8th Meeting of the
Cass-Clay Food Systems Advisory Commission
May 11th, 2016
Fargo Commission Chambers

Members Present:
Heidi Durand, Moorhead City Council, Chair
Arland Rasmussen, Cass County Commission
Mike Thorstad, West Fargo City Commission
Jenny Mongeau, Clay County Commission
Jim Aasness, Dilworth City Council
Mike Williams, Fargo City Commission
Jessica Arneson, At-Large Member
Jon Evert, At-Large Member
Stephanie Reynolds, At-Large Member

Members Absent:
Dana Rieth, At-Large Member
Janet Paul, At-Large Member

Others Present:
Megan Myrdal, Project Coordinator
Kim Lipetzky, Fargo Cass Public Health
Nina Pirozhkov, Fargo Cass Public Health
Joleen Baker, Cass-Clay Food Systems Initiative
Deb Haugen, Cass-Clay Food Systems Initiative
Adam Altenburg, Fargo-Moorhead Metropolitan Council of Governments

Chair Durand called the meeting to order at 10:30 AM.

1(a). Approve Order and Contents of the Overall Agenda
A motion to approve the order and contents of the overall agenda was made by Mr. Rasmussen and seconded by Mr. Aasness. The motion was voted on and unanimously approved.

1(b). Review and Action on Minutes from March 9, 2016
A motion to approve the minutes was made by Mr. Rasmussen and seconded by Mr. Aasness. The motion was voted on and unanimously approved (concurrent with 1(a)).

2. Welcome to Hali Durand, Nikki Johnson and Joleen Baker to the Steering Committee
Chair Durand welcomed new members Hali Durand, Nikki Johnson, and Joleen Baker to the Cass-Clay Food Systems Initiative, which serves as the Steering Committee to the Commission.

3. Approve Appointment of New At-Large Member – Stephanie Reynolds
Chair Durand stated, per information provided in the packet, that in addition to the six jurisdiction members, the Joint Powers Agreement for the Commission makes the provision for an additional five at-large members to serve on the Commission. It is the intent that at-large members will bring additional and varied expertise to the Commission as it relates to food systems issues. At-large members are to be initially vetted by the Steering Committee before being brought to a vote by the Commission. Each at-large member will serve a two-year term.

In February, Andrea Baumgardner informed the Steering Committee that she would be starting a new business endeavor and would step down from the Commission. The Steering Committee sought applicants for a new at-large member from March 29 through April 15. In that time, the Steering Committee received four applications and resumes. Following the April 15 deadline, each candidate was ranked according to expertise, how they would fill potential gaps as they relate to food systems issues, time commitment, and advocacy.

With the completion of this process, Chair Durand informed the Commission that the Steering Committee recommends the appointment of Stephanie Reynolds as new at-large member to the Commission.

A motion to approve the appointment of Stephanie Reynolds to the Commission was made by Ms. Mongeau and seconded by Mr. Evert. The motion was voted on and unanimously approved.

4(a). Season Extension Education

Randy Nelson, Extension Educator for Clay County, provided the Commission information on season extension. Mr. Nelson began by stating that water and temperature are the two factors that drive plant growth. Mr. Nelson stated that, beyond water and temperature, light, plant-available nutrients, and stress (i.e. wind, drought, hail, flooding, insects) also have an affect on plant growth. Mr. Nelson stressed that all plant growth takes time.

Mr. Nelson explained that season extenders such as high tunnels, low tunnels, and deep winter greenhouses optimize plant growth by moderating temperature and allowing more time for the growing season both earlier in the spring and later in the fall. Mr. Nelson stated that season extenders also reduce stress by controlling the environment inside these structures and limiting exposure to insects. Mr. Nelson explained season extenders help to create microenvironments that better account for when water and plant available nutrients need to be applied to optimize plant growth. Mr. Nelson concluded that available light can also be controlled in season extender.

Mr. Nelson informed the Commission that a high tunnel looks very similar to a greenhouse and that it is also referred to as a hoophouse. Mr. Nelson stated that high tunnels normally do not use artificial heat except in frost emergencies and that, generally, no artificial ventilation is used including the use of fans, tubes, or forced air. Mr. Nelson stated that with high tunnels, plants are grown directly in the ground as opposed to pots or planter beds. Mr. Nelson explained that high tunnels come in a variety of shapes and sizes, including 14-30 feet wide, 12-14 feet high, and 24-96 feet long.

