MESSAGE FROM THE PRESIDENT

Be Excited Folks! More and more people that I talk to say they have heard of, or have tried, this power packed super berry we call the Aronia. I am a high school agriculture education teacher and just last week, as we were winding down another school year, my students out of nowhere asked me to bring in some Aronia Berries. They said, "Mr. Winquist we have heard all about these Aronia Berries, bring us some to try". So I brought in a pound of berries and we took our final exam eating purple brain food. The conversation that ensued was priceless. I fielded a lot of questions but in the end 18 more human beings have now been introduced to a Super Fruit that is grown right here in the USA!

It is an exciting time of year as the spring weather begins to fade into blossoms that are going to create this years harvest. With a little luck from mother nature we will reap a harvest come this fall and begin the cycle of processing and selling the berries. Products that will be made will include juices, wines, jams, jellies and other goods that will be consumed all over this country. I feel like we are on the verge of the Aronia berry really taking off. I have heard the buzz for quite awhile now but it seems to be getting louder. So, be ready folks! Let's all do our part to share the Aronia story. Speaking of Aronia story, check out some of the field days and harvest festivals listed in this newsletter. Join some of our fellow Aronia growers as we spread the message far and wide. While your at it, check out our newly designed and updated website at midwestaronia.org and urge your friends and neighbors to become Midwest Aronia Association members. It’s as easy as clicking the "Membership" tab on the site and filling out the information. Have a great summer and let's Unite and Move Forward Together.

Craig Winquist, President
Midwest Aronia Association
Whether you are an experienced grower, you have just started your Aronia adventure, or you are looking to plant Aronia in the future, area Field Days and Regional Group Meetings can be a great opportunity. Field Days and Regional Meetings provide one on one time to meet with growers and producers in your area. It’s always helpful to share ideas and to gather information from other perspectives. Following are just a couple of Field Days taking place this summer. If you cannot make one of these events and would like to get in touch with other growers in your area feel free to contact the MAA and we would be glad to put you in touch with Regional Groups in your area.

WEST POINT, IA  
June 30, 2018

Kenny & Judy Sanders

Location Address - use 1792 228th Ave, West Point, Iowa

Kenny and Judy Sanders are hosting an Aronia Field Day on Saturday, June 30th, beginning at 1:00 p.m. at their farm in West Point, Iowa. You will have to use their neighbor’s address, 1792 228th Ave, West Point, Iowa, in your GPS because their farm address does not register on GPS. The Sanders Farm is at the end of a dead end gravel road. Drive all the way to the end of the road and through the gate. Anyone is welcome to bring an aronia berry snack if you would like. If possible please let Judy Sanders know by June 29th if you are planning to attend. If there is anyone else you know that would like to come, bring them along. Hope to see you on the 30th.

For more information contact Judy Sanders at (319) 850-0862.

FAIRBANK, IA  
August 25, 2018

Aronia Berry Services of Northeast Iowa and The “What” Berry Farm?

Location Address is 3129 236th Street, Fairbank, Iowa

Aronia Berry Service of Northeast Iowa and The “What” Berry Farm? will be hosting it’s 5th Annual Harvest Day on Saturday, August 25, 2018. This is an annual event that is packed with Aronia infused food and drink and a full day of information from various speakers in the industry. For more information go to: www.aroniaberryservicesofneiowa.com
2019 MAA ANNUAL CONFERENCE

Date: March 15 & 16, 2019

Location: Des Moines, IA

It's never too early to plan to attend the 2019 Midwest Aronia Conference.

The 2019 Midwest Aronia Conference will be held in Des Moines, IA, on March 15 & 16, 2019. The MAA Event Committee is already in the planning stages for the 10th Annual MAA Conference. The 2019 Conference will be an exciting event! The 2019 Conference is open to both MAA Members as well as non-members. Registration for this event will begin in the later part of 2018!

The 2018 Annual Conference was attended by more than 100 growers, producers, vendors, and speakers who traveled from all corners of the United States to participant in the two-day event held on March 16 and 17, 2018. Plan ahead for the 2019 Conference ~ Don’t Miss It!

