

WISCONSIN CRANBERRY BOARD, INC.

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ANNUAL REPORT 2007-2008

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Hello Wisconsin Cranberry Growers,

The Wisconsin Cranberry Board, Inc. is pleased to present you with our 2007-2008 annual report. Contained within it are updates of continuing funded research, and newly funded research from the past year. Also enclosed is the audit which demonstrates a sound financial position.

The past year has been quite productive regarding our collaboration with other cranberry organizations that fund research. This cooperation brings many minds and viewpoints to the table and results in funding the best research in the most efficient way. We look forward to another year of quality research.

Production, promotion and health research are the main areas funded. During the funding process we strive to choose the projects that will help us all grow more cranberries, and expand the industry. Your 10 cents per barrel has resulted in a lot of good, and we are committed to keep it that way.

Our industry is very fortunate for the many academics that make research possible. We all know that field experience can stimulate additional research ideas. Please take the time to discuss and share with our talented researchers' your appreciation, feedback, and new concerns you may have.

We have set our budget meeting of April 2, 2009 in Madison with the Board of the Cranberry Institute. Will Spring work be full speed ahead? Time will tell, but if not, this is usually a pretty good time, so I hope to see you all there! We are working for you, and your feedback, positive or otherwise, is always encouraged.

Here's to a successful 2009 growing season, and a strong demand for our State's #1 Fruit crop!

Sincerely,

Stephen G. Brown

WCB President

WISCONSIN CRANBERRY BOARD, INC.

2007 PROJECT REPORT SUMMARIES

The following progress reports were provided to the Wisconsin Cranberry Board, Inc. by the individuals and groups that received project funding during the 2006-07 fiscal year. These reports were presented to the WCB at or prior to the Budget Meeting on March 27, 2008. Copies of the full reports can be obtained from the authors or from the Wisconsin Cranberry Board, Inc. office.

Crop Research

Pesticide Screening for Cranberries

Principal Investigator: Patricia McManus, UW Madison, Department of Plant Pathology

Cooperators: Dan Mahr, UW Madison, Jed Colquhoun, UW Madison, Jack Perry, UW Madison

Objectives: (1) Evaluate efficacy and test use patterns of new and existing pesticides; (2) Collect residue data according to IR-4 standards; (3) Pursue special registrations (e.g. Section 18, Section 24c) when justified.

Summary: The screening program conducted trials on 7 different fungicides for control of fruit rot; a number of candidate insecticides for control of tipworm, fruitworm, Fireworm, spanworm, flea beetle and both pre and post emergence herbicides. Two IR4 insecticide residue trials were completed and a Section 18 for Callisto was approved along with further data collection to support a Section 3 registration.

Breeding Cranberry for High Yields and Ease of Culture When Grown Under Wisconsin Conditions

Principal Investigators: Brent H. McCown, Department of Horticulture, UW-Madison; Eric Zeldin, Researcher

Cooperators: Wisconsin cranberry growers, Ocean Spray Cranberries, Inc.

Objectives: Whole project: (1) To develop cranberry cultivars that have a consistently higher fruit yield per acre than "Stevens" when grown in Wisconsin. (2) To reduce the sensitivity of the yield of high color "Ben Lear" types to flooding/late winter injury. (3) To isolate some of the genetically determined components of yield, pest resistance and ease-of-culture of cranberry by a detailed study of carefully designed populations of seedlings from highly focused crosses. (4) To determine the inheritance of herbicide tolerance genes previously inserted into cranberry and then integrate such genetic engineering successes into the conventional breeding program.

2007-08 year: (1) Provide support and monitoring of 'HyRed' growers and propagators. (2) Further scale up and evaluation of the A-X15 selection. (3) Evaluation of second generation selections. (4) Evaluation and initial selection of third generation progeny. (5) Establishment and evaluation of a new tetraploid mini bed planting and continued evaluation of existing tetraploid plots.

Summary: (1) Commercial scale up of HyRed continued in 2007 both from mowed vines and transplants. Several nurse plantings are scheduled for mowing in 2008. WARF has issued propagators' licenses to both vine and transplant propagators. (2) A-X15 is sibling of HyRed selected for large berry size. This selection was scaled up to a $\frac{3}{4}$ acre nurse bed and then into 2 acres of a renovated bed. Another partial bed planting is planned in 2008. Plots were evaluated for fruiting in 2007 which showed good yield but better performance was shown by Grygleski Hybrid which shares the same bed. (3) Second generation selections replanted in performance plots were selected based on heavy fruiting and fruit set. These plots were still not ready for good evaluations in 2007. At one site a new planting opportunity became available and the selections were mowed and planted into 900 sq ft plots for further scale up and evaluation. (4) Two sets of third generation progeny were planted; one for early flowering and late maturing and another for increased berries per upright. The plantings will continue to be evaluated and selections made in coming years. (5) In 2006 two tetraploid progeny were planted in a 7,000 sq. ft. mini bed designed to be a better test for fertility. Hail damage limited the usefulness of the evaluation in 2007.

Inexpensive tools for quantifying irrigation water replacement of fertilizer requirements in upland beds.

Principal Investigator: Kevin R. Kosola, UW Madison, Department of Horticulture

Cooperators: Beth Workmaster, UW Madison, Sarah Stackpoole, UW Madison, various Wisconsin cranberry growers.

