



December 1, 2014

The Wisconsin Cranberry Board, Inc. (WCB) is pleased to announce its **Request for Proposals (RFP)** focused on **crop research**. Preliminary, written proposals are suggested for **new projects** that applicants are considering submitting to the WCB. These new project proposals should be submitted by FRIDAY, JANUARY 9, 2015. Based upon submissions, the board may meet in early February to review proposals with interested applicants. Based upon that review, the board will indicate its level of interest in pursuing funding of the project.

The Cranberry Institute coordinates cranberry research on a national basis. This coordination is an attempt to avoid duplication and assure the most efficient use of grower resources. Applicants should consider joint submission of the project to the CI in addition to the Wisconsin Cranberry Board, Inc. For information on CI research funding, contact Terry Humfeld at office phone: 302-355-5970 or cell phone: 302-530-5986.

The WCB, Inc. has identified production problems that growers face (much of which is being addressed by current research projects), areas where growers currently have questions, and what challenges face growers that may be addressed through research. The problems identified are listed on the following pages and indicate the need for proposals to address these topics. The order of listing in no way is an indication of priority.

Projects with the best chance of funding will build on research conducted previously, demonstrate reduced costs for growers, as well as have co-funding and industry support. The Wisconsin Cranberry Board intends to honor its commitments to fund selected, ongoing projects approved in previous years. Applicants for research proposals are asked to provide a description of how their proposal will address issues related to sustainable cranberry crop production, including, but not limited to economic, environmental and social factors.

Grant recipients from previous years are asked to provide a **written progress report** to WCB. Failure to do so may jeopardize future funding. Written progress reports and final applications for grants are due February 14, 2015.

For further information on Wisconsin Cranberry Board, Inc. programs, contact Tom Lochner at the WCB office.



Project Funding Areas

The WCB welcomes all proposals. This list is not meant to be all inclusive. We encourage proposals from outside of these areas for review in the pre-proposal process. Listed below are general areas for research followed by descriptions of topics by academic discipline. WCB however does encourage cross discipline research as applicants prepare projects.

General Areas of Interest for Research

Some general areas also include:

- *New and Reduced Risk Pesticide Discovery* – For years, the WCB has supported the screening project at UW. The board would like to do so in the future.
- *Water Conservation* – Water is the major resource growers rely on. Projects which would provide information to help to conserve water resources would be welcome. These could include soil moisture monitoring, effective use of irrigation, efficiency of systems, evapotranspiration estimates, bud hardness and impacts of flooding for protection versus sprinkling and cycling pumps during frost events.
- *Water Quality* – Growers endeavor to protect water quality through Best Management Practices. Projects that help to develop BMPs to protect water quality are important. These could include additional information on timing, rates and application methods for chemical applications, water management post application, as well as water management before, during, and after flooding events (harvest, winter, spring reflow and pest management). Related topics would involve improvement to nutrient management practices and estimates of loading factors.
- *Cranberry Plant Physiology* – WCB would be interested in proposals that further the knowledge base on plant physiology including bud formation and development, vine life cycle during the season and its sensitivity to weather conditions, vine dormancy and factors for protection and management as the plant moves in and out of dormancy.

Cranberry Genetic Improvement

Projects on cranberry genetics that include cooperation among institutions and disciplines are encouraged. Projects to complete the mapping of the cranberry genome are a high priority as are traditional breeding efforts to improve characteristics such as production, yields, ease of culture, color, brix, sugar content of fruit, disease, insect resistance, frost tolerance and adaptation to changing climatic conditions and herbicide tolerance.

Insect Pest Management

Cranberry Insect Pest Management should utilize an Integrated Pest management approach. Research projects that investigate control and management strategies for the following insect pests are being solicited:

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|--------------------------|--|
| ○ Cranberry Fruitworm | ○ Cranberry Tipworm |
| ○ Sparganothis Fruitworm | ○ Blackheaded Fireworm |
| ○ Flea Beetle | ○ Soil insects (i.e. grub and girdler) |

Control strategies including biological, cultural (flooding, sanding, etc.) and mating disruption are important.

Weed Management

The population and diversity of weeds in cranberry is complex. Continuing to improve management strategies to control them is needed. Specific weed problems include woody perennials, Northern St. Johnswort, and grasses. Projects that evaluate the relationship between soil pH and weed populations, biological controls and application practices (pH of water in tank mix, additives, stickers, etc.) are sought.



