The Cucurbit Genetics Cooperative (CGC) was organized in 1977 to develop and advance the genetics of economically important cucurbits. Membership to CGC is voluntary and open to individuals who have an interest in cucurbit genetics and breeding. CGC membership is on a biennial basis. For more information on CGC and its membership rates, visit our website (http://cuke.hort.ncsu.edu/cgc)
or contact Tim Ng, (301) 405-1321, binkley@umd.edu, or Angela Davis, (580)889-7395, angela.davis@lane-ag.org).

CGC Reports are issued on an annual basis. The Reports include articles submitted by CGC members for the use of CGC members. None of the information in the annual report may be used in publications without the consent of the respective authors for a period of five years.

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   Yiqun Weng

Melon (Cucumis melo)

5 A Rapid Spectrophotometric Method to Determine \( \beta \)-Carotene Content in Cucumis melo germplasm
   Angela R. Davis, Wayne W. Fish & Penelope Perkins-Veazie

Watermelon (Citrullus lanatus)

8 Green-Fleshe Watermelon Contains Chlorophyll
   Angela R. Davis, Penelope Perkins-Veazie, Stephen R. King & Amnon Levi
11 A New Dwarf Mutant dw-4 in Watermelon
   Hua Yang, Yong-gang Li, Ding-xin Yang & Jie Yang
15 A Apetalous Gynoecious Mutant in Watermelon
   Yong-gang Li, Hua Yang, Jie Yang & Ding-xin Yang

Cucurbita spp.

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   Nicki Dallmann & Michael Dallmann
19 Performance of Zucchini Yellow Mosaic Virus Resistant ‘Golden Delicious’ Type Pumpkin Hybrids
   Jim Myers, Deborah Kean & Rebecca Brown

25 Confirmation of a Dominant Hard Rind (Hr) Locus in a Cucurbita argyrosperma ssp. sororia x C. moschata Cross
   Linda Wessel-Beaver
27 An Austrian Cucumber Mosaic Virus Isolate is Causing Severe Symptoms on Resistant Cucurbita pepo Cultigens
   Martin Parcher & Tamas Lelley
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   Harry S. Paris & Eileen Kabelka

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News & Comments

Cucurbit Genetics Cooperative Report Call for Papers

The call for papers for CGC 33 (2010) is open, and we are accepting papers for the volume now. Send manuscripts to the appropriate crop editor. (http://cuke.hort.ncsu.edu/cgc) If you do not receive your copy, contact Linda Wessel-Beaver.

Comments from CGC Gene List Committee

List of known genes for the Cucurbitaceae have been published previously in Hortscience and in reports of the Cucurbit Genetics Cooperative. CGC is currently publishing complete lists of known genes for cucumber (Cucumis sativus), melon (Cucumis melo), watermelon (Citrullus lanatus), and Cucurbita spp. on a rotating basis.

It is hoped that scientists will consult these lists as well as the rules of gene nomenclature for the Cucurbitaceae before choosing a gene name and symbol. Thus, inadvertent duplication of gene names and symbols will be prevented. The rules of gene nomenclature were adopted in order to provide guidelines for the naming and symbolizing of genes previously reported and those which will be reported in the future. Scientists are urged to contact members of the Gene List Committee regarding questions in interpreting the nomenclature rules and in naming and symbolizing new genes.

- Cucumber: Yiqun Weng (curator) and Todd C. Wehner (assistant)
- Melon: Catherine Dogimont (curator) Michael Pitrat (assistant curator) and James D. McCreight (assistant curator)
- Other Genera: Mark G. Hutton (curator) and Thomas Andres (assistant curator)
- Cucurbita spp.: Harry Paris (curator) and Eileen Kabelka (assistant curator)
- Watermelon: Todd C. Wehner (curator) and Stephen R. King (assistant curator)

Comments from the CGC Gene Curators

CGC has appointed Curators for the four major cultivated groups: cucumber, melon, watermelon and Cucurbita spp.

Curators are responsible for collecting, maintaining and distributing upon request stocks of the known marker genes. CGC members are requested to forward samples of currently held gene stocks to the respective Curator.

