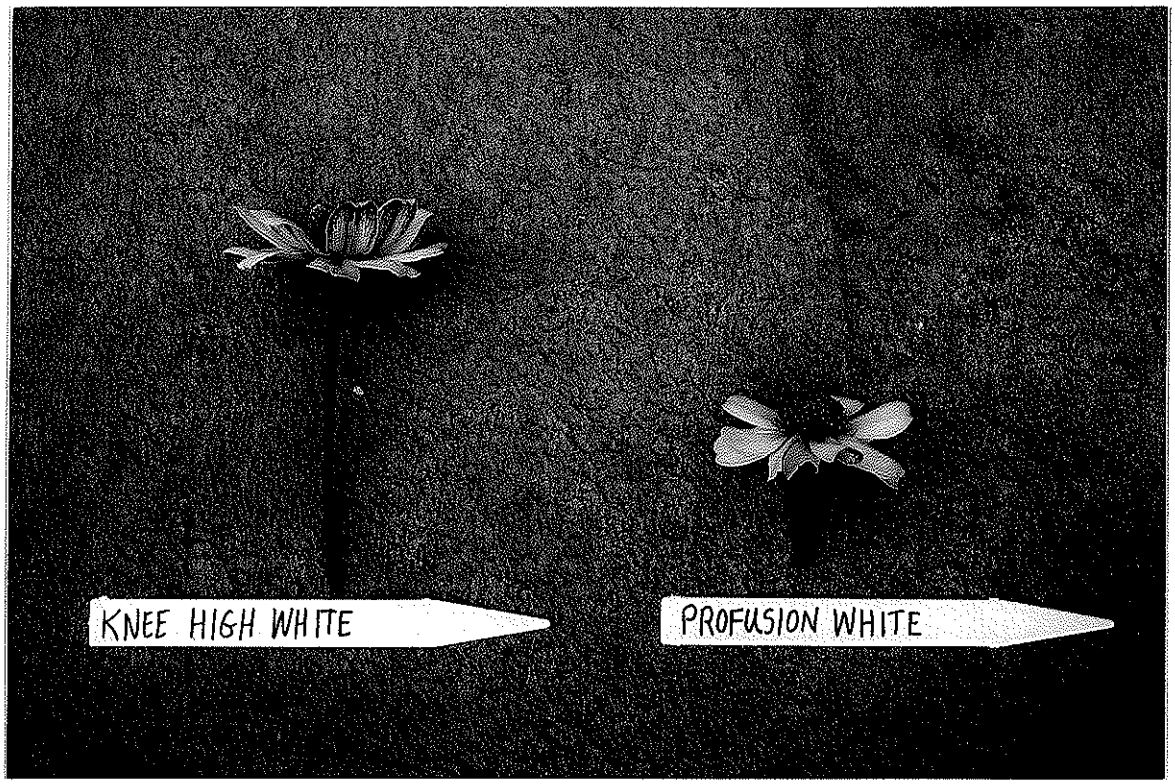


**Figure 2.** Comparison of plant main stem peduncle of Zinnia 'Profusion Knee-High White' (left) with Zinnia 'Profusion White' (right). 'Profusion Knee-High White' has a longer average stem peduncle length than 'Profusion White'.

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved OMB NO 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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**U.S. DEPARTMENT OF AGRICULTURE**
**AGRICULTURAL MARKETING SERVICE**
**SCIENCE AND TECHNOLOGY**
**PLANT VARIETY PROTECTION OFFICE**
**BELTSVILLE, MD 20705**

**Exhibit C**

# OBJECTIVE DESCRIPTION OF VARIETY
## Zinnia (*Zinnia* spp.)

| NAME OF APPLICANT (S) | TEMPORARY OR EXPERIMENTAL DESIGNATION | VARIETY NAME |
|---|---|---|
| Sakata Seed Corporation | | Knee High White Profusion |
| ADDRESS *(Street and No. or RD No., City, State, Zip Code and Country)* 2-7-1 Nakamachidai, Tsuzuki-ku Yokohama, Japan 224-0041 | | PVPO NUMBER #200700132 |