Objectives: (1) To analyze irrigation water N inputs and their spatial pattern. (2) To determine if draining irrigation pipe after irrigation reduces excess vine growth. (3) To write up a standard protocol for ion exchange resin column tests for cranberry irrigation water N inputs, suitable for analytical labs working with growers

Summary: Upright growth was significantly greater adjacent to joints and sprinkler heads than compared to other sites along irrigation pipe. Yields were also significantly different among sampling locations and between beds with different water sources. Line drains arrived too late in the season to conduct this analysis. A manuscript is in preparation which contains the full protocol for ion exchange resin trapping of cranberry irrigation water.

Determining the correct phosphorous rate for productive cranberries

Principal Investigators: Carolyn DeMoranville, UMass–Amherst Cranberry Research Station, Teryl R. Roper, U W Madison, Department of Horticulture, Joan Davenport, Washington State University-Prosser

Objectives: (1) Establish plots in MA and WI to determine P rates needed for sustainable cranberry production. Compare slow release to traditional P sources. (2) Evaluate promising soil testing procedures for plant available P using cranberry soils from test plots. Evaluate relationship among soil test result, tissue P and yield.

Summary: Two plots comparing P rates and slow release were established in WI and two replicated plots in MA. In addition 3 plots comparing triple super phosphate (TSP) rates have been established in MA. The final report on the project is scheduled to be completed yet this spring.

Cranberry Weeds of Wisconsin

Principal Investigators: Teryl R. Roper, Department of Horticulture, UW Madison; Jed Colquhoun, Department of Horticulture, UW Madison

Objectives: To create a weed identification handbook for Wisconsin Cranberry Growers.

Summary: During the 2007 growing season the investigators took hundreds of digital photographs of weeds in the field as well as in the laboratory. A botany graduate student is identifying the specimens and writing simple botanical descriptions. A list of photographs and specimens that need to be collected in 2008 is being developed. The goal is to have the material ready to print in 2009.

Soil Moisture Management – ESI Gro Point Sensors

Principal Investigator: Leroy Kummer, Ocean Spray Cranberries, Inc.

Objectives: Compare new soil moisture monitoring technology along side previous field researched soil moisture devices to determine potential application uses within commercial cranberry production,

Summary: The project was conducted on several cooperator marshes in 2007 including the host site for the WSCGA Summer Meeting and Field Day. Growers were given the opportunity to see instruments in place and attend a marsh side presentation highlighting the devices. A detailed presentation was given at the 2008 Wisconsin Cranberry School.

Annual Projects

Wisconsin Cranberry Crop Management Newsletter – Volume XX

Project Coordinator: Teryl R. Roper, Department of Horticulture, UW-Madison

Cooperators: University faculty and staff, private cranberry consultants, Ocean Spray Cranberries, Inc., Cliffstar Corp.

Summary: Ten issues of the CCM Newsletter were published between May and September of 2007. Copies were sent at no charge to managers of all known cranberry marshes in the state. The newsletter was also made available on the internet and the text was distributed via the cranberry e-mail list as well.

Wisconsin Cranberry Insect Pest Identification Pocket Guide

Project Coordinator: Leroy Kummer, Ocean Spray Cranberries, Inc.

Objectives: Print and distribute a pocket insect guide.

Summary: The funds were used to print and distribute copies of the pest Identification guide. Copies were sent to all growers in Wisconsin and distributed to growers as requested. An inventory is maintained at the WCB office in Wisconsin Rapids.

Taste Test Kitchen Promotions – Wisconsin Cranberry Discovery Center

Project Coordinator: Lorry Erickson, Director, Wisconsin Cranberry Discovery Center

Objectives: To conduct promotional programs on the use of cranberries and cranberry products.

Summary: The funds from the grant provided in 2005 have been used for six “Cooking with Cranberries” recipe demonstration programs. Two more will be held in 2008. The grant was also used to print recipe cards that are distributed at the Discovery Center. Demonstrations were also given on WEAU TV in Eau Claire.

Wetherby Cranberry Library Project

Project Coordinator: Lorry Erickson, Director, Wisconsin Cranberry Discovery Center

Objectives: Organize and catalog current material housed in the Wetherby Cranberry Library, develop a searchable database via internet and actively seek the addition of new materials to the collection.

Summary: A library student with the necessary expertise has been hired for the project and will begin work on the project this spring.

Operations and Promotions - Wisconsin Cranberry Discovery Center

Project Coordinator: Lorry Erickson, Director, Wisconsin Cranberry Discovery Center

Objectives: Educate the public about Wisconsin's role as the nation's leading producer of cranberries.

Summary: The Cranberry Museum, Incorporated utilized the grant to support activities at the Wisconsin Cranberry Discovery Center in Warrens, Wisconsin. The funds were allocated toward general operations and promotion efforts. Over 50,000 visitors came to the Discovery Center in the 2007 season.

Wisconsin Cranberry School - 2008

Project Coordinators: Wisconsin Cranberry Research and Education Foundation; WSCGA Education Committee; Teryl R. Roper, UW Extension.

Objective: To conduct a 2 day grower educational program for all Wisconsin cranberry growers focusing on improved farm management and business practices.