- Cucumber: Yiqun Weng (curator) and Todd C. Wehner (assistant)
- Melon: Catherine Dogimont (curator) Michael Pitrat (assistant curator) and James D. McCreight (assistant curator)
- Other Genera: Mark G. Hutton (curator) and Thomas Andres (assistant curator)
- Cucurbita spp.: Harry Paris (curator) and Eileen Kabelka (assistant curator)
- Watermelon: Todd C. Wehner (curator) and Stephen R. King (assistant curator)

2009 Watermelon Research and Development Group – 29th Annual Meeting

By Elisabetta Vivoda

The Annual Meeting of the Watermelon Research & Development Working Group was held Sunday, February 1, 2009 at the Westin Peachtree Plaza in Atlanta, GA, from 8:00 a.m. to 5:00 p.m. The meeting was held in conjunction with The Southern Association of Agricultural Scientists and the Southern Region American Society for Horticultural Sciences (SR-ASHS). Following a welcome from Stephen King, reports from the following seed companies were given: Harris Moran (Brenda Lanini), Willhite, Abbott & Cobb, Syngenta (James Brusca), Zerain Gedera and Sakata.


After the trial results the following research reports were presented:

- An economic evaluation of using watermelon juice in ethanol production. Merritt J. Taylor*1, Wayne Fish2, Benny Bruton2 and Vince Russo2. 1Wes Watkins Agricultural Research & Extension Center, Oklahoma State University, Lane, OK, 2USDA-ARS, SCARL, Lane, OK. *(mtaylor-okstate@lane-ag.org).
- Activities of the National Watermelon Promotion Board. Mark Arney, Executive Director, NWBP.
- Regional watermelon grafting effort evaluating effects on yield and quality in marketable melons. Richard L. Hassell*1, Jonathan R. Schultheis2, Stephen M. Olson3, and William Terry Kelley4. 1Clemson University CREC, 2N.C. State, 3University of Florida, and 4University of Georgia. *(rhassel@clemson.edu).
- Reaction of watermelon rootstocks to root-knot nematode in field tests. J. A. Thies*1, J. J. Ariss1, R. L.
Comment from the U.S. Cucurbit Crop Germplasm Committee Chair

James D. McCreight

This group operates under the auspices of the USDA-ARS National Plant Germplasm System (NPGS), is composed of ARS, university and industry scientists, and provides guidance to NPGS on matters relating to cucurbit crops and wild related species. Committee membership and species-specific crop reports are accessible through the NPGS website: (http://www.ars-grin.gov/npgs/). The committee receives, reviews, and recommends germplasm evaluation proposals annually for funding by NPGS, and also reviews and recommends proposals for germplasm collection and exchange. Contact James D. McCreight, USDA-ARS, Salinas, Calif., U.S.A., james.mccreight@ars.usda.gov for more information.
Upcoming Meetings & News of Interest

<table>
<thead>
<tr>
<th>Organization/Meeting</th>
<th>Dates</th>
<th>Location</th>
<th>Contact</th>
</tr>
</thead>
</table>
| **30th Annual Meeting of the Watermelon      | February 7, 2010 8:00 am -5:00 pm | In conjunction with the 70th Annual Meeting of the Southern Region - American Society for Horticultural Science, Orlando, FL, USA | Elisabetta Vivoda  
E.Vivoda@hmclause.com |
| Research & Development Group                  | November 17th, 2010 5:30-6:30 pm | In conjunction with Cucurbitaceae 2010, Charleston, SC, USA. | Jonathan Schultheis  
jonathan_schultheis@ncsu.edu |
| ISHS Cucurbit Conference                      | TBA                            | TBA                                           | TBA                                          |
| Cucurbit Crop Germplasm Committee Meeting     | November 16, 2010 5:30-7:30 pm | In conjunction with Cucurbitaceae 2010, Charleston, SC, USA. | Jim McCreight  
jmcreight@pw.ars.usda.gov |
| Cucurbit Genetics Cooperative Business Meeting| November 15, 2010 6:30-7:30 pm | In conjunction with Cucurbitaceae 2010, Charleston, SC, USA. | Todd Wehner  
todd_wehner@ncsu.edu |
| Pickle Packers International                  | April 13-15                    | Loews Philadelphia, Pennsylvania, USA.         | Susan Fuller,  
PPI Program Associate  
202-331-2466 http://www.ilovepickles.org |
|                                              | October 19-21, 2010            | Hyatt Regency, San Antonio, Texas, USA.        |                                              |
| Cucurbitaceae 2010                           | November 14-18, 2010           | Francis Marion Hotel, Charleston, SC, USA.    | Conference Organizers, Judy Thies, Chair  
Shaker Kousik, Amnon Levi  
judy.thies@ars.usda.gov  
Tel: 843-402-5317 Fax: 843-573-4715 |
| X EUCARPIA International Meeting on Cucurbitaceae Eucarpia 2012 | TBA                            | Turkey                                        | Nebahat Sari  
nesari@cu.edu.tr |
| Melon Breeders Group                          | November 17, 2010 6:30-7:30 pm | In conjunction with Cucurbitaceae 2010, Charleston, SC, USA. | TBA                                          |
| National Watermelon Association               | February 17-20, 2010 2011      | Fairmont Dallas Hotel, Dallas, TX, USA.        | Tel: 813-754-7575  
Fax: 813-754-1118  
nwa@lampabay.rr.com  
http://www.nationalwatermelonassociation.com |
| Squash Research Group                         | November 16, 2010 5:30-6:30 pm | In conjunction with Cucurbitaceae 2010, Charleston, SC, USA. | TBA                                          |
| Pickling Cucumber Improvement Committee       | November 15, 2010 5:30-6:30 pm | In conjunction with Cucurbitaceae 2010, Charleston, SC, USA. | Yiqun Weng  
weng4@wisc.edu |