Mr. Nelson provided information on high tunnel planting dates in northern Minnesota including: March 25 to April 7 for onions, radishes, and lettuce; April 7 to 15 for cabbage and broccoli; and April 25 to May 10 for tomatoes and peppers. Mr. Nelson stated that the high tunnel planting dates for tomatoes and peppers are up to five weeks earlier than normal outdoor planting. Mr. Nelson explained that yields in a high tunnel can be three to four times the yield compared to outdoor production.

Mr. Nelson explained that low tunnels are a smaller version of high tunnels and are built just high enough to cover plant canopy. Mr. Nelson stated that low tunnels are normally constructed of wire or pipe frames and covered with clear plastic. Mr. Nelson explained that low tunnels are able to increase the temperature within the structure from five to 15 degrees on a sunny day but that ventilation is important to avoid high temperature stress.

Mr. Nelson informed the Commission that deep winter greenhouses are passive solar structures designed to limit the amount of fossil fuel needed for indoor heating. Mr. Nelson explained that these structures are oriented east-west with south facing front angled to maximize solar energy on the shortest day of the year.

Mr. Nelson explained that the foundations for deep winter greenhouses are four feet or more blow grade to account for the frost line. Mr. Nelson stated that foundations are normally constructed of masonry or cast-in-place stem wall with a poured, reinforced concrete strip footing that are insulated to help keep soil warm during winter.

Mr. Nelson stated that, above ground, solar energy within deep winter greenhouses is stored in thermal mass materials such as concrete, ceramic tile, water or soil. Mr. Nelson explained that this heat radiates from the thermal mass materials to heat the structure. Mr. Nelson stated that subterranean heating can also be utilized in deep winter greenhouses – a process in which hot air is captured from the ridge of a greenhouse structure and directed below ground into an insulated rock bed, which in turn stores and radiates the heat to soil above.

Mr. Nelson stated that deep winter greenhouses are generally used for growing cold, hardy crops that need minimal light throughout the middle of winter. Mr. Nelson explained that some of the crops best suited for deep winter greenhouses include greens, broccoli, kale, collards, and Chinese cabbage, as well as radishes and carrots.

Mr. Williams asked if Mr. Nelson or Ms. Baker could provide additional information on the high tunnel utilized by Forest Glen Farm in Frazee or the high tunnel on the campus of Concordia College. Ms. Baker stated that the high tunnel at Concordia College is one which utilized passive solar heating as well to provide for additional season extension versus a high tunnel alone. Mr. Evert commented that he is privileged to have a neighbor who utilizes a high tunnel to produce apples.

4(b). Season Extension Blueprint

Ms. Pirozhkov informed the audience that the Steering Committee has developed a new urban agriculture blueprint examining hoop houses, greenhouses, and other structures. Ms. Pirozhkov stated that she began by providing background on season extending structures and how they have been successfully utilized in both urban and rural areas throughout the Unites States. Ms. Pirozhkov explained that within the Fargo-Moorhead Metropolitan Area, greenhouses are identified as being permitted uses in each of the six major jurisdictions; however, Ms. Pirozhkov went on to explain that other season extending structures are not currently addressed.

Ms. Pirozhkov explained the framework for evaluating backyard structures including health, environment, social, and economic aspects. Ms. Pirozhkov explained health benefits of backyard structures includes choice over chemicals used in growing processes, control over processing and storage of foods, and helping manage stress through physical activity, while a concern included some pieces of land not being fit for agricultural use through contamination. Ms. Pirozhkov stated that environmental benefits include storm protection and keeping animals away from produce, while concerns include temperature regulation and the possible attraction of pests that live in protected environments. Ms. Pirozhkov stated that a social benefit includes using season extenders as a business endeavor, while concerns may include size of the structure and structures being better suited for high-quality produce. Ms. Pirozhkov explained that economic benefits include extended growing seasons, crops being able to hit the market earlier in the season, and high crop yields, while concerns may be cost and continued maintenance of the structures themