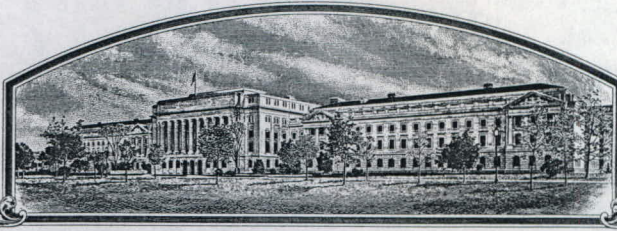


No.

9700013



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Hollar & Co., Inc./Ronald A. Goebel

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. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEPPER

'Prairie Fire'

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 twenty-eighth day of April, in the year of our Lord two thousand.

Attest:



Ann Marie ...

Sam ...

Commissioner
Plant Variety Protection Office

Secretary of Agriculture

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

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 FOR PLANT VARIETY PROTECTION CERTIFICATE
 (Instructions and information collection burden statement 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) Hollar & Co., Inc. / Ronald D. Goebel		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER SS805	3. VARIETY NAME Prairie Fire
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 18873 Hwy 50 East / P.O. Box 106 Rocky Ford, Colorado U.S.A. 81067		5. TELEPHONE (include area code) (719) 254-7411	FOR OFFICIAL USE ONLY PVPO NUMBER 9700013
		6. FAX (include area code) (719) 254.3539	
7. GENUS AND SPECIES NAME Capsicum annuum	8. FAMILY NAME (Botanical) Solanaceae		DATE Oct. 17, 1996
9. CROP KIND NAME (Common name) Ornamental pepper		FILING AND EXAMINATION FEE: \$ 2450.00 DATE Oct. 17, 1996	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name) Corporation		CERTIFICATION FEE: \$ 300.00 DATE 4-21-00	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Colorado	12. DATE OF INCORPORATION June 1958		
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Hollar & Co., Inc. - Ron Goebel 18873 Hwy 50 East / P.O. Box 106 Rocky Ford, Colorado 81067 U.S.A.		14. TELEPHONE (include area code) (719) 254 7411	
		15. FAX (include area code) (719) 254 3539	

16. 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 the Variety
- d. Exhibit D. Additional Description of the Variety (Optional)
- e. Exhibit E. Statement of the Basis of the Applicant'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 PVPO)

17. DOES THE APPLICANT 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 18 and 19 below) NO (If "no," go to item 20)

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

YES NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

IGNORE FOUNDATION REGISTERED CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM 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

21. The applicant(s) 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 applicant(s) is(are) the owner(s) 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.

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

SIGNATURE OF APPLICANT (Owner(s)) 		SIGNATURE OF APPLICANT (Owner(s)) 	
NAME (Please print or type) L. A. Hollar		NAME (Please print or type) Ronald D. Goebel	
CAPACITY OR TITLE President	DATE 10/10/96	CAPACITY OR TITLE Plant Breeder	DATE 10/9/96

JMS 4/22/99

JMS 10/29/99

INSTRUCTIONS

GENERAL: 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; (3) at least 2,500 viable untreated seeds, or for tuber reproduced varieties 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; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (*See Section 97.6 of the Regulations and Rules of Practice.*) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Blvd., 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 check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the Certificate.

Plant Variety Protection Office
Telephone: (301) 504-5518

ITEM

- 16a. 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.
- 16b. 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 statistical data for characters expressed numerically and demonstrate that these are clear differences;
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 16c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 16d. 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.
- 16e. 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.
17. 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 labelled, 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.*)
20. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.

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 during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment 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 Regulations and Rules of Practice.*)

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705.
Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 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. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status: (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 the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.