Upcoming Meetings of Interest to Cucurbit Researchers

Cucurbitaceae 2012

Dear Colleagues,

We invite you to attend Cucurbitaceae 2010 to be held November 14-18 in Charleston, South Carolina, USA. The conference will be held at the historic Francis Marion Hotel in downtown Charleston. The goal of this conference is to bring together colleagues working with cucurbits so we can share information on every aspect of cucurbit research, development, and production. Program topics include Breeding and Genetics, Economics, Entomology, Growth and Development, Marketing, Metabolomics, New Technologies, Pathology, Physiology, Production, and Utilization and Processing. On Sunday, November 14, we are planning a special symposium on Cucurbit Rootstocks and Grafting. We welcome you to join us for this exciting and in-depth conference exploring new frontiers of cucurbit research and development. We look forward to seeing you in the beautiful, historic city of Charleston, South Carolina in November!

You may access the conference website at www.ashs.org/cucurbit2010

Conference contact: Judy Thies  
judy.thies@ars.usda.gov  
Tel: 843-402-5317 Fax: 843-573-4715

**Judy Thies,** Chair  
**Shaker Kousik,** Amnon Levi, Conference Organizers
Cucurbit Genetics Cooperative

Style Guide

The following guidelines are for use in the preparation of reports. It is recognized that CGC members may not be able to meet one or more of the guidelines.

Authors are encouraged to contribute reports even though some of the guidelines cannot be met.

Our objective is to facilitate the interchange of information, but we ask authors to help reduce unnecessary editing.

Refer to the latest Cucurbit Genetics Cooperative Report regarding questions of style not mentioned.

I. Reports will be assigned to one of the following:
   A. Research Notes - short reports dealing with current genetics, breeding and closely related matters that are of possible interest to members.
   B. Germplasm Exchange - a listing of seed stocks that are available or desired. Brief descriptions and gene symbols, if applicable, are useful.

II. General Guidelines
   A. Reports should normally not exceed two (2) single-spaced, typewritten or word-processed pages.
   B. Authors are requested to submit electronic copy of their reports by email. The report should be submitted as a word processing file. A follow up email should be sent to see if it was properly received.
   C. Tables and Figures (e.g., *.TIFF, *.PCX, *.GIF, *.JPG, *.WPG) should be included as separate files on the disk even if they are also embedded in the body of the text.
   D. If you are unable to submit your report by email or disk, send a typed copy. CGC will look after re-entering your submission.

III. Title
   A. The title should be a precise and concise description of the work.
   B. Avoid the use of meaningless words such as “influence of,” “effects of,” “results of,” “studies on,” “evaluation of,” “factors involved in,” and “tests on.”
   C. Begin at left-hand margin. (See Examples I, II and III)
   D. Capitalize first letter of all words except for articles such as “a” and “the,” prepositions such as “of,” “in,” “on,” “during,” and “between,” and conjunctions such as “and” and “with” that are not the first word.
   E. DOUBLE SPACE between Title and By-line.

IV. By-line
   A. Author(s) name(s) (first name or initial followed by middle initial and last name). (See Example I)
      1. Names of two or more authors at the same institution are on the same line. (See Example II)
      2. Names of authors in separate institutions are on different lines. (See Example III)
   B. Concise mailing address is on the line below the author(s) name(s). (See Examples I, II and III)
C. TRIPLE SPACE between By-line and Body of Report. (See Example I)

V. Body of Report (See Example I)
   A. Follow conventional format and include a brief Introduction, essential Materials & Methods, and concise Results and Discussion.
   B. DO NOT indent the first word of a paragraph.
   C. Use numbers enclosed in parentheses for literature citations.
   D. DOUBLE SPACE between paragraphs and between body of report and Literature Cited.