**PLEASE READ ALL INSTRUCTIONS CAREFULLY:**

In the spaces on the left, enter the appropriate numbers that describe the characteristics of the application variety. On the right, enter the appropriate numbers that describe the characteristics of the most similar comparison variety. Right justify whole numbers by adding leading zeros if necessary. The variety that you choose for comparison should be the most similar one in terms of overall morphology, background and maturity. The comparison variety should be grown in field trials with the application variety for 2-3 location/years (environments) in the region and season of best adaptability. At least one year of trials should be conducted within the United States of America. In general, measurements of quantitative traits should be taken **from one trial on 15-25 randomly selected plants or plant parts** to obtain averages and statistics that describe a typical field of the variety. (Form technical content last updated August 1978.)

| Application Variety Data | Comparison Variety Data |
|---|---|
| 1. SPECIES: | Comparison Variety Name Profusion White |
| 4 Species: 1 = Z. elegans 2 = Z. linearis 3 = Z. haggeana (*angustifolia*) 4 = Species Cross [redacted] Z. hybrida | 4 Species |
| 2. PLOIDY | |
| 1 Ploidy: 1 = Diploid (24) 2 = Tetraploid (48) 3 = Other (Specify)____ | 1 Ploidy |
| 3. FLOWER TYPE | |
| 4 Type: 1 = Button (*Cherry Buttons, Thumbelina*) 2 = Pompon (*Scarlet Gem, White Gem*) 3 = Dahlia (*Dream, Exquisite*) 4 = Crested, Scabiosa (*Wind Witch*) 5 = Cactus (*Blaze, Sunny Boy*) 6 = Mexican (*Old Mexico*) | 4 Type |
| 4. PLANT | |
| 60 Days from Emergence to First Flower | 60 Days to First Flower |
| 2 Season: 1 = Short, Concentrated Flowering 2 = Long, Continuous Flowering | 2 Season |
| 10 No. of Primary Branches | 10 No. of Primary Branches |
| 40 No. of Secondary Branches | 50 No. of Secondary Branches |
| 160 No. of Tertiary Branches | 100 No. of Tertiary Branches |
| Main Stalk: | Main Stalk: |
| 4 No. of Internodes on Main Stalk | 4 No. of Internodes on Main Stalk |
| 0 cm Length of Internodes Between First and Second Nodes | 0 cm Length of Internodes |
| 10 mm Diameter Between First and Second Nodes | 10 mm Diameter |
| Application Variety Data | Comparison Variety Data |

KH White

| Application Variety Data | Comparison Variety Data |
|---|---|
| 4. PLANT, Main Stem:(cont.) | |
| 1 Habit: 1 = Compact 2 = Spreading | 1 Habit |
| 60 cm Wide | 60 cm Wide |
| 45 cm High | 35 cm High |
| 3 Pubescence: 1 = Glabrous 2 = Sparsely Pubescent 3 = Pubescent | 3 Pubescence |
| 5. LEAF | |
| 1 Leaf Shape: 1 = Lanceolate 2 = Ovate 3 = Elliptic | 1 Leaf Shape |
| 30 mm Wide | 30 mm Wide |
| 75 mm Long | 80 mm Long |
| 2 Dorsal Surface Pubescence: 1 = Glabrous 2 = Pubescent | 2 Dorsal Surface Pubescence |
| 2 Ventral Surface Pubescence: 1 = Glabrous 2 = Pubescent | 2 Ventral Surface Pubescence |
| 6. FLOWERS | |
| 13 cm Length of Cut Flower (From head to first branch) | 9 cm Length of Cut Flower |
| 120 Average No. Flowers per Plant | 75 Average No. Flowers per Plant |
| 6 cm Diameter of Head | 6 cm Diameter of Head |
| 2 Stem Rigidity: 1 = Rigid 2 = Flexible | 2 Stem Rigidity |
| 2 Stem Brittleness: 1 = Brittle 2 = Wirey | 2 Stems Brittleness |
| 1 Doubleness: 1 = Single (*one row of rays*) 2 = Semi-single (*several rows of rays*) 3 = Semi-double (*many rows of rays*) 4 = Double (*all rays*) | 1 Doubleness |
| 7. RAY PETALS | |
| 1 Shape 1 = Flat 2 = Twisted 3 = Curled 4 = Shaggy 5 = Quilled 6 = Combination or Other (Specify) _____ | 1 Shape |
| 1 Dorsal Surface Pubescence: 1 = Glabrous 2 = Pubescent | 2 Dorsal Surface Pubescence |
| 2 Ventral Surface Pubescence: 1 = Glabrous 2 = Pubescent | 2 Ventral Surface Pubescence |
| 1 Dorsal Surface Luster: 1 = Dull 2 = Shiny | 1 Dorsal Surface Luster |
| 1 Ventral Surface Luster: 1 = Dull 2 = Shiny | 1 Ventral Surface Luster |
| 2 Apices Shape: 1 = Acute 2 = Obtuse | 2 Apices Shape |
| 2 Apices Margin: 1 = Entire 2 = Notched 3 = Spined | 2 Apices Margin |