HOLLAR SEEDS

Where Good Ideas Grow

Capsicum annum: Prairie Fire 9700013

EXHIBIT A: ORIGIN AND BREEDING HISTORY OF THE VARIETY

Exhibit A (Addendum)

1. The initial parental line was first observed by me in the backyard of a retired postmaster in our town, J.P. Elliot. Mr. Elliot was an amateur horticulturist and he claimed to have gotten the seed for his 'upright devil's tongue' pepper "from a box of pickling spice". The habit of the plant was about 38 cm. and the fruit were borne upright in clusters of 3 to 4 fruit with an L/D of about 0.5 cm. X 6 cm. Fruit turned from green to red at maturity, were thin-walled and dried easily for storage. Mr. Elliot passed away in 1978 and his garden was turned over to another amateur horticulturist, Don Skuderna, from our town, Rocky Ford, Colorado, where a chance cross of another pepper Mr. Skuderna had gotten from a tropical Caribbean source (carried home from a vacation trip in the Caribbean area) called bird pepper, was naturally made, i.e. insect pollination. 'Bird-cone' pepper, as this second parental line was referred, was a feral "pequin" type, with fruit borne upright on a lanky open bush about 1 meter in height, bearing fruit that were less than 1 cm. in width and 3 cm. in length. These little peppers were extremely hot and went from a chartreuse with purple streaking to red at maturity. Mr. Skuderna died of cancer that following spring, and his seed was turned over to me before his death. No seed of either of these two parental lines now exists that is germinable.

2. Initially the F₁ seed of this original hybrid was grown in 1982 and seed saved from this crop, and the F₂ seed grown in a greenhouse in the 1983 season, producing a widely segregated population, all with upright small (less than 3 cm.) fruit borne in an erect stature. Being involved with floriculture at that time, and looking for an alternative potted plant for Christmas decoration, I looked into selecting a line of ornamental capsicum with good Christmas foliage/fruit colors and an ability to be grown without the aid of growth regulators/inhibitors. (Most growth regulators of this time period caused severe phytotoxicity to capsicum.)

1984-another generation of the segregating population grown for the dried pods

1985-another generation of the segregating population grown for the dried pods

1986-another generation grown for the dried pods, but with a variant (sport) that produced a very light yellow small (0.5 cm. by 2.5 cm.) fruit on a prostrate dwarf plant habit. This selection was selfed by hand pollination.

1987-the selection became Out Plant₁ 'Blonde Dwarf Bird Cone', designated plant V30 and was selfed by hand pollination



HOLLAR SEEDS

Where Good Ideas Grow

II Origin and Breeding History (addendum) *Capsicum annum*: Prairie Fire 9700013

1988-S₁OP₁(V30) was selfed by hand pollination

1989-OP₁PHBC-1 (Prostrate Hot Bird Cone) This was a hand pollinated self from the generation grown from V30. More prostrate and dwarfed than in previous generations.

1990-S₁(OP₁PHBC-1)-1 Grown in isolation away from any capsicum crops

1991-S₂(OP₁PHBC-1)-1 Seed massed and is grown in isolation as above

1992-same as above. No variants, with plant and fruit uniformity

1993-same as above. No variants, with plant and fruit uniformity

1994-seed of previous generation massed with 100% uniformity for plant habit and fruit size and color. (Prostrate/dwarf habit with small light green to yellow fruit turning red at maturity.)

1995-massed seed from previous generation of approximately 100 plants grown in isolation became breeder's seed, designated SS805. This is seed sent to Plant Variety Patent offices, and sent to Thailand for seed expansion to foundation seed. All plants virtually identical for phenotypical traits used to created foundation seed.

1996-Seed from Thailand grown from 100% pure and phenotypically identical and genetically identical plants.

1996-During the summer season a 10,000 plant population was grown in this generation. One off-type was reported to your office at that time. A progeny test was performed on selfs taken from the off-type plant and from regular Prairie Fire plants of this generation. These progeny tests showed that this off-type was from a seed mixture, not from a variant or sport of Prairie Fire. Perhaps as little as one seed mixed in during the milling process during the Thailand seed expansion was responsible for the off-type, as no plant in the year-to-row grow-out from the off-type yielded a Prairie Fire type capsicum plant, but the same grow out from the selfed progeny from the Prairie Fire plant were identical to previous generations. Another generation grown during the fall of 1996 in a commercial greenhouse showed no off-types or variants in a population of 2500 plants.