To keep up to date on future MAA events and to register for the upcoming Conference (when available), log on to the MAA website at: http://midwestaronia.org

MAA 10th Anniversary Cookbook

You heard it here first! To commemorate its 10th Anniversary the Midwest Aronia Association will introduce a new Cookbook in the fall of 2018. This 10th Anniversary Edition will include some old favorites and many new recipes that we hope will be handed down to your families for many years to come. Your contribution is needed! We would like to include your favorite recipes in the new Cookbook.

MAA’s new website has been customized to include a Recipe section. Simply go to https://midwestaronia.org and click on the Recipe tab at the top of the page. From the dropdown menu follow the prompts. Include your Recipe and click submit. It’s as simple as that!

If you have questions, or you would rather email your recipes, send your submission to Dennise Bowyer, publicrelations@midwestaronia.org
USDA Grant – Improving Aronia Berry Sustainability and Fruit Quality

The USDA as part of their Specialty Crop Multi-State Program reported their list of funded projects. One of the 11 recipients was a coordinated effort by Dr. Changmou Xu, University of Nebraska – Lincoln; Dr. Brad Bolling, University of Wisconsin – Madison; and Dr. Mark Brand, University of Connecticut. They will study the marketability of aronia berry with the goal of increasing small family farm profitability. The project will characterize the genetic diversity of aronia produced in the U.S. and introduce new cultivars with improved characteristics. Researchers will also establish nutritional and flavor benchmarks of aronia fruit and determine pre-harvest factors associated with improved berry quality. Finally, the project will identify key flavor compounds to promote improved taste of aronia berry and apply food processing technologies to increase consumer preference. The MAA will serve on the Advisory Board to the project.

AgMERC (Agricultural Marketing Research Center)

Agricultural Marketing Research Center is a national information resource for value-added agriculture. Following is the link to an interesting article which mentions the MAA. The following site also includes a Market Maker Map for Aronia Growers.
https://www.agmrc.org/commodities-products/fruits/aronia-berries

University of Maryland Extension

http://extension.umd.edu/aronia/production-timeline

Can you believe it? August and harvest is just around the corner. You may find the above link a helpful guideline as harvest approaches.
"Farmers markets are a critical ingredient to our nation’s food system. These outlets provide benefits not only to the farmers looking for important income opportunities, but also to the communities looking for fresh, healthy foods. “— Kathleen Merrigan, former U.S. Deputy Secretary of Agriculture (2013)

Farmers Markets are just one avenue to be utilized when selling Aronia berries locally. The Farmers Market Coalition states, “The number of farmers markets in the U.S. has grown rapidly in recent years from just under 2,000 in 1994 to more than 8,600 markets currently registered in the USDA Farmers Market Directory.” Following are a few topics about Farmers Markets that you might not have considered.

Workshops  Are you interested in selling your produce or products through your local farmers market?  The requirements vary per state. Some states require you to take an approved food safety training class and register the Department of Agriculture in that state. There are many Farmers Markets that offer workshops for those thinking about selling through farmers’ markets. Check with your local Farmers Market to see if they offer these workshops in your area.

Licensing & Marketing  Do you need a license to sell at the farmers’ market? Is your food product safe to sample? Many Farmers’ Markets offer learning workshops to answer many of the questions you may have about introducing your products to the public through your local farmers markets.

Insurance Policy  Who would have thought about an insurance policy to sell at your local farmers’ market? In this day and time it is something to consider. Many Farmers’ Markets offer insurance policies to member markets and vendors. Contact your local Farmers’ Market to see if this is something offered in your area or contact your local insurance agent to see if this is something they can help with.

Considering a local Farmers Market in your area? You might find the following links and information helpful:


The USDA site allows you to search by zip code, Products Available, Payments Accepted, Market Location, Winter Markets and offers State Contacts.

**Farmers Market Coalition**  [https://farmersmarketcoalition.org/education/qanda/](https://farmersmarketcoalition.org/education/qanda/)

**Iowa**  [http://www.iafarmersmarkets.org/](http://www.iafarmersmarkets.org/)

**Illinois**  [http://nfmd.org/il/](http://nfmd.org/il/)

**Michigan**  [https://www.mifma.org/](https://www.mifma.org/)

**Minnesota**  [https://www.mfma.org/](https://www.mfma.org/)

**Missouri**  [https://www.missourifarmersmarkets.org/](https://www.missourifarmersmarkets.org/)

**Wisconsin**  [http://www.wifarmersmarkets.org/](http://www.wifarmersmarkets.org/)

**Nebraska**  [https://www.nebraska.gov/apps-ag-farmers-market/](https://www.nebraska.gov/apps-ag-farmers-market/)  (Great searchable options.)

The above is only offered as a sampling of the sites available. There are many local markets throughout the U.S.
The Ants Come Marching One by One . . .
It’s Officially Picnic Season!

The Aronia Berry stands alone or blends compatibly with apples, red raspberries, peaches, strawberries, cherries, pears, oranges and lemons, just to name a few. The options are simply endless.

If you have something that you have tried that you would like to share, simply go to https://midwestaronia.org and click on the Recipe tab at the top of the page. From the dropdown menu follow the prompts. Include your Recipe and click submit.

Try one (or all) of the following Recipes and let us know what you think.

**BIRTHDAY CAKE NO BAKE CHEESECAKE . . . CAKE**

*A Grandkids Favorite!*

**Ingredients:**
- 9 Yellow Cupcakes (unfrosted)
- 12 oz. PHILADELPHIA Cream Cheese, softened
- ½ Cup Aronia Berries (Chopped)
- 1 Tbsp. Butter (Softened)
- 1 tsp. Sugar
- 1 tsp. Vanilla
- 1 Tub (8 oz.) COOL WHIP Whipped Topping (Thawed)
- ½ Cup Multicolored Sprinkles

**Instructions:**

Line 9-inch square pan with foil. Make sure the ends of the foil extend over sides. Now the fun part - Crumble the cupcakes finely into pan. Use moistened fingers to lightly press cupcake crumbs into even layer on bottom of pan.

Next, beat the cream cheese and butter in medium bowl with mixer until creamy. Add sugar, Aronia berries and Vanilla; mix well. Gently stir in COOL WHIP and 6 Tbsp. sprinkles; spread over cupcake crust. Top with remaining sprinkles.

Refrigerate 4 - 4 ½ hours or until firm.

Use foil handles to lift cheesecake from pan before cutting into bars.
ARONIA BERRY SALSA

Chips and salsa! Who can resist them? Especially when you throw in a few Aronia Berries in the mix. It just like bread and butter; it's hard not to have one without the other. Homemade fresh salsa is a super healthy and guilt free treat. This salsa is made with Aronia berries which have nearly 4x's as many antioxidants as blueberries...when we say guilt free we really mean it!

**Ingredients:**
- 1 Medium Onion (I like the red but you could use white.)
- 14 oz. Shoe Peg Corn
- 14 oz. Black Beans (Drained)
- 1 1/2 Cup Frozen Aronia Berries
- 4 Cups Chopped Tomatoes (Roma, if available)
- 3 Jalapeños (I used canned Chopped and just added to taste.)
- 4 Limes (Squeezed for the juice)
- 1 Tsp. Salt

**Instructions:**

Finely chop the onion and sprinkle salt and squeeze one lime on top. Mix well and set aside.
Add Aronia berries and tomatoes into a blender or food processor to achieve the desired consistency.
Combine Black Beans, Shoe Peg Corn, Tomatoes and Aronia berries to the onion mix.
Add the Jalapeños and remaining limes (juice), then mix. Place in the refrigerator for an hour or so before serving for best results.
It stores great in a Mason Jar for later use.
_Hope you Enjoy!_

CHOCOLATE PEANUT BUTTER ARONIA PROTEIN MUFFINS

_A Delicious Gluten Free - Sugar Free Protein Muffin! This recipe freezes great!