VI. Taxonomy and Genetic Nomenclature (See Example I)
   A. Taxonomy (See Example I)
      1. Give the full scientific names of plants, disease organisms, and insects, along with their authority (and if important, the cultivar name).
      2. *Italicize* scientific names.
      3. Use common names whenever possible.
      4. Cultivar names can be preceded by the abbreviation for the word cultivar (e.g., cv. Calypso), or can be set off with single quotes (e.g., ‘Calypso’).
   B. Genetic Nomenclature (See Example I)
      2. Refer to the rules of nomenclature before assigning a name and symbol to a newly described gene in a published report regardless of where it is published.
      3. If necessary, consult the CGC Gene List Committee regarding questions of gene names and symbols. Members of the Gene List Committee are listed in the latest CGC Report.
      4. *Italicize* gene names and symbols.

VII. Literature Cited (See Example I)
   A. List citations in alphabetical order, but numbered consecutively with Arabic numerals followed by a period.
   B. Authors are listed after the number; senior author (last name first, by initials), then additional authors (initials first).
   C. DO NOT substitute the underline for the author’s name when an author is cited more than once, repeat the author’s name for each citation.
   D. DO NOT indent the second and any subsequent lines of citations, but begin directly below the first letter of the author’s last name.
   E. DO NOT underline journal titles.

VIII. Tables (See Example IV)
   A. Tables should document or clarify, but not duplicate, data already given in the text or figures.
B. Large tables can be reduced in size through photoreduction (or reduced font size) in order to fit within the prescribed margins. Photoreductions should be done by the author(s) if possible.

C. Table Anatomy

1. Headnote - contains “Table,” then number in Arabic, and a self-explanatory title.
2. Headrule - underscores the headnote; one line.
3. Stubhead - is the head of the first column. Capitalize only the first letter of the first word and any proper nouns.
4. Boxhead - contains the column heads of the rest of the table, and is centered between the stubhead and the right margin. Capitalize only the first letter of the first word and any proper nouns.
5. Boxhead rule - one line under the boxhead to separate it from the main body of the table.
6. Field - is all the information between the boxhead rule and the footrule - - the main body of the table.
7. Footrule - a single underscore to separate the field from the footnotes (if any).
8. Footnotes - are designated with superscript, lowercase letters in reverse alphabetical order (z, y, x, w, etc.), thus avoiding confusion with alphabetical letters used for statistical significance (a, b, A, B).

IX. Figures

A. Data presented in tables should not be duplicated in Figures.
B. Figures include graphs and line drawings in black on white paper or on white paper imprinted with light blue lines which will not appear when photographically reproduced, and black and white photographs.
C. Large figures can be reduced in size through photoreduction in order to fit within the prescribed margins. Photoreductions should be done by the author(s) if possible.
D. Captions should be clear, concise and complete.
E. If mailing reports, protect figures with stiff cardboard backing and mark envelope “Do Not Bend.”

Examples

Example I

Sources of Resistance to Viruses in Two Accessions of Cucumis sativus

R. Provvidenti

Department of Plant Pathology, New York Agricultural Experiment Station, Cornell University, Geneva, NY 14456

Recently we have determined that two accessions of Cucumis sativus L. cv. Surinam and cv. TMG-1 are valuable sources of resistance to the most common viruses affecting this species in the U. S.

‘Surinam’, a cultivar from the South American country of the same name, possesses a single gene (wmv-1-1), which confers resistance to watermelon mosaic virus 1 (WMV-1) (2). Following inoculation . . .

(body of report)

...breeders with sources of resistance to four viruses.
Literature Cited


Example II
Obtention of Embryos and Plants from In Vitro Culture of Unfertilized Ovules of *Cucurbita pepo*

D. Chambonnet and R. Dumas de Vaulx
Institut National de la Recherche Agronomique, 84140 Montfavet, France

Example III
Lack of Resistance to Zucchini Yellow Mosaic Virus in Accessions of *Cucurbita maxima*

R. Provvidenti
Department of Plant Pathology, New York Agricultural Experiment Station, Cornell University, Geneva, NY 14456

R. Alconero
U. S. Department of Agriculture, Agricultural Research Service, Regional Plant Introduction Station, Geneva, NY 14456

Example IV
Table 1. Petiole length (cm) of the first four true leaves of mutant and normal cucumber plants segregating for the short petiole (*sp*) gene.

<table>
<thead>
<tr>
<th>Genotype</th>
<th>Leaf node</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><em>sp sp</em></td>
<td>1.9</td>
</tr>
<tr>
<td><em>Sp sp</em></td>
<td>15.0</td>
</tr>
<tr>
<td><em>Sp Sp</em></td>
<td>15.2</td>
</tr>
</tbody>
</table>