The generation of plants of Prairie Fire grown this season (1997) in our trials and grow-outs show 100% uniformity. This would show Prairie Fire with 100% purity, as any hybrid from previous generations would have yielded a percentage of segregation in this generation had it been in fact an F₂ generation, however no off-type, variant, sport, or segregation was noted in this population of almost 10,000 plants.

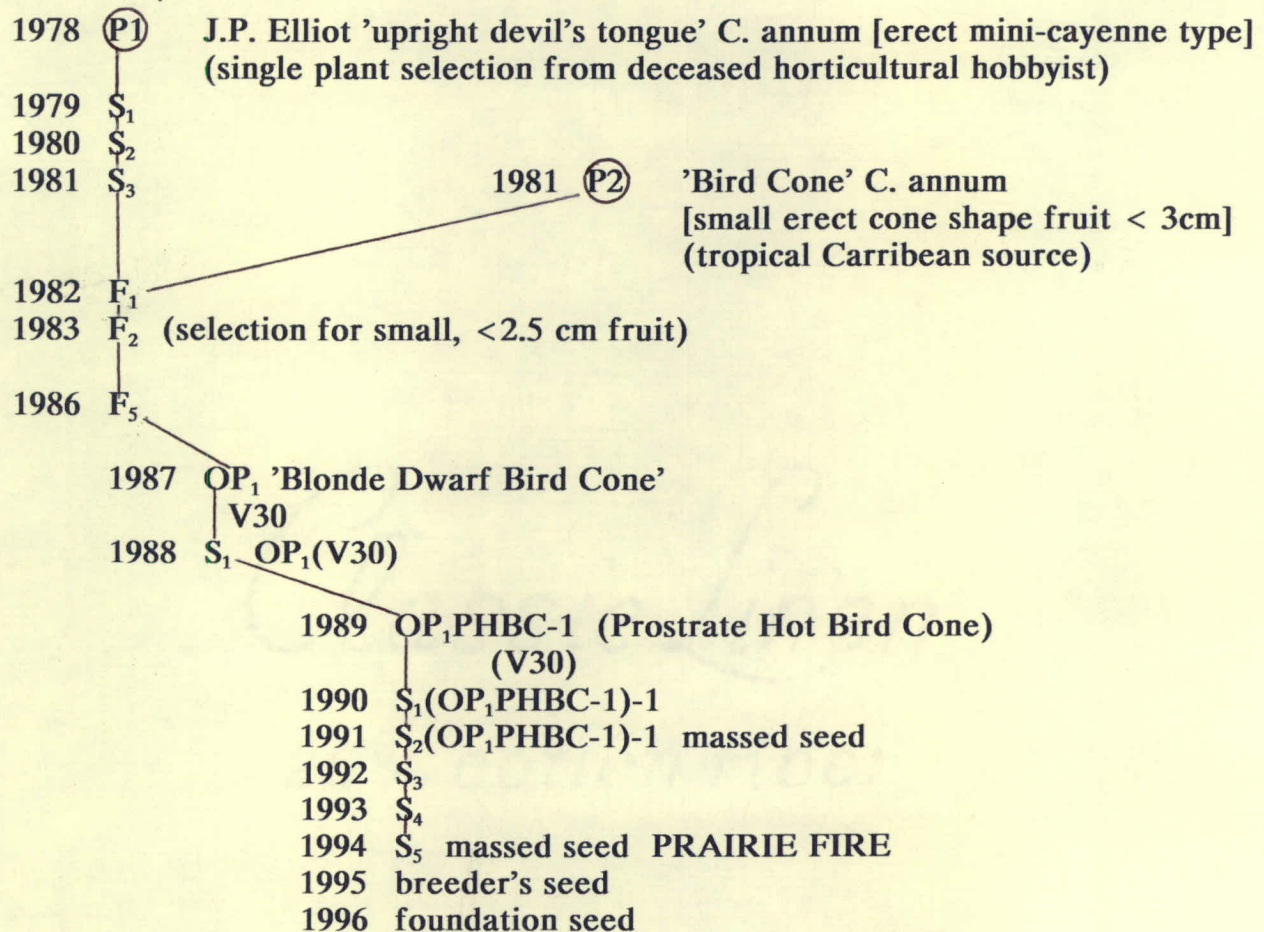


HOLLAR SEEDS

Where Good Ideas Grow

EXHIBIT A

PEDIGREE OF PRAIRIE FIRE





HOLLAR SEEDS

Where Good Ideas Grow

Capsicum annum: Prairie Fire 9700013

EXHIBIT A: ORIGIN AND BREEDING HISTORY OF THE VARIETY

Exhibit A (Addendum)