**Ingredients:**
- 2 Ripe Bananas
- 2 Eggs
- 1 Cup Peanut Butter
- 1/2 cup Coco Powder
- 2 Scoops of Chocolate or Chocolate/Peanut Butter Protein Powder
- 1/3 Cup Honey
- 2 Tbsp. Vanilla
- 1/2 Tsp. Baking Soda

**Instructions:**

Mix all the ingredients together. Bake at 400 degrees for around 12 minutes.
HOMEMADE SOUR STRAWBERRY/ARONIA GUMMIES

**Ingredients:**
- ¾ Cup Lemon juice
- 1 1/4 Cups Strawberries (cut into small pieces with the leaves removed)
- 1/4 Cup Aronia Berries
- 2 Tbs. Maple Syrup
- ¼ Cup Collagen Powder

**Instructions:**

Place the chopped strawberries, Aronia berries and lemon juice in blender or food processor. Blend for 30 seconds or so. The end result will be a thick liquid.

Pour the liquid into a medium saucepan - and add the maple syrup and collagen. Whisk ingredients together. Over a low heat whisk the mixture for roughly 5 minutes or so. You will see the liquid get thin. You will get a little foam as it heats up. Just use a spoon to remove the foam.

Remove the pan from heat and pour the mixture into a Silicone Mold.

Let the mixture chill in the refrigerator for at least 1 hour or so or until it’s firm.

After firm, just pop them out and they are ready to enjoy. The grandkids will love them!

ARONIA ~ RHUBARB ~ APPLE PIZZA BARS

*A Recipe from Donna Costello’s Collection*

**Crust:**
- 2 1/2 C Flour
- 1 1/2 Tsp. Salt
- 3/4 C Shortening

Mix 2 egg yolks (beaten) and 1 Tsp. vinegar and then add enough milk to egg yolks and vinegar to make 3/4 C.

**Crust Instructions:**

Cut together flour, salt, shortening. Add egg yolk mixture. Divide dough in 2 parts for bottom/top crust. Roll out each crust on a floured board.

**Filling:**
- 3 C Sliced Apples
- 3 C cut up Rhubarb
- 2 C Fresh/frozen Aronia Berries
- 2 Tsp. Cinnamon
- ¼ C Flour (or use Tapioca)

Put half of crust on bottom of cookie sheet. Place filing on top of this crust. Place top crust over the filling - - seal. Bake at 375F until brown. Dust with powdered sugar when done.
Attention all MAA Members!

In an attempt to fill an ever growing need of its members, the MAA Board has developed a section in the Quarterly Newsletter entitled “MAA Trading Post”. This is in an effort to link MMA Members looking to sell equipment, products or service centered around the Aronia industry. If you would like your items to be included, simply email your post for consideration to info@midwestaronia.org. Once approved your post will be added to the next Quarterly Newsletter in the “MAA Trading Post” section.

The Midwest Aronia Association reserves the right to rescind or reject any and all submissions to the MAA Trading Post. The MAA expects its Members to act in a ethical and reputable manner when dealing with anyone responding to a post listed in the MAA Trading Post. The MAA makes no representations about the products or services offered in the MAA Trading Post section of the Newsletter but is merely offering this section to link Members and fulfill a need within the Association.

Aronia Growers LLC is looking for quality aronia growers interested in working together. We sell Sweetened Dried Aronia Berries, 65 brix aronia concentrate and aronia pomace. We also will process aronia juice to the customer specs and have partners making aronia powder. We processed 560,000 pounds of aronia fruit this past year, and our customer base is growing.

If you are interested in learning more about Aronia Growers LLC, please email Vicki Nemitz.

vicki.nemitz@aroniagrowersllc.com Phone # 608-387-9810. Please include you number of acres/plants, where you are located and whether you are a conventional or an organic grower.

FOR SALE: Joanna 3 pull behind half row Aronia Harvester $35,000.00

The harvester is in great shape, equipped with side hill leveling, hydraulic drawbar, electronic over hydraulic controls, working lights, low bush attachment. Can harvest into 40 lb lugs, or large totes. Machine comes with tons of extras….10 large totes (modified to dump into small lugs if needed), Pneumatic tilt table for large totes, Tool box from manufacture with standard wearable replacement parts, PLUS Extra parts - Main gear box (new), ¾ inch chain (new), Set of gear wheels for wide and long conveyors (New), Several shaker fingers (New), Long transporter chain (New). Contact Pete (402) 305-2280
Harvest date affects aronia juice polyphenols, sugars, and antioxidant activity, but not anthocyanin stability.

Bolling BW¹, Taheri R², Pei R², Kranz S², Yu M², Durocher SN³, Brand MH³.


Abstract
The goal of this work was to characterize how the date of harvest of 'Viking' aronia berry impacts juice pigmentation, sugars, and antioxidant activity. Aronia juice anthocyanins doubled at the fifth week of the harvest, and then decreased. Juice hydroxycinnamic acids decreased 33% from the first week, while proanthocyanidins increased 64%. Juice fructose and glucose plateaued at the fourth week, but sorbitol increased 40% to the seventh harvest week. Aronia juice pigment density increased due to anthocyanin concentration, and polyphenol copigmentation did not significantly affect juice pigmentation. Anthocyanin stability at pH 4.5 was similar between weeks. However, addition of quercetin, sorbitol, and chlorogenic acid to aronia anthocyanins inhibited pH-induced loss of color. Sorbitol and citric acid may be partially responsible for weekly variation in antioxidant activity, as addition of these agents inhibited DPPH scavenging 13-30%. Thus, aronia polyphenol and non-polyphenol components contribute to its colorant and antioxidant functionality.

Aronia berry (Aronia mitschurinii ‘Viking’) inhibits colitis in mice and inhibits T cell tumour necrosis factor-α secretion

Derek A. Martinab1Joan A. SmythcdZhenhua LiueBradley W. Bollingab1

Journal of Functional Foods
Volume 44, May 2018, Pages 48-57

Abstract
Aronia berries are rich in polyphenols with anti-inflammatory activity. We hypothesized that aronia berry consumption modulates intestinal immune function and T cells. The aims of the present work were to assess the immunomodulatory potential of ‘Viking’ aronia berry (black chokeberry, Aronia mitschurinii) in vivo and to determine the extent aronia berry polyphenols or known microbial polyphenol catabolites inhibit T cell tumour necrosis factor (TNF)-α in vitro. Aronia berry consumption increased colonic IL-10 secretion in healthy mice, but did not inhibit ex vivo cytokine secretion of lipopolysaccharide-stimulated spleen and colon tissue. Aronia berry consumption inhibited wasting associated with T cell adoptive transfer and dextran sulphate sodium induced colitis. Aronia extracts, neutral phenols fraction, and the polyphenol catabolites 3,4-dihydroxyphenylacetic acid and 3,4-dihydroxyphenylpropionic acid inhibited TNF-α production in Jurkat T cells. Therefore, T cells and microbial catabolism partly mediate the anti-inflammatory effects of aronia consumption in the colon.
Anti-inflammatory effects of aronia extract on rat endotoxin-induced uveitis.


Abstract
PURPOSE:
Aronia crude extract (ACE) with high levels of polyphenol compounds has been reported to have antioxidative effects in vitro and in vivo. In this study, attention was focused on the antioxidant effect of ACE. The purpose of the present study was to investigate the effect of ACE on endotoxin-induced uveitis (EIU) in rats. In addition, the endotoxin-induced expression of the inducible nitric oxide synthase (iNOS) and cyclooxygenase (COX)-2 proteins was investigated in a mouse macrophage cell line (RAW 264.7) treated with ACE in vitro, to clarify the anti-inflammatory effect.

METHODS:
EIU was induced in male Lewis rats by a footpad injection of lipopolysaccharide (LPS). Immediately after the LPS inoculation, 1, 10, or 100 mg ACE or 10 mg prednisolone was injected intravenously. After 24 hours, the aqueous humor was collected from both eyes, and the number of infiltrating cells, protein concentration, nitric oxide (NO), prostaglandin (PG)-E2, and TNF-alpha levels in the aqueous humor were determined. RAW 264.7 cells treated with various concentrations of ACE were incubated with 10 μg/mL LPS for 24 hours. Levels of NO, PGE2, and TNF-alpha were determined by an enzyme-linked immunosorbent assay. The expression of iNOS and COX-2 proteins was analyzed by Western blot analysis.