Summary: The WSCGA Education Committee met with UW Extension Faculty to evaluate previous schools and identify topics and speakers for 2008. The Wisconsin Cranberry School was held January 15-16 at the Stevens Point Holiday Inn Hotel and Convention Center. During the two day session topics relating to all aspects of cranberry production were presented with an emphasis on water use and conservation. Packets with relevant information were distributed to all attendees. Proceedings from the School are sent to all participants. The 2008 Wisconsin Cranberry School attracted over 450 growers and industry people. The evaluations by the participants were extremely positive and indicated that the quality of the program was "the best in years".

Cranberry Weather Forecasts

Project Coordinator: Wisconsin State Cranberry Growers Association

Objective: To provide Wisconsin cranberry growers with accurate, regional weather forecasts.

Summary: The WSCGA worked with a private weather forecasting consultant to develop regional cranberry weather forecasts. These forecasts were available to growers via a toll-free number and online at the WSCGA website www.wiscran.org. Service was available from April 15 through October 31.

Brochure Printing

Project Coordinator: Wisconsin State Cranberry Growers Association

Objective: Provide members of the general public with information on cranberries through high-quality, professionally produced brochures.

Summary: The grant was used to print and distribute 15,000 copies of the 2007 Fall Harvest brochure, printing of 16,000 copies of the new recipe brochure and 10,000 copies of the Cranberry Activity Books.

Product Sample Products

Project Coordinator: Tom Lochner, Executive Director, WSCGA

Objective: Provide promotional samples of cranberry products for distribution.

Summary: WSCGA worked with cranberry handlers to secure sweetened dried cranberries which were then packaged into sample packets by the ODC in Wisconsin Rapids.

Website Update and Redesign

Project Coordinator: Tom Lochner, Executive Director, WSCGA

Objective: Provide the Wisconsin cranberry industry with state of the art presence on the world wide web.

Summary: A subcommittee of growers has been working with a site designer and Zeppos and Associates to completely redesign the website. The new site will debut in the spring of 2008. It will include video and audio capabilities along with a slide show and a password protected section for growers.

State Fair Booth Renovation Phase II New Marsh Model

Project Coordinator: Tom Lochner, Executive Director, WSCGA

Objective: Create professional exhibits on cranberries to be used at the Wisconsin State Fair, cranberry festivals and other trade shows.

Summary: A subcommittee from the WSCGA worked with Triad Creative Group to design and build a new model cranberry marsh for debut at the 2007 State Fair. The new model was also set up at cranberry festivals in Warrens and Eagle River.

Wisconsin State Fair Promotion Program

Project Coordinator: Wisconsin State Cranberry Growers Association

Objectives: (1) To provide information on cranberries and cranberry growing to visitors to the Wisconsin State Fair. (2) Promote consumption and sales of cranberry products at the Wisconsin State Fair. (3) Increase overall awareness of cranberries and their economic, environmental and cultural importance to the state. (4) Educate the public on the health benefits of cranberry consumption. (5) Educate the public on the many cranberry products available and their uses.

Summary: WSCGA contracted with the Wisconsin State Fair Park for space in the Wisconsin Products Pavilion. The booth space (10'x30") was divided into two components: the first being an educational display, the second a sales area for cranberry products. The grant was used for promotion activities at the fair including media drops of products, interviews on air, daily cranberry cooking demonstrations, appearance by the cranberry mascot daily at the fair.

Cranberry Marketing Program – Paid Advertising

Project Coordinator: Wisconsin State Cranberry Growers Association

Cooperators: Milwaukee Brewer Radio Network

Objectives: (1) Conduct a paid advertising campaign to communicate health, environmental, tradition and economic messages on a regional basis. (2) Establish relationship between healthy sporting activities and cranberries. (3) Link cranberry growing tradition with other major state traditions. (4) Improve image of industry throughout the state.

Summary: Wisconsin's cranberry growers were again sponsors of an in game feature of each Milwaukee Brewer Baseball Radio broadcast on the statewide network. The feature "On Your Plate", the introduction of the umpires for each game was presented by Wisconsin's cranberry growers. The promotion also featured in game and post game mentions and Cranberry Night at Miller Park promotion.

Harvest Communications Program

Project Coordinator: Wisconsin State Cranberry Growers Association

Objectives: (1) To provide targeted media with information on cranberries, cranberry products and information on the results of health related research on cranberry consumption. (2) Conduct fall harvest media campaign to educate the consuming public on the cranberry industry in Wisconsin.

Summary: The harvest communications program entailed working with a public relations firm to develop key messages and themes, strategies, a plan and execution of the planned activities.

The initial effort was a news release on crop projections to peak media interest in the annual harvest. The second release focused on harvest getting underway across the state. WSCGA conducted a two Media Day on the marsh event. The events offered reporters, photographers and videographers an opportunity to see harvest first hand and experience it from the air in a helicopter. Growers and a UW Extension health expert were available for interviews. WSCGA worked with Mr. Food, a national syndicated program, to feature two segments on cranberries during Thanksgiving week. General harvest story pitches resulted in numerous local, state, regional and national stories. CNBC, a cable business news network, covered harvest throughout a day with live reports from a Wisconsin marsh. The fall communications efforts resulted in an estimated 13,000,000 impressions with an advertising value estimated at more than \$2,800,000.

Stock Photos

Project Coordinator: Wisconsin State Cranberry Growers Association

Objective: Acquire professional photographs and images to be used by media, researchers, in brochures and exhibits featuring cranberries.

Summary: WSCGA retained a photographer who shot photos of wildlife and cranberry blossom. The photos were added to the industry collection, been catalogued and assembled in an electronic format.

Support for Cranberry Research Panel at the IFT conference

Project Coordinator: Jere Downing, Executive Director, Cranberry Institute

Objective: Provide travel and related funds for 5 selected cranberry health researchers to participate in the Institute of Food technologists Annual Meeting and Food Expo Symposium of Cranberry Health Properties and for CI's health contractor to attend and leverage media attention.

Summary: The event attracted more than 125 people at the convention in July. Media were contacted before and after the session. An ad was taken in the July issue of Food and Technology and Prepared Foods magazines to reach those who did not attend the symposium. The attendance and session were deemed a success. Follow up reports on media will be provided at a later date.

WISCONSIN CRANBERRY BOARD, INC. – CRANBERRY INSTITUTE HEALTH RELATED RESEARCH - PROJECT REPORT SUMMARIES

The Wisconsin Cranberry Board, Inc. and Cranberry Institute have partnered for the past five years to fund a variety of research projects related to the health benefits of cranberry consumption. Under this partnership the organizations issue a joint request for proposals. Researchers submit applications to the Cranberry Institute. The applications are reviewed by a Health Advisory Committee of the Cranberry Institute which makes recommendations for projects deserving funds. Those projects deemed worthy of funding are then jointly funded by Wisconsin Cranberry Board, Inc., the Cranberry Institute and other grower funding organizations. The Cranberry Institute then manages the research projects. In 2007 projects totaling \$61,283 were funded by the WCB through the CI. The following are summaries of the reports of the projects funded by the partnership in 2007.

Bioassay to Detect Anti-adhesive Properties of Cranberry Compounds.

Principal Investigator: Terri Camesano, Worcester Polytechnic Institute

Summary: Their work has already confirmed existing results regarding the anti-adhesive effect of cranberry juice cocktail. Currently, they are trying to detect an anti-adhesive compound in the urine of a volunteer who has consumed cranberry juice cocktail. Thus far they have not found an effect on the non-pathogenic E. coli strains tested, but they have recently seen an effect on a pathogenic strain of this organism and are now attempting to repeat this finding with additional pathogenic strains. Their results thus far were recently presented at the UMASS-Dartmouth Cranberry Symposium last month.

Action of Cranberry Proanthocyanidins Against Bacterial Adhesion to Biomaterials and Mammalian Cells: Implications for Mitigation of Urinary Tract Infection, Prostatitis, and Endocarditis.

Principal Investigator: Nathalie Tufenkji, McGill University, Canada.

Summary: Their first objective was to quantify the effectiveness of cranberry derived PACs in preventing attachment of pathogenic bacteria to selected biomaterials used in medical devices. This work has now been completed, and involved two of the materials commonly used in the manufacture of urinary catheters. Not only did they find an effect against Gram-negative bacteria (as had been seen previously), but they also found an effect on Gram-positive bacteria as well, and is the first research to do so. The manuscript for this work is being submitted to the journal Biomaterials, and has been presented in a total of five conferences.

Their second objective involves the investigation of anti-adhesive and anti-invasive activities of PACs against bacterial pathogens interacting with endocardial, uroepithelial, and prostate epithelial cells. This work is now underway with the cooperation of Dr. Amy Howell of Rutgers University, with completion expected by September.

The third objective is to establish the metabolic response of Gram-negative bacteria with completion expected by June.

Utilizing Cranberry's Antimicrobial Effect to Protect Human Health Against Food Poisoning.

Principal Investigator: Vivian Wu, U. of Maine.

Summary; Against their first objective, they investigated the antimicrobial activity of cranberry concentrate on several pathogenic bacteria, including E. coli O157:H7, Listeria, Salmonella, and Staph aureus. They demonstrated that low concentrations of cranberry concentrate resulted in significant physical cell damage to these bacteria, including loss of integrity of the cell wall, membrane, and matrix. This work has received significant media coverage following publication of the work in the March 2007 issue of Microbiology, including an interview by the Wall Street Journal. Since that time, they have focused on the second objective, which involves looking into the effect of cranberry concentrate on gene expression of these pathogenic organisms. Their results to date suggest that cranberry concentrate inhibits growth-related genes. They project completion of this project by June 1, 2008, and three additional manuscripts based on this work are currently in press.

Therapeutic Potential of Cranberry for Oral Candidosis.

Principal Investigator: Daniel Grenier, University of Laval, Canada

Summary: Candidosis is an opportunistic infection of the oral cavity caused by an overgrowth of Candida species. At this point they are finding a dramatic inhibition in the presence of the cranberry fraction, suggesting that cranberry polyphenols may offer an opportunity for the development of a new therapeutic approach for the prevention and treatment of oral candidosis. This work is nearly complete, and a final report is expected by September of 2008. A new study will be proposed, based on this work, which will be clinical in nature and will investigate the incidence of oral candidosis in denture wearers.