Prairie Fire is an ornamental/culinary category mini-capsicum. The original intent for breeding was for an alternative seasonal (Christmas) potted plant for the greenhouse industry to compete with crops that had longer growing seasons and were more difficult to grow, *i.e.*, Poinsettias.

Because Prairie Fire had a dwarf prostrate foliar habit, it would not need any additional growth retardants to keep the canopy from overgrowing and getting too tall during low light times in the fall and winter when other seasonal Christmas crops needed additional growth regulators to keep them from legging out in low light.

Prairie Fire, once selected from a segregating F₂ population for its low prostrate and dwarf growing habit, was a linear selection and purification process of pedigree.

For the past four generations, Prairie Fire has had no variants and has shown to be stable for plant habit, size, and fruit shape. Previously and erroneously reported with a variant in a large plant population, a progeny test of fruit from normal and variant Prairie Fire plants showed that the variant was from a seed mixture and not an impurity in genetics, (either phenotype or genotype). Therefore, all traits are fixed and stable for all past four generations grown.

EXHIBIT B: STATEMENT OF DISTINCTNESS

'Prairie Fire' is most similar to 'NMSU Twilight'
(Dr. Paul Bosland, New Mexico State University, Las Cruces, NM)

'Prairie Fire' exhibits a dwarf prostrate spreading plant growth habit. In contrast, 'NMSU Twilight' exhibits a high bush habit.
(See illustration Fig. 1,2, and 3. [addendum II])

5ms
4/5/00
'Prairie Fire' has short internodes (17.5 ^{mm} ~~cm~~) and short plant height (15.1 cm), whereas 'NMSU Twilight' has long internodes (34.6 ^{mm} ~~cm~~) and tall plant height (43.3 cm) [Tables 5, 6, 7 and 8 from Fig. original, and based on statistical means data from Addendum II and Addendum III.]

'Prairie Fire' does not exhibit fruit anthocyanin, whereas 'NMSU Twilight' has anthocyanin present in the fruit and to a degree in leaf tissue. (Figure 4, Addendum II)

Capsicum annuum: Prairie Fire PVP application number 9700013

EXHIBIT B: STATEMENT OF DISTINCTNESS

Comparative test results for 'Prairie Fire' are based on three observational trials located at the Hollar & Co., Inc. Research Greenhouse trial gardens or the CSU AES Arkansas Valley Research Station, both located in the vicinity of Rocky Ford, CO 81067. Test results are based on four replications of complete randomized block design, planted on plastic mulch with drip fertigation. Any yield, size, or comparative performance are based on six samples/harvests of 30 individual samples separated by Duncan's Multiple Range Test, at a suggested 5% level.

All plants were transplanted on to 60 cm raised beds, 36 cm between plants and drip fertigation by emitter or T-tape. Data based on summer growing seasons, 1996, 1997, and 1999.



FIG 2: Ornamental/culinary capsicum "NMSU Twilight", (Bosland, NMSU, Las Cruces, NM) on left and Prairie Fire on right.
If the straightedge were to be placed into the foliage of "NMSU Twilight", it would show a canopy three times the height of 'Prairie Fire'.

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FIG. 2. Ornamental/culinary capsicum "NMSU Twilight", (Bosland, NMSU, Las Cruces, NM) Ruler shows almost being completely engulfed.

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FIG 3: Prairie Fire with almost one-half of ruler still exposed above canopy.