RESULTS:
The number of inflammatory cells, the protein concentrations, and the levels of NO, PGE2, and TNF-alpha in the aqueous humor in the groups treated with ACE were significantly decreased in a dose-dependent manner. In addition, the anti-inflammatory effect of 100 mg ACE was as strong as that of 10 mg prednisolone. The anti-inflammatory action of ACE was stronger than that of either quercetin or anthocyanin administered alone. ACE also suppressed LPS-induced iNOS and COX-2 protein expressions in RAW 264.7 cells in vitro in a dose-dependent manner.

CONCLUSIONS:
The results suggest that ACE has a dose-dependent anti-ocular inflammatory effect that is due to the direct blocking of the expression of the iNOS and COX-2 enzymes and leads to the suppression of the production of NO, PGE2, and TNF-alpha.

Extracts, anthocyanins and procyanidins from Aronia melanocarpa as radical scavengers and enzyme inhibitors.

Bräunlich M, Slimestad R, Wangensteen H, Brede C, Malterud KE, Barsett H.

Abstract
Extracts, subfractions, isolated anthocyanins and isolated procyanidins B2, B5 and C1 from the berries and bark of Aronia melanocarpa were investigated for their antioxidant and enzyme inhibitory activities. Four different bioassays were used, namely scavenging of the diphenylpicrylhydrazyl (DPPH) radical, inhibition of 15-lipoxygenase (15-LO), inhibition of xanthine oxidase (XO) and inhibition of α-glucosidase. Among the anthocyanins, cyanidin 3-arabinoside possessed the strongest and cyanidin 3-xyloside the weakest radical scavenging and enzyme inhibitory activity. These effects seem to be influenced by the sugar units linked to the anthocyanidin. Subfractions enriched in procyanidins were found to be potent α-glucosidase inhibitors; they possessed high radical scavenging properties, strong inhibitory activity towards 15-LO and moderate inhibitory activity towards XO. Trimeric procyanidin C1 showed higher activity in the biological assays compared to the dimeric procyanidins B2 and B5. This study suggests that different polyphenolic compounds of A. melanocarpa can have beneficial effects in reducing blood glucose levels due to inhibition of α-glucosidase and may have a potential to alleviate oxidative stress.
Consumption of chokeberry (Aronia mitschurinii) products modestly lowered blood pressure and reduced low-grade inflammation in patients with mildly elevated blood pressure.


Abstract
Previous studies suggest that consumption of chokeberries may improve cardiovascular disease risk factor profiles. We hypothesized that chokeberries (Aronia mitschurinii) have beneficial effects on blood pressure, low-grade inflammation, serum lipids, serum glucose, and platelet aggregation in patients with untreated mild hypertension. A total of 38 participants were enrolled into a 16-week single blinded crossover trial. The participants were randomized to use cold-pressed 100% chokeberry juice (300 mL/d) and oven-dried chokeberry powder (3 g/d), or matched placebo products in random order for 8 weeks each with no washout period. The daily portion of chokeberry products was prepared from approximately 336 g of fresh chokeberries. Urinary excretion of various polyphenols and their metabolites increased during the chokeberry period, indicating good compliance. Chokeberries decreased daytime blood pressure and low-grade inflammation. The daytime ambulatory diastolic blood pressure decreased (-1.64 mm Hg, P = .02), and the true awake ambulatory systolic (-2.71 mm Hg, P = .077) and diastolic (-1.62 mm Hg, P = .057) blood pressure tended to decrease. The concentrations of interleukin (IL) 10 and tumor necrosis factor alpha decreased (-1.9 pg/mL [P = .008] and -0.67 pg/mL [P = .007], respectively) and tended to decrease for IL-4 and IL-5 (-4.5 pg/mL [P = .084] and -0.06 pg/mL [P = .059], respectively). No changes in serum lipids, lipoproteins, glucose, and in vitro platelet aggregation were noted with the chokeberry intervention. These findings suggest that inclusion of chokeberry products in the diet of participants with mildly elevated blood pressure has minor beneficial effects on cardiovascular health.