Cranberries and Cancer: Do Cranberry Phytochemicals Promote Apoptosis in Breast Tumors.

Principal Investigator: Cathy Neto, UMASS-Dartmouth

Summary: They have found that several compounds in cranberry, including PACs, ursolic acid, and quercetin glycosides inhibit the growth and proliferation of breast and colon tumor cells and induce their programmed cell death. Thus far, these results have been presented at two conferences in 2007, including the ACS National Meeting, and several poster presentations were made as well. One additional manuscript has been submitted, and another is in preparation. A final report will be submitted when the results have been published.

How do Cranberry Constituents Regulate Apoptosis and Proliferation in Models of Prostate Cancer.

Principal Investigator: Cathy Neto, UMASS-Dartmouth.

Summary: Results from this work have been incorporated into a manuscript recently submitted to the Journal of Agriculture and Food Chemistry. In connection with these projects, there have been a total of five publications and five presentations.

Effects of Cranberry Juice Constituents of the Antibody Response to Influenza Vaccine in the Elderly: A Randomized Placebo-Controlled Double-Blind Pilot Study.

Principal Investigator: Carlo Selmi, UC Davis.

Summary: This work was postponed from last year due to logistical problems and is underway at this time, with completion expected shortly.

2007-08 Funding

The Wisconsin Cranberry Board, Inc. is a national leader in funding research, education and promotion programs for the cranberry industry. In March of 2008 the board met to develop a budget for funding programs from the 2007 crop. The following summarizes their funding decisions:

In general the funds were allocated in the following program areas:

Continuing Crop Production Projects	\$ 89,648
New Crop Production Projects	\$ 51,700
Education Projects	\$ 30,090
Promotion Projects	\$132,250
Health Related Research Projects	\$ 96,250
Total funding	\$399,938

Continuing Crop Production Projects

Pesticide Screening for Cranberries

Jed Colquhoun and Jack Perry, UW Madison

Total Cost: \$80,942

WCB Support \$60,942

Cranberry production relies on good pest management practices to control insects, weeds and diseases that plague production by reducing crop yield and quality. Pesticides have been the mainstay of pest control on cranberry in all growing regions and will be important in the future. Pesticide registrations are always at risk and new technologies and chemistries are resulting in the discovery of new, safer crop protection compounds. These new tools need to be evaluated and then go through a rigorous registration process at the US Environmental Protection Agency. The first step in the process is to evaluate potential compounds for efficacy, phytotoxicity and compatibility with existing practices. Following this screening process candidate compounds must then be analyzed using protocols required by IR4 and EPA to become registered for use. In addition to the to collecting the data necessary for registration the project also evaluates use patterns, rates, timing etc to maximize the usefulness of the compound in cranberry IPM programs.

In the recent past the program has focused on weed management. In the last year several new candidate insecticides have been identified. Future fungicide work will look at the fruit rot complex. In 2008 registrations were secured for an herbicide Callisto and a new insecticide Assail.

The project conducts its work on cooperators marshes and coordinates with other screening programs nationally. The Cranberry Institute provides support of \$20,000 for the project.

Breeding Cranberry for High Yields & Ease of Culture when grown under Wisconsin conditions

Brent H. McCown and Eric Zeldin, UW Madison

WCB Support \$17,706

This grant continues the WCB support for the genetic improvement program at UW Madison. The focus in 2008-09 will be continued support of HyRed growers and propagators along with the further evaluation of the AX-15 selection and evaluations of second and third generation progeny and the evaluation of a tetraploid cranberry mini bed.

Ocean Spray Cranberries, Inc., the Gottschalk Chair for Cranberry research and licensing fees from HyRed will provide additional funding for the project.

Rates and timing for potassium for cranberry nutrition

Teryl R. Roper and Bill Schmitt, UW Madison

Joan Davenport, WSU

WCB Support -0-

WSCGA/NRCS Support \$36,500

This is the third year of this project to collect data on potassium use in cranberry and its impact on yield and plant growth at different rates and timing. Plots were established in 2006 and 2007. The preliminary data shows no effective rate of potassium fertilizer on yield, fruit size or fruit color. Increased potassium applications did show increased tissue K and there was no difference between the two forms of potassium used.

Work this year will look at the exchange of cations in soil columns when exposed to large doses of potassium.

Cranberry Weeds of Wisconsin

Teryl Roper, Jed Colquhoun and Josh Shulman, UW Madison

WCB Support \$11,000

In 2007 the project began with hundreds of photographs and plant samples being collected on cranberry marshes in central and northern Wisconsin. A graduate student in Botany began to identify the specimens and begin to write descriptions for the manual. A list of weeds to be included has been developed and gaps in photos and samples have been identified to be filled during the 2008 growing season. In winter and early spring the manual will be sent to a graphic designer for layout and preparation for printing.

TOTAL WCB SUPPORT FOR CONTINUING CROP PRODUCTION PROJECTS:

\$89,648

New Crop Production Research Projects

Assessing Biological Impacts of IPM Adoption

Daniel L. Mahr, UW Madison

WCB Support \$45,000

IPM seeks to enhance the benefits of the natural enemies of pests thereby improving biological control and reducing pesticide use to a minimum. IPM results in the use of pesticides only when necessary thereby reducing impacts on these beneficial insects. The cranberry industry has adopted IPM over the past twenty years and now uses chemicals on an as needed basis. In addition new compounds are much more selective for specific pests.