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Table 5. Internode Length(mm) of "Prairie Fire" and Three Other Hot Ornamental Pepper Varieties

Variety	Internode Length	Statistic Group
NMSU Twilight	34.6	a
Thai Hot	34.4	a
Pretty in Purple	29.2	b
Prairie Fire	17.5	c

- Testing plants were grown breeding nursery with plastic mulch and drip irrigation.
- Completely Randomized experiment was used for this evaluation.
- One Way ANOVA C.R. analysis is used to analyze variance, Duncan's Multiple Range Test is used to separate means.
- Varieties bearing the same group letter are statistically the same, varieties bearing different group letters indicate are statistically different at significance level = 5%.

Table 6. Plant Height (cm) of "Prairie Fire" and Three Other Hot Ornamental Pepper Varieties

Variety	Plant Height	Statistic Group
NMSU Twilight	43.3	a
Pretty in Purple	31.0	b
Thai Hot	25.2	c
Prairie Fire	15.1	d

- Testing plants were grown breeding nursery with plastic mulch and drip irrigation.
- Completely Randomized experiment was used for this evaluation.
- One Way ANOVA C.R. analysis is used to analyze variance, Duncan's Multiple Range Test is used to separate means.
- Varieties bearing the same group letter are statistically the same, varieties bearing different group letters indicate are statistically different at significance level = 5%.

Table 7 - Hot Pepper Data Analysis - Internode Length (cm)
Hollar Seeds, 1999

Variety 'Prairie Fire'	Replication A	Replication B	Replication C
	20	17	18
	18	18	21
	18	15	20
	17	17	18
	16	18	15
	18	20	18
	19	17	17
	20	18	18
	24	18	16
	18	18	18
Average	18.80	17.60	17.90
Standard Deviation	2.20	1.20	1.64
Overall Average and Standard Deviation	18.10	1.79	

Variety 'NMSU Twilight'	Replication A	Replication B	Replication C
	44	37	42
	42	39	40
	28	36	30
	38	33	36
	30	40	32
	44	37	47
	38	39	36
	34	38	32
	40	33	40
	42	40	40
Average	38.00	37.20	37.50
Standard Deviation	5.66	2.44	5.01
Overall Average and Standard Deviation	37.57	4.55	

T Grouping	Mean	N	Cultivar
A	37.57	3	NMSU Twilight
C	18.10	3	Prairie Fire

Table 8 - Hot Pepper Data Analysis - Plant Height (cm)
Hollar Seeds, 1999

Variety 'Prairie Fire'	Replication A	Replication B	Replication C
	16	18	13
	15	20	15
	16.5	18	16
	17	21	17
	15	18	9
	14	16	12
	9	15	12.5
	16	19	11
	9	16.5	12.5
	15	20	11
Average	14.25	18.15	12.90
Standard Deviation	2.90	1.82	2.33
Overall Average and Standard Deviation	15.10	3.28	

Variety 'NMSU Twilight'	Replication A	Replication B	Replication C
	50.5	33	52
	48	37	47
	49.5	34.5	49.5
	47	36	42
	42.5	40	47
	51.5	43	44
	49.5	47	43.5
	50	44.5	39.5
	43	38	43
	48	37	38
Average	47.95	39.00	44.55
Standard Deviation	3.04	4.31	4.13
Overall Average and Standard Deviation	43.83	5.41	

T Grouping	Mean	N	Cultivar
A	43.83	3	NMSU Twilight
C	15.10	3	Prairie Fire



FIG 4: Comparisons of fruit of Prairie Fire, "Thai Hot" (Rupp Seed, Wauseon, OH), "NMSU Twilight", (Bosland, NMSU, Las Cruces, NM), and ornamental capsicum "Pretty in Purple", (Johnnys Selected Seeds, Albion, ME), for fruit shape, length and color and pedicel length.

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14

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY
PEPPER (*Capsicum* spp.)

NAME OF APPLICANT(S) Hollar & Co., Inc.//Ronald D. Goebel	TEMPORARY DESIGNATION SS805	VARIETY NAME Prairie Fire
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 18873 Hwy 59 East/P.O. Box Rocky Ford, Colorado 81067 U.S.A.		FOR OFFICIAL USE ONLY PVPO NUMBER 9700013

Place the appropriate number that describes the varietal character of this variety in the boxes below. Characteristics described, including numerical measurements should represent those which are TYPICAL for the variety. Fill unused columns with zeroes (e.g., 0 9 9 when number is 99). The location of the test area is Rocky Ford, Otero County, Colorado U.S.A. Please answer questions appropriate for your variety if the information is available.

COMPARISON VARIETIES

- | | | |
|-------------------------|----------------------|---------------------------------------|
| 1 = Yolo Wonder L | 5 = Cayenne Long Red | 9 = Sweet Cherry |
| 2 = Pimiento Perfection | 6 = Cubanelle | 10 = Floral Gem |
| 3 = Mexican Chili | 7 = Jalapeño | 11 = Sweet Banana |
| 4 = Anaheim Chili | 8 = Serrano | 12 = Tabasco |
| | | 13 = Other (Specify)
NMSU Twilight |

1. SPECIES:

1 = *C. annuum*
 2 = *C. frutescens*
 3 = *C. baccatum*
 4 = *C. chinense*
 5 = Other (Specify)

2. MARKET MATURITY:

<input type="text" value="2"/> <input type="text" value="5"/>	Days from transplanting until mature green stage	<input type="text" value="0"/> <input type="text" value="4"/> <input type="text" value="5"/>	Days from direct seed until mature green stage
<input type="text" value="7"/> <input type="text" value="0"/>	Days from transplanting until mature red or yellow stage	<input type="text" value="0"/> <input type="text" value="9"/> <input type="text" value="0"/>	Days from direct seed until mature red or yellow stage

From transplanting:

<input type="text" value="2"/> <input type="text" value="0"/>	Days earlier than	<input type="text" value="1"/> <input type="text" value="2"/>	} Comparison varieties
<input type="text" value="0"/> <input type="text" value="0"/>	Same as	<input type="text" value="1"/> <input type="text" value="0"/>	
<input type="text" value="0"/> <input type="text" value="0"/>	Days later than	<input type="text" value="1"/> <input type="text" value="0"/>	

From direct seed:

<input type="text" value="3"/> <input type="text" value="0"/>	Days earlier than	<input type="text" value="1"/> <input type="text" value="2"/>	} Comparison varieties
<input type="text" value="0"/> <input type="text" value="0"/>	Same as	<input type="text" value="1"/> <input type="text" value="0"/>	
<input type="text" value="0"/> <input type="text" value="0"/>	Days later than	<input type="text" value="1"/> <input type="text" value="0"/>	

3. PLANT:

Habit: 1 = Compact 2 = Spreading 3 = Other (Specify) dwarf prostrate

cm Height

<input type="text" value="4"/> <input type="text" value="8"/>	cm Shorter than	<input type="text" value="7"/>	} Comparison varieties
<input type="text" value=""/>	Same as	<input type="text" value=""/>	
<input type="text" value=""/>	cm Taller than	<input type="text" value=""/>	

3. PLANT (Continued):

cm Width

cm Narrower than

Same as } Comparison varieties

cm Wider than comparison

mm Length of third internode (from soil surface)

Basal branches: 1 = None 2 = Few (2-3) 3 = Many (over 3)

Branch flexibility: 1 = Willowy (Cayenne Long Red) 2 = Rigid (Yolo Wonder L)

4. LEAVES:

Foliage color: 1 = Light Green 2 = Medium Green 3 = Dark Green 4 = Purple 5 = Other (Specify) Leaf and stem pubescence: 1 = Absence (Yolo Wonder L) 2 = Moderate (Serrano) 3 = Heavy (Chili Piquin)

Mature shape: 1 = Lanceolate 2 = Elliptic

Mature size: 1 = Small (Tabasco) 2 = Medium (Anaheim Chili) 3 = Large (Yolo Wonder L)

5. FLOWER:

Calyx lobe number

Petal number

Corolla color: 1 = White 2 = Purple 3 = Other (Specify)

Corolla throat markings color: 1 = Yellow (tan) 2 = Purple 3 = Other (Specify) No obvious throat marking