Plant Nutrition

Much is known about cranberry plant nutrition but much needs to be learned. The board is looking for projects that will improve overall nutrient management. Projects should look at soils & fertilizing, Nutrient Management Plans, timing of application of fertilizers and the nutrient needs of new, high yielding cultivars including an evaluation of current tissue analysis and nutrient sufficiency, slow release fertilizers and water & soil pH impact on nutrient uptake.

Plant Pathology

This past season, growers saw an increase in the incidence of berry scarring due to Tobacco Streak Virus, and Blueberry Shock Virus. Research should continue to investigate this issue to determine cause, severity of problem, methods of transmission, location in plant and geographically in state, life cycle of the viruses, and management practices to deal with it. Projects to investigate the development or refinement of models for predicting disease incidence, thresholds and phenology are encouraged. Continued development of information on plant disease with changing climatic conditions is also encouraged. Studies to look at impacts of hail damage on incidence of disease in cranberry are also welcome.

Other pathology issues include:

- Effect of Fungicides on Color & Yield
- Bitter Rot
- Cottonball
- Cranberry Canker
- Field Rots
- Early Rot

Pollination

Pollination plays a key role in cranberry production. Growers are interested in the collection and development of management practices for optimum pollination. Research can develop a better understanding of honey bee and bumblebee pollination of cranberries as well as the role of native pollinators. Growers would also be interested in information to help assure the correct placement and number of colonies on a marsh. A field guide of management practices is a possible project, as well incorporating known research and practices.

Sustainable Cranberry Production

All projects submitted should include the concepts of economic, environmental, and social sustainability in them. The Board is also interested in continued data collection and research on sustainable cranberry production that help to meet the requirements in the marketplace.

Summary

Prospective applicants are encouraged to consider the items identified above as they develop their grant proposals. Project selection will continue to be based on meeting the objectives of the Marketing order. The outline provided above is a preliminary list and should be viewed as a guide, and not as a list of priorities. The Board intends to continue to work to develop an even stronger working relationship with faculty that will:

- a) foster historic relationships developed in the past;
- b) improve communication between the grower community and those conducting research;
- c) recognize the need for academic freedom;
- d) foster a creative environment for problem solving; and
- e) enhance the overall research program.

Funds Available

Approximately \$350,000 will be available for distribution by WCB, Inc. Please note that all grants are provided as unrestricted gifts and as such it is the policy of the Wisconsin Cranberry Board, Inc. not to pay the indirect costs of research institutions. Proposals, which include co-funding from other sources, are encouraged. You are asked to clearly identify other groups that your proposal may have been submitted to and the funding requested from each.



Timetable

Preliminary written proposals are suggested for new projects that applicants are considering for WCB consideration should be submitted by January 9, 2015. The Wisconsin Cranberry Board, Inc. may hold a preliminary meeting on February 2, 2015. The purpose of this meeting is to give research faculty and project applicants the opportunity to meet with the Board to give a preliminary review of any new proposals. The Board can then offer suggestions and comments on the proposal. The applicant can then modify their proposal for final submission by February 14, 2015. The Wisconsin Cranberry Board, Inc. will meet on March 26, 2015 to hear progress reports and make final funding decisions.

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| • Written Preliminary Proposals for New Projects Due | January 9, 2015 |
| • Wisconsin Cranberry Board, Inc. Meeting to Hear Preliminary Proposals | February 2, 2015 |
| • Final Proposal Submittal Deadline | February 14, 2015 |
| • Wisconsin Cranberry Board, Inc. Budget Meeting | March 26, 2015 |

Pesticide Non-Disclosure Policy

The Wisconsin Cranberry Board, Inc. has adopted a pesticide non-disclosure policy. All grant applicants are asked to comply with the policy. The policy reads as follows:

No Individual shall disclose to cranberry growers:

- The trade or common chemical name of a pesticide in association with a use that is not registered for cranberries.
- Use patterns that are not in compliance with the label of a product registered for cranberry.

Any individual who being informed of this policy subsequently provides cranberry growers with information on non-registered pesticides or non-registered use of a pesticide may be subject to reprimand or other appropriate actions including ineligibility for future funding.

A complete copy of the statement and policy is part of the mailing of the Request for Proposals.

Patent Policy for Research Grants

The Wisconsin Cranberry Board, Inc. has adopted a patent policy for research grants by the organization. The policy defers to the established intellectual property management policies of grantee institutions, requesting reporting of an application for a patent of any invention which is the result of a project funded wholly or in part by the WCB. The policy gives the WCB the option of licensing all inventions and sets up a negotiation process for revenue sharing with the grantee institution and the WCB. A copy of the policy is attached.