An unfortunate side effect of IPM adoption can be the increase in certain pests that had been previously (and unknowingly) controlled by broad spectrum pesticides. This project will look at the possibility of increases in potential pests due to this side effect.

Marshes will be surveyed for populations of beneficial natural enemies, determine whether the adoption of IPM has resulted in the increase of these natural enemies and to determine if the adoption of IPM has resulted in an increased incidence of blunt nosed leafhopper and false blossom disease.

Characterizing the Cranberry Canopy

Teryl R. Roper, Bill Schmitt, UW Madison

WCB Support \$6,700

The productivity of any cranberry bed is dependant upon the canopy of leaves and stems that capture sunlight and convert it into chemical energy. There is some basic understanding of carbohydrate partitioning in cranberry but very little information about the nature of the cranberry canopy of hybrid cultivars. Old research using Searles vines in the late 1930s showed the relationship between upright density and yield. Yield increased with density until about 200 uprights per square foot at which time yield declined. The cause for the decline is unclear but is likely the result of shading or a shift of resources from fruit to vegetative growth. There is no research to show the optimal upright density for hybrid vines.

This study will characterize light interception through the canopy, measure CO₂ drawdown at midday and better understand the relationship between upright density, upright length and yield.

Long-term monitoring of cranberry beds implementing phosphorus reduction

Carolyn Demoranville, U Mass

Teryl R. Roper, UW Madison

Joan Davenport, WSU

Total Cost \$8,520

WCB Support -0-

WSCGA Support \$3,120

As a result of environmental pressures cranberry growers have begun to adopt phosphorous reduction plans as part of their nutrient management plans. Previous research has shown that if tissue P is within the standard range annual applications of 20lbs/acre of P are sufficient to support cranberry production. Questions remain regarding the long term sustainability of such a practice, how to monitor success and how to document environmental benefits of the practice.

This project will monitor crop, plants and soil parameters at ten locations. In addition periodic water sampling will take place to demonstrate predicted improvements in water quality. The project will continue through the 2012 growing season. Funding for this year was provided by the WSCGA/NRCS Farm Conservation Planning program.

TOTAL WCB SUPPORT FOR NEW CROP PRODUCTION RESEARCH PROJECTS:

\$51,700

Education Projects

Wisconsin Cranberry Crop Management Newsletter, Vol XXI

*Teryl R. Roper, Dan Mahr, Patty McManus, Jed Colquhoun, UW Madison
Private Pest Management Consultants in Wisconsin*

Total Cost \$2,625
WCB Support \$1,500

The grant will be used to print and mail ten copies of the Cranberry Crop Manager Newsletter to all known Wisconsin Cranberry growers free of charge. Ocean Spray Cranberries, Inc. Cliffstar Corporation and Clement Pappas are providing additional financial support.

2009 Wisconsin Cranberry School

Wisconsin Cranberry Research & Education Foundation

WCB Support \$7,500

The WCB will cover a portion of the costs for the annual two day educational program for Wisconsin growers. The funds will be used to partially offset registration costs.

Nutrition Education Initiatives 2008-2010

Sherry A. Tanumihardjo, UW Madison

WCB Support \$4,000

These funds will be used to print and distribute materials to educate consumers on fruit and vegetable consumption. The materials contain two pages of information on cranberry health and 6 recipes using cranberries. Over 70,000 copies of the materials have been distributed to date with 8,000 being released to nutrition and gardening educators.

Wisconsin Cranberry Discovery Center – Education & Promotion

Lorry Erickson, Director, WCDC \$10,000

The funds will be used in support of education and promotion programs at the Wisconsin Cranberry Discovery Center in Warrens, WI operated by the Cranberry Museum, Inc. Promotions include “Cooking With Cranberries” demonstration programs, “Make and Bake” classes and programs in the exhibit hall.

Cranberry Weather Forecasts

WSCGA

WCB Support \$7,090

The association will continue to provide specialized weather forecasts for Wisconsin’s cranberry growers. The four regional forecasts are provided via a toll free number and on the web at www.wiscran.org.

TOTAL WCB SUPPORT FOR EDUCATION PROJECTS:

\$30,090

Promotion Projects

Harvest Communication Program

WSCGA

WCB Support \$44,000

The grant will fund activities of the association to provide targeted media with information on cranberries and to celebrate cranberry harvest. Two segments on “Mr. Food”, a nationally syndicated television program, will air in July and November. A media event on a marsh, news releases and aerial photo opportunities will be part of the promotion program during the harvest season to obtain publicity about the state’s largest fruit crop.

Brochure Printing

WSCGA

WCB Support \$6,250

This grant supports the printing and distribution of Cranberry Activity Books, Cranberry harvest brochures and an update of the UW Extension Bulletin Cranberry Production in Wisconsin.

Wisconsin State Fair Promotion Program

WSCGA

WCB Support \$15,000

These funds will be used to conduct a number of promotional activities at the 2008 Wisconsin State fair in West Allis, WI. These activities include daily stage cooking demonstrations, visits to onsite media and product delivery, daily appearance of cranberry mascot, advertising in the program book, grower interviews and media pitches throughout the fair. Additional support is provided through revenue generated at the WSCGA product Sales booth in the Wisconsin Products Pavilion.