Anther color: 1 = Yellow 2 = Purple

Style length: 1 = Less than stamen 2 = Same as stamen 3 = Exceed stamen

Flower number per leaf axil: 1 = One 2 = Two or more

Self-incompatibility: 1 = Absent 2 = Present

Cytoplasmic male sterility: 1 = Absent 2 = Present

6. FRUIT:

Group: 1 = Beil (Yolo Wonder L) 2 = Pimiento (Pimiento Perfection) 3 = Ancho (Mexican Chili) 4 = Anaheim Chili (Sandia) 5 = Cayenne (Cayenne Long Red) 6 = Cuban (Cubanelle) 7 = Jalapeño (Jalapeño) 8 = Small hot (Serrano) 9 = Cherry (Sweet Cherry) 10 = Short wax (Florida Gem) 11 = Long wax (Sweet Banana) 12 = Tabasco (Tabasco) 13 = Other (Specify) ornamental 'NMSU Twilight'

Pungency: 1 = Sweet (Yolo Wonder L) 2 = Hot (Jalapeño)

Immature color: 1 = Light Green (Cubanelle) 2 = Medium Green (Long Thin Cayenne) 3 = Dark Green (Yolo Wonder L) 4 = Very Dark Green (Ancho Chili) 5 = Yellow (Yellow Belle) 6 = Purple (Violetta) 7 = Ivory (Twiggy) 8 = Other (Specify)

Mature color: 1 = Red (Yolo Wonder L) 2 = Orange 3 = Orange-yellow (Golden Calwonder) 4 = Brown (Mulatto) 5 = Ivory 6 = Green (Permagreen) 7 = Salmon 8 = Lemon Yellow

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Pungency Level : _____ ppm Capsaicin _____ Scoville Units

6. FRUIT (Continued):

1 Surface smoothness: 1 = Smooth (Yolo Wonder L) 2 = Rough (Long Thin Cayenne)

1 Calyx shape: 1 = Cup-shaped 2 = Saucer-shaped

1 Position: 1 = Upright (Santaka) 2 = Pendent (Jalapeño)

2 Base shape: 1 = Cupped (Yolo Wonder L) 2 = Rounded (Jalapeño)

1 Apex shape: 1 = Pointed (Long Thin Cayenne) 2 = Blunt (Yolo Wonder L)

1 Flesh thickness: 1 = Thin (Long Thin Cayenne) 2 = Medium (Anaheim Chili) 3 = Thick (Yolo Wonder L)

0 2 cm Length

0 1 cm Shorter than 12

Same as 13

cm Longer than No Comparison

0 0 8 mm Diameter of fruit at calyx attachment

0 0 1 g weight per fruit

4 Fruit shape: 1 = Bell (Yolo Wonder L) 2 = Conical (Pimiento)
3 = Elongate (Long Thin Cayenne) 4 = Oblong (Jalapeño)
5 = Oblate (Sunnybrook) 6 = Globe (Red Cherry)

2 Fruit set: 1 = Scattered 2 = Concentrated

2 to 2 Number of locules (range)