KH White

| Application Variety Data | Comparison Variety Data |
|---|---|

8. COLOR OF RAYS: Select from colors below. Consider only the predominant colors. Select two color codes when necessary, i.e. Whitish-Orange) 01 06
(See References below.)

01 = White 02 = Cream 03 = Pink 04 = Rose 05 = Red 06 = Orange 07 = Gold 08 = Bronze
09 = Yellow 10 = Green 11 = Lavender 12 = Scarlet 13 = Salmon 14 = Other (Specify) _____

Color Chart Name Royal Hort. Society

| Application Variety Data | | | Comparison Variety Data | | |
|---|---|---|---|---|---|
| | Monocolor | Color Chart Value | Color | Location | Color Chart Value |
| Patterns for Bicolor or Multicolor: | | | Patterns for Bicolor or Multicolor: | | |
| | Apex Half Dorsal Side | Color Chart Value | | Apex Half Dorsal Side | |
| | Apex Half Ventral Side | Color Chart Value | | Apex Half Ventral Side | |
| | Base Half Dorsal Side | Color Chart Value | | Base Half Dorsal Side | |
| | Base Half Ventral Side | Color Chart Value | | Base Half Ventral Side | |
| 01 | Background Dorsal Side | Color Chart Value 155C | 01 | Background Dorsal Side | 155C |
| 01 | Background Ventral Side | Color Chart Value 155A | 01 | Background Ventral Side | 155A |
| | Streaks Dorsal Side | Color Chart Value | | Streaks Dorsal Side | |
| | Streaks Ventral Side | Color Chart Value | | Streaks Ventral Side | |
| | Stripes Dorsal Side | Color Chart Value | | Stripes Dorsal Side | |
| | Stripes Ventral Side | Color Chart Value | | Stripes Ventral Side | |
| | Spots Dorsal Side | Color Chart Value | | Spots Dorsal Side | |
| | Spots Ventral Side | Color Chart Value | | Spots Ventral Side | |
| | Blotches Dorsal Side | Color Chart Value | | Blotches Dorsal Side | |
| | Blotches Ventral Side | Color Chart Value | | Blotches Ventral Side | |
| | Other Dorsal Side Describe | Color Chart Value | | Other Dorsal Side Describe | |
| 10 | Other Ventral Side Describe Veins | Color Chart Value 143B | 10 | Other Ventral Side Describe Veins | 143B |

9. DISK FLORETS

| Application Variety Data | Comparison Variety Data |
|---|---|
| 3 Presence: 1 = Absent 2 = Present, Covered 3 = Present, Conspicuous | 3 Presence |
| 2 Type: 1 = Not Quilled 2 = Quilled | 2 Type |
| 07 Color (Choose from Colors in No. 8 Above) | 7 Color |
| Color Chart Name RHS Color Chart Code 12B | Color Chart Code 12B |

10. ANTHOCYANIN (1 = Absent, 2 = Present)

| Application Variety Data | Comparison Variety Data |
|---|---|
| 1 Seedlings | 1 Seedlings |
| 2 Stems | 2 Stems |
| 2 Leaves | 2 Leaves |
| 1 Flowers | 1 Flowers |