Report Requirements

By acceptance of a grant from Wisconsin Cranberry Board, Inc. the recipient agrees to produce written summary reports by dates set by the WCB. A standard report format is included with this mailing. In addition, oral reports may be requested for presentation at a Wisconsin Cranberry Board, Inc. meeting. The intent is to make all WCB supported project results available for distribution to cranberry growers, researchers and extension workers.

In addition, all successful applicants are asked to provide one article each year for publication in the WSCGA NEWS.



Wisconsin Cranberry Board, Inc.

PO Box 1351 • Wisconsin Rapids, WI 54495-1351
Telephone: 715•423•2070 Fax: 715•423•0275

FORMAT FOR RESEARCH PROJECT PROPOSALS

Instructions

A maximum of two text pages, plus one budget outline and any number of supporting tables and graphs are recommended. Use this format for research grants only.

Title:

Date: Start mm/yy
Finish mm/yy

Project Coordinator: The person responsible for both the completion and expenditure of funds.

Phone:

Fax:

Email:

Affiliation:

Cooperators: Names and affiliations of others directly involved.

Objectives: Brief description of the objectives for the research project.

Justification: Describe the rationale for pursuing the project; include potential benefits to the cranberry industry when successfully completed. Include description of how proposal will address issues related to sustainable cranberry crop production including but not limited to economic, environmental and social factors.

Significance to Industry: Include a paragraph describing the significance of the problem to the industry and how the project will help solve the problem or what the expected outcomes or final products will be.

Approach: Outline materials, methods and location of the project. Provide only enough detail to obtain an overview of the extent of the project.

Progress: If the project is new, provide enough background information as a reference point to begin the proposed activity. If the project is a continuation of previous work, include the completed Progress Report as a separate document.

The Progress Report should be a "stand alone" document, including all information requested on the format sheet provided.

Budget: Use a separate sheet for costs of supplies, services, labor, transportation, etc. Line items need only be specified for the current year of multi-year projects. Include anticipated cost sharing expected from other sources where appropriate. Also, indicate whether this project was or will be submitted to another funding agency.

Pesticide Non-Disclosure Policy: I have read and understand the pesticide non-disclosure policy of the Wisconsin Cranberry Board, Inc. and agree to abide by it.

Patent Policy for Research Grants:

I have read and understand the patent policy for WCB research grants and agree to abide by it.

Signed: _____

Date: _____



FORMAT FOR RESEARCH PROJECT PROGRESS REPORT

The Wisconsin Cranberry Board, Inc. requires annual reports on progress made for projects that receive funding. Please use this form to update the Board on progress made on your project in the case where it is not completed. Once the project is complete you will need to file a final report.

What to submit: Email an electronic version (Microsoft Word) to susan.derouchey@wiscran.org or mail a CD to:

Tom Lochner
Executive Director
Wisconsin Cranberry
Board, Inc. 132 East
Grand Avenue, Suite 202
PO Box 1351
Wisconsin Rapids, WI 54495-1351

Length and Format: Progress reports should be no more than five (5) pages, double spaced, 12-point Times New Roman font, with one inch margins, not including tables and figures. Reports should follow the format listed below in the required font.

Date Submitted (mm/dd/yy):

Title:

Investigator(s) and Affiliation(s):

- I. Project Summary:** Provide a one paragraph summary of the project progress to date. Write the summary to be used as part of a brief written report to the growers.
- II. Objectives and Timetable:**
 - A. Restate objectives and timetable for the year(s) as stated in the original funded proposal.
 - B. Note and justify revisions in original objectives and/or timetable.
- III. Summary of Accomplishments:**
 - A. Objective #. Restate objective.
 - B. Summarize the accomplishments of your project to date and especially your progress in the most recent period between reports. Where applicable, relate accomplishments in lay terms to practical use and applications for growers.
 - C. Provide interim results and discussion. Where appropriate, include labeled summary tables and / or graphs. Do not include extensive tables of raw data.
 - D. Repeat A-C for additional objectives.
- IV. Literature Cited:**

Follow the Council of Biology's citation-sequence system of documentation. The format can be found at www.wisc.edu/writing/Handbook/DocCBECitationSequence or in the Council of Biology's manual, *Scientific Style and Format*.

Progress Report Timetable: Reports are due on February 14, 2014.



FORMAT FOR FINAL RESEARCH REPORT

Final reports must be submitted to the Wisconsin Cranberry Board, Inc. no later than March 1 of the year following the termination of the project. The reports serve as justification for any subsequent funding requests.

What to Submit: Submit a written copy or email an electronic version (in Microsoft Word) to susan.derouchey@wiscran.org or mail CD to:

Tom Lochner
Executive Director
Wisconsin Cranberry Board, Inc.
PO Box 1351
132 East Grand Avenue, Suite 202
Wisconsin Rapids, WI 54495-1351

Length and Format: Final reports should be written in a traditional research format in 12-point Times New Roman font, double spaced (note abstract exception), with one inch margins.

I. Title Page:

II. Project Summary: Provide a one paragraph summary of the project progress to date. Write the summary to be used as part of a brief written report to the growers.

III. Abstract:

Generally, 100-150 words singled spaced should be adequate. The abstract should be complete and understandable without reference to the text as it may be included separately in a research summary compilation.

IV. Introduction:

The introduction should supply sufficient information to allow the reader to understand and evaluate the objective(s) of the study. An extensive review of the literature should be avoided.

V. Materials and Methods / Experimental:

The materials and methods should be described in sufficient detail as to allow others to repeat the experiments. Novel experimental procedures should be described in detail. Be precise in describing methods of measurement and include errors of measurement. Ordinary statistical methods should be used without comment; advanced or unusual methods should be cited.



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VI. Results:

Present the findings by combining text, tables and figures to condense the data and highlight trends.

VII. Discussion:

Address the objective(s) of the study in the discussion and discuss the significance of the results. Where applicable, relate the findings to practical applications for growers.

VIII. Literature Cited:

Follow the Council of Biology's citation-sequence system of documentation. The format can be found at www.wisc.edu/writing/Handbook/DocCBECitationSequence or in the Council of Biology's manual, *Scientific Style and Format*.

IX. Appendices:

Only appendices referred to in the text should be included.

Additional Submissions (encouraged, but optional):

Authors may wish to submit the following separately from the final report in order to increase the comprehension of the data by lay readers.

I. Summary of Accomplishments:

Summarize the accomplishments of the project in lay terms. Where applicable, relate the findings to practical applications for growers or farm managers.

II. Field Applications:

Briefly summarize what steps have been taken to transfer the findings / technology developed by the project to the field.

III. Recommendations:

What additional research is needed to fill data gaps and implement concepts developed by this project?



POLICY ON PESTICIDE NON-DISCLOSURE

Goal-Food Safety

Problem avoidance of the following:

- ☞ Over tolerance pesticide residue on fruit.
- ☞ Non-tolerance pesticide residue on fruit.
- ☞ Applications made which are clearly out of compliance with the label.

Rationale

Cranberry growers look to the research community for the development of new pest control tools. Information on pesticide tools is often made available to growers, whether during individual discussions, as a component of a talk, or in written form (e.g. newsletters). However, when growers hear of the experimental use of materials that are not registered for use in cranberries or of non-registered uses of a pesticide, there is a risk that the grower may attempt to use the material even when the presenter makes it clear that the material or use is not registered.

When working with an individual grower on a research project which involves use of a non-registered material, the grower awareness of crop safety issues is realized when the researcher implements crop destruction upon completion of the experiment. But growers who have not been part of the process likely are not aware of the crop safety risk to the same level. Care is taken when speaking with an individual grower research cooperator about out-of-label research use of a compound. It is stressed that this use is valid for research only, but the same message may not be apparent when speaking to a grower or grower group who is not involved in the project. This policy is intended as a fairly simple approach to *reduce risk* of non-labeled pesticide applications throughout the entire industry *without impinging upon research efforts* aimed towards the development of tools for improved cranberry production.

Policy Statement

No Individual shall disclose to cranberry growers:

- ☐ The trade or common chemical name of a pesticide in association with a use that is not registered for cranberries.
- ☐ Use patterns that are not in compliance with the label of a product registered for cranberry.

Any individual who being informed of this policy subsequently provides cranberry growers with information on non-registered pesticides or non-registered use of a pesticide may be subject to reprimand or other appropriate actions including ineligibility for future funding.

Guidelines

Risk: *Over tolerance pesticide residue on fruit.*

When discussing results from studies on registered compounds that are outside of the labeled uses, either avoid mentioning the material's name or do not specify the use pattern. Practices that fall under this category are application method, rates, number of applications, wet vs. dry harvest beds, and bearing vs. nonbearing beds.



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Risk: Non-tolerance pesticide residue on fruit.