2 Pedicel length: 1 = Short (Yolo Wonder L) 2 = Long (Anaheim Chili)

1 Pedicel shape: 1 = Straight 2 = Curved

1 Pedicel Thickness: 1 = Slender (Cayenne) 2 = Thick (Yolo Wonder L)

7. SEED:

1 Seed color: 1 = Yellow 2 = Purple

0 5 g/1000 seeds

8. ANTHOCYANIN (1 = Absent, 2 = Present):

1 Leaf 1 Stem 1 Node 1 Calyx 1 Pedicel 1 Seedling Hypocotyl

1 Fruit

9. DISEASE REACTION (0 = Not tested, 1 = Susceptible, 2 = Resistant):

<input type="checkbox"/> 0 Cucumber mosaic virus	<input type="checkbox"/> 0 Bacterial spot (<i>Xanthomonas vesicatoria</i>)
<input type="checkbox"/> 0 Curly top virus	<input type="checkbox"/> 0 Cercospora leaf spot (<i>Cercospora capsici</i>)
<input type="checkbox"/> 0 Pepper mottle virus	<input type="checkbox"/> 0 Phytophthora root rot (<i>Phytophthora capsici</i>)
<input type="checkbox"/> 0 Potato Y virus	<input type="checkbox"/> 0 Ripe rot (<i>Vermicularia capsici</i>)
<input type="checkbox"/> 0 Tobacco etch virus	<input type="checkbox"/> 0 Southern blight (<i>Sclerotium rolfsii</i>)
<input type="checkbox"/> 0 Tobacco mosaic virus	<input type="checkbox"/> 0 Verticillium wilt (<i>Verticillium dahliae</i>)
<input type="checkbox"/> 0 Anthracnose (<i>Gloeosporium piperatum</i>)	<input type="checkbox"/> 0 Nematode (<i>Meloidogyne incognita acrita</i>)
	<input type="checkbox"/> Other (Specify) _____

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10. INDICATE THE VARIETY MOST CLOSELY RESEMBLING THE APPLICATION VARIETY FOR THE FOLLOWING:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	Floral Gem	Fruit shape	NMSU Twilight
Plant habit	No Comparison	Immature fruit color	NMSU Twilight
Leaf color	Floral Gem	Mature fruit color	Floral Gem
Leaf shape	NMSU Twilight	Pungency	NMSU Twilight

11. COMMENTS:

Because 'Prairie Fire' is an ornamental category capsicum, original breeding technique was for floral trade industry, although 'Prairie Fire' does include some culinary attributes, but not necessarily as a vegetable crop. Your databank at present does not include and low growing dwarf prostrate plant habits, very few qualitative comparisons are available.

This uniqueness of the plant habit also makes a difficulty in assessing any comparison or similarity to the listed categories of peppers.

APR 22 12:25 '99

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Capsicum annum: Prairie Fire

EXHIBIT D: ADDITIONAL DESCRIPTION OF VARIETY

Botanical and horticultural characteristics of 'Prairie Fire' compared with 'NMSU Twilight' (Bosland/New Mexico State University). Information based and gathered at Hollar & Co., Inc. pepper trial grounds, Rocky Ford, Colorado 81067, summer season, 1996.

	Prairie Fire	NMSU Twilight
Botanical		
Plant		
Height (cm)	16.7	52
Branching	Multibasal, very prostrate	Multibasal, medium bush
Foliage		
Size (cm)	3.34 x 2	4 x 1.7
Conformation	Compact, dense	semi-compact, moderate
Color	deep green	dark green
Horticultural		
Fruit		
Relative days to maturity	45	55
Size L x W (cm)	2 x 1	2.5 x .9
Conformation	2 celled, conical, blunt end, 2 locule	2 celled, conical, 2 locule
Attachment	Erect	Erect
Petiole, 3 tiers (cm)	1.17	1
Leaf internode (cm)	1.7	2.6
Epidermis	Smooth, waxy	Smooth, waxy
Color	Chartreuse, yellow, orange, red	Chartreuse, purple, orange-red
Habit	Very concentrated, uniform	Very concentrated, uniform
Wall thickness (mm)	1	1.7
Uses	Bedding plant, potted plant, ethnic culinary uses, ornamental	ornamental, culinary
Pungency		
Capsaicin (ppm)	7000	6000
Scoville units ¹	30,000	28,000

¹ Capsaicin: Quantified by high-pressure liquid chromatography and converted by results to Scoville heat units, CSU Food Science Dept, Fort Collins, CO. Further testing is being done at this time.

Addendum II

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

FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

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).

EXHIBIT E

STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) Hollar & Co., Inc., Parent Company Ronald D. Goebel, Breeder	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER SS805	3. VARIETY NAME 'Prairie Fire'
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 18873 Hwy 50 East/ P.O. Box 106 Rocky Ford, Colorado 81067 U.S.A.	5. TELEPHONE (include area code) (719) 254-7411	6. FAX (include area code) (719) 254-3539
7. PVPO NUMBER		

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

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

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

a. If 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 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 (if needed, use reverse for extra space):
As a plant breeder, I Ronald D. Goebel have a working agreement which stipulates that all proprietary genetic materials developed at/for Hollar & Co., Inc. become joint ownership of the variety, and should be listed as such on proposal.

PLEASE NOTE:

- Plant variety protection can be afforded only to owners (not licensees) who meet one of 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 final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are 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 10 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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