Stock Photos

WSCGA

WCB Support \$3,000

The funds will be used to acquire high quality professional photographs and images to be used by media, researchers, in brochures and exhibits.

Product Sample Packets

WSCGA

WCB Support \$1,000

This grant will be used to develop sample packets of sweetened dried cranberries to be used as a promotional item. Cranberry handlers will be contacted to provide product. The grant funds will be used for packaging and distribution.

Paid Advertising Program - Milwaukee Brewer Radio Network

WSCGA

WCB Support \$28,000

Cranberry growers will once again be sponsors of the statewide Milwaukee Brewer Radio network. The promotion includes all Brewer baseball broadcasts with an in game feature “Cranberry Grower Umpire Report” . The promotion also includes Cranberry Night at Miller Park, web presence on the WTMJ website and the Sports Bubbler website being launched this year.

Into the Outdoors TV Series

WSCGA, *Discover Media Works*

WCB Support \$35,000

Into the Outdoors is a public and private sector partnership developed to continue the outdoor legacy of Wisconsin and introduce it to a new generation. The project will include a 52 week sponsorship of the weekly television series. Four segments will be produced on cranberry growing in particular to be aired four times each. The industry would then have the rights to the segments for their use.

WSCGA will then utilize the video segments in the rewrite of the fourth grade curriculum.

TOTAL WCB SUPPORT FOR PROMOTION PROJECTS:

\$132,250

Health Related Research

The Wisconsin Cranberry Board, Inc. continued its partnership with the Cranberry Institute to fund research to explore the health benefits of cranberry consumption.

Investigations into the Antiviral Effects of Store-Purchased and Pure Cranberry (*Vaccinium Macrocarpon*) Juice Drinks on the Infectivity of Rotavirus

Dr. Steven M. Lipson, St. Francis College, New York

Total Cost	\$23,200
WCB Support	\$ 5,000

Cranberry Proanthocyanidins and Gut Immunity

Jess D. Reed, University of Wisconsin-Madison

WCB Support	\$27,500
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Bioassay to detect anti-adhesive properties of cranberry metabolites in urine

Terri Anne Camesano, WPI

Total cost	\$27,750
WCB Support	\$16,750

The Effects of Cranberry on Delaying Pathogenesis of a Mouse Model of Alzheimer's Disease

Sige Zou, National Institute on Aging

WCB Support	\$47,000
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TOTAL WCB SUPPORT FOR HEALTH RELATED PROJECTS:

\$96,250

Wisconsin Cranberry Board, Inc. - Specialty Crop Block Grant Funds

The Wisconsin Cranberry Board, Inc was the recipient of two USDA Specialty Crop Block Grants in August of 2007. These grants are provided to the State Departments of Agriculture to be disbursed to specialty crop producers for education, research and promotion programs. The cranberry allocation under the block grants totaled \$33,864.

The grant will fund four projects. The first is the production of an educational video presentation on the state's cranberry industry targeting members of the general public, tour groups, state fair attendees, fall harvest festivals and other public events. The second is the printing and distribution of the weed management guide now in production by UW Madison and UW Extension Faculty. The third is the development and printing of a new recipe brochure and the fourth is to provide partial funding for enhancement of displays in the exhibit hall of the Wisconsin Cranberry Discovery Center.

The video and recipe brochures made their debut at the 2008 Wisconsin State Fair. The weed management bulletin is expected to be ready for printing in time for the 2009 growing season. The Wisconsin Cranberry Discovery Center is soliciting funds for the new display and has secured almost \$15,000 in pledges to date.

WISCONSIN CRANBERRY BOARD, INC.

Statements of Financial Position Fiscal Year Ended August 31, 2008

ASSETS	
CURRENT ASSETS	
Cash	\$ 130,897
Other temporary investments	196,000
Interest Receivable	<u>2,890</u>
Total current assets	329,787
LONG TERM INVESTMENT	<u>0</u>
TOTAL ASSETS	\$ <u>329,787</u>
LIABILITIES AND NET ASSETS	
LIABILITIES	
Administrative Services Payable	\$ 14,981
Grants payable	<u>225,973</u>
Total liabilities	240,954
NET ASSETS	
Unrestricted	<u>88,833</u>
TOTAL LIABILITIES AND NET ASSETS	\$ <u>329,787</u>

Statement of Cash Flows Fiscal Year Ended August 31, 2008

CASH FLOWS FROM OPERATING ACTIVITIES	
Changes in net assets	\$ (42,801)
Adjustments to reconcile changes in net assets to net cash used by operating activities:	
Effects of changes in operating assets and liabilities:	
Administrative services payable	(6,440)
Grants payable	<u>141,529</u>
Net cash (used in) provided by operating activities	<u>92,288</u>
CASH FLOWS FROM INVESTING ACTIVITIES	
Decrease (increase) in other temporary investments	(98,000)
Increase in long-term investment	<u>98,000</u>
Net cash provided by (used in) investing activities	0
NET (DECREASE) INCREASE IN CASH	92,288
CASH, BEGINNING OF YEAR	<u>38,609</u>
CASH, END OF YEAR	\$ <u>130,897</u>