Pesticides with track records on other crops are prime candidates for testing in cranberries. A pesticide which is not registered on cranberry may be available for use on other crops in a growing area. Identifying a non-registered material by a description other than its trade or common chemical name will help to minimize risk associated with research on these compounds. Suggested alternatives for discussing the materials are:

Experimental Number	(e.g.: Mon 13211)
Pesticide Class:	Sulfonyl Urea Herbicide
	OP Insecticide
	Sulfur Based Fungicide
	Growth Regulator
	Bioinsecticide
Use Pattern:	Postemergence Wipe Herbicide
	Postemergence Grass Herbicide
	Root Rot Fungicide
	Fruit Rot Fungicide
	Soil Drench/Application

Formerly registered compounds may or may not still have a tolerance. If the material still has a tolerance, make sure that growers are aware that it is no longer registered. For example, Parathion cannot be used in the US on cranberries, even though there is a tolerance to permit Parathion treated fruit from Canada to enter the US. A material that is no longer registered and no longer has a tolerance should be treated in discussions as a non-registered material with the exception of citing historic information.

Risk: Applications made which are clearly out of compliance with the label.

A number of situations may arise that contribute to this.

A material may have a limited and/or temporary registration such as a 24C or Section 18. In this case, mention of the material should be limited to area where it is registered. However, if educational efforts result in discussion of such a material, clearly state where it is registered and the conditions of the registration. The same would hold for pesticides which are registered in a limited number of growing areas or in one country, but not another. In these situations, do not mention any use information such as rates, application method, or timing.

Tolerance Exempt Materials

A number of materials are tolerance exempt. Free discussion of these materials is fine. If the material is registered, researchers should remind growers of the label specifications. In discussion of a non-registered, tolerance exempt material, such as a fertilizer, a suggested approach would be to mention that the use of the material as a soil amendment is for its impact on the soil, which then may have additional benefits such as creating an inhospitable environment for certain weeds.

Publication of Research Results

It is not the intent of this policy to impede academic publication of research results. Rather the WCB encourages the publication of all research results upon the completion of research projects. Care should still be taken to make sure that any publication does not provide information in a manner that will encourage illegal application or use of pesticides on cranberries.



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PATENT POLICY FOR RESEARCH GRANTS BY THE WISCONSIN CRANBERRY GROWERS

Section 1: Definitions

- A. "Invention" shall refer to and mean any development, whether protectable by patent, copyright, trademark or not, made with the support, in whole or in part, of the Wisconsin Cranberry Board, Inc. ("WCB") grant funds.
- B. "Grantee Institution" shall refer to and mean the institution to whom research grants have been awarded by the WCB hereunder.
- C. "Research Project" shall refer to and mean the scope of the research to be conducted using the WCB's grant funds as described in Appendix A attached hereto.

Section 2: Invention Reporting

All Inventions must be reported promptly in writing to the WCB. A copy of the patent application, invention disclosure, or other descriptive material including draft manuscripts related to an Invention must be submitted to the WCB within thirty (30) days of preparation. All such information submitted to the WCB shall be kept confidential using methods at least as stringent as the WCB uses to keep its own confidential information.

Section 3: Invention Ownership

Title to an Invention shall reside in the Grantee Institution. The WCB agrees to defer to the established intellectual property management policies of the Grantee Institution. The right to decide whether to pursue a patent application or other commercialization of the Invention shall reside in the Grantee Institution. If the Grantee Institution has no established patent policy governing inventions, the WCB shall have the right to determine the disposition of rights in and to the Invention. The Grantee Institution shall not assign the rights in any intellectual property covering any Invention without the prior written consent of the WCB.

The WCB shall have an option to a license under all Inventions for ninety (90) days from the date of disclosure as required in Section 2. In order to exercise its option hereunder, the WCB shall notify the Grantee Institution in writing of its intention to exercise its right to a license to a particular Invention. The parties shall then enter into good faith negotiations to establish reasonable commercial terms for such License Agreement. If the WCB does not exercise its option within the ninety (90) day period, or if the parties are unable to agree on reasonable commercial terms, the Grantee Institution shall be free to license the Invention to third parties.

Section 4: Revenue Sharing

The WCB shall be entitled to a share of any income derived from an Invention. If the Invention is made with the joint support of the WCB and other organizations, royalty distribution shall be in accordance with the provisions of this policy, with shares distributed to the WCB in proportion to its contribution as part of the total funding for the Research Project. Should any party find this provision unacceptable, the WCB, the other sponsoring institutions, and the Grantee Institution shall enter into good faith negotiations to arrive at a mutually agreeable distribution of the royalty income generated by such Invention.