KH White

| Application Variety Data | Comparison Variety Data |
|---|---|
| 11. SEEDS: | |
| 4 Yield: 1 = None 2 = Poor 3 = Fair 4 = Good | 4 Yield |
| 5 mm Long | 5 mm Long |
| 3 mm Wide | 3 mm Wide |
| 4 Color: 1 = Tan 2 = Light Brown 3 = Dark Brown 4 = Grey | 4 Color |
| Color Chart Name RHS Color Chart Code 202A | Color Chart Code 202A |
| 235 mg Per 100 Seeds | 235 mg Per 100 Seeds |
| DRIED RECEPTICLE (*After Seed Removal*): | |
| 4 Shape: 1 = Flat 2 = Dome 3 = Globe 4 = Cone | 4 Shape |
| 1.5 cm Length | 1.5 cm Length |
| 0.5 cm Diameter at Base | 0.5 cm Diameter at Base |
| 13. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) | |
| 1 Powdery Mildew | 1 Powdery Mildew |
| 0 Mosaic | 0 Mosaic |
| 0 Fusarium Wilt | 0 Fusarium Wilt |
| 0 Alternaria Leaf Spot | 0 Alternaria Leaf Spot |

14. **Comments:** f each variety. This photograph shoul ional photographs in support of this ap

REFERENCES:

Bodger Seed Company, LTD. *The Zinnia and Its Uses.* Bul. No 1, 19 pp. 1935.
Honeywell, E. R., 1970. *The Zinnia.* Purdue University Ext Service HO-104.
Metcalf, H. N. and J. N. Sharma. *Germplasm Resources of the Genus Zinnia* L. Econ. Bot. 25:169-181. 1971.
Weddle, Charles. *The Elegant Zinnia.* Nat. Hort. Mag. 24(2): 83-91. 1945.

**COLOR**: Munsell Book of Color, Royal Horticultural Society Colour Chart, Nickerson's or any recognized color fan may be used to determine the color of the variety.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

# EXHIBIT E
# STATEMENT OF THE BASIS OF OWNERSHIP

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

| 1. NAME OF APPLICANT(S) | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER | 3. VARIETY NAME |
|---|---|---|
| Sakata Seed Corporation | | Profusion Knee High White |
| 4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)* | 5. TELEPHONE *(Include area code)* | 6. FAX *(Include area code)* |
| 2-7-1 Nakamachidai Tsuzuki-ku, Yokohama, 224-0041 Japan | +81-0-45-945-8800 | +81-0-45-945-8841 |
| | 7. PVPO NUMBER | #200700132 |

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** [ ] YES [X] NO
Japan

10. Is the applicant the original owner? [X] YES [ ] NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
[ ] YES [ ] NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

'Profusion Knee High White' was developed by a breeder under employment of Sakata Seed Corporation.

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

*According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.*

*The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).*

*To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.*

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Form Approved OMB NO 0581-0055

*According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.*

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**U.S. DEPARTMENT OF AGRICULTURE**
**AGRICULTURAL MARKETING SERVICE**
**SCIENCE AND TECHNOLOGY**
**PLANT VARIETY PROTECTION OFFICE**
**BELTSVILLE, MD 20705**

**EXHIBIT F**
**DECLARATION REGARDING DEPOSIT**

| NAME OF OWNER (S) | ADDRESS *(Street and No. or RD No., City, State, and Zip Code and Country)* | TEMPORARY OR EXPERIMENTAL DESIGNATION |
|---|---|---|
| Sakata Seed Corporation | 2-7-1 Nakamachidai, Tsuzuki-ku, Yokohama 224-0041 Japan | VARIETY NAME: Profusion Knee High White |
| **NAME OF OWNER REPRESENTATIVE (S)** | **ADDRESS** *(Street and No. or RD No., City, State, and Zip Code and Country)* | FOR OFFICIAL USE ONLY |
| Sakata Seed America, Inc. | 18095 Serene Dr. Morgan Hill, CA 95037 | PVPO NUMBER: #200700132 |

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Corinne Marshall
Signature

2/8/07
Date