Statements of Activities Fiscal Year Ended August 31, 2008

UNRESTRICTED REVENUES	
Grower assessments	\$ 380,742
Interest income	<u>13,275</u>
Total Unrestricted Revenues	<u>394,017</u>
MANAGEMENT & GENERAL EXPENSES	
Administration – WSCGA	22,710
Administration - Dept of Ag	3,624
Audit and tax preparation fees	2,400
Meeting and miscellaneous	1,382
Refund to growers	3,061
Bonding	500
Printing and copying/typing	161
Post office box rent	42
Total management and general expenses	<u>33,880</u>
Excess of unrestricted revenues over expenses before grant disbursements	\$ <u>360,137</u>
PROGRAM EXPENSES - GRANT DISBURSEMENTS	
Wis State Cranberry Growers Association	142,340
University of Wisconsin	76,944
Cranberry Institute	24,625
Cranberry Museum, Inc.	10,000
Wis Cranberry Research & Education Foundation	<u>7,500</u>
Total program expenses – grant disbursements	261,409
Excess (deficit) of unrestricted revenues over expenses and grant disbursements	98,728
(Increase) decrease in grants authorized but unpaid	<u>(141,529)</u>
CHANGE IN UNRESTRICTED NET ASSETS	(42,801)
UNRESTRICTED NET ASSETS, BEGINNING OF YEAR	<u>131,634</u>
UNRESTRICTED NET ASSETS, END OF YEAR	\$ <u>88,833</u>

NOTES TO FINANCIAL STATEMENTS – AUGUST 31, 2008

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNT POLICIES

NATURE OF OPERATIONS

The Wisconsin Cranberry Board, Inc. (the “Organization”) is a not-for-profit corporation operating in Wood County, Wisconsin. They are an agricultural marketing and research organization authorized under the Wisconsin Agricultural Marketing Act which became effective September 1, 1983. The Organization collects grower assessments mandated by the Cranberry Marketing Order and uses those funds to promote market research and development and industrial research and educational programs. The Organization’s fiscal year ends on August 31.

BASIS OF PRESENTATION

The Organization prepares its financial statements in accordance with Statement of Financial Accounting Standards (SFAS) No. 117, *Financial Statements of Not-for-Profit Organization*. Under SFAS No. 117, the Organization is required to report information regarding its financial position and activities according to three classes on net assets: unrestricted net assets, temporarily restricted net assets, and permanently restricted net assets. As of August 31, 2008, the Organization has no temporarily or permanently restricted net assets.

USE OF ESTIMATES

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

CASH EQUIVALENTS

The Organization considers all liquid investments with a maturity of three months or less when purchased to be cash equivalents.

OTHER TEMPORARY INVESTMENTS

Other temporary investments consist of certificates of deposit with original maturities from three months to one year. These investments are stated at cost, which approximates market.

LONG TERM INVESTMENT

For the year ended August 31, 2007, long-term investment consisted of a certificate of deposit with an original maturity of 14 months and is stated at cost, which approximates market. This certificate of deposit expired in July 2008; all investments as of August 31, 2008, are classified as other temporary investments.

REVENUE RECOGNITION

Grower assessments are recognized in the period they are due. Assessments are based on barrels of production. The charge was ten cents per barrel for the fiscal year ended August 31, 2008.

GRANT DISBURSEMENT AND PAYABLE

Grants to others are recognized as an expense and as a liability when the promise is made.

INCOME TAXES

The Organization is a not-for-profit organization exempt from state and federal income tax under Internal Revenue Code Section 501(c) (5).

NEW ACCOUNTING STANDARDS

In June 2006, the Financial Accounting Standards Board issued Interpretation No. 48, *Accounting for Uncertainty in Income Taxes*, an interpretation of FASB Statement No. 109 (FIN 48), to create a single model to address accounting for uncertainty in tax positions. FIN 48 clarifies the accounting for income taxes by prescribing a minimum recognition threshold a tax position is required to meet before being recognized in the financial statements. FIN 48 also provides guidance on derecognition, measurement, classification, interest and penalties, disclosure and transition. FIN 48 is effective for nonpublic entities for annual periods beginning after December 15, 2007, however this standard is expected to be deferred until periods beginning after December 15, 2008. The Organization has not determined the effect, if any, the adoption of FIN 48 will have on the Organization's financial position and results of operations.

NOTE 2: GRANTS PAYABLE

The following is a summary of grants authorized and payable at August 31, 2008:

University of Wisconsin research	\$ 146,848
The Cranberry Institute research	24,625
Dr. Starr	47,000
Wisconsin Cranberry Research & Education Foundation	<u>7,500</u>
	<u>\$ 225,973</u>

NOTE 3: RELATED PARTIES

During the year ended August 31, 2008, the Organization reported assessment revenue from board members of \$2,336. The amount owed to the board members as of August 31, 2008 was \$-0-. As of August 31, 2008 the Organization was not owed any amounts from board members.

The Organization receives administrative services and office space from the Wisconsin State Cranberry Growers Association (WSCGA) under an annual agreement. WSCGA charged the Organization \$22,710 during the year ended August 31, 2008.

WISCONSIN CRANBERRY BOARD, INC.
PO Box 1351
Wis RAPIDS, WI 54495-1351

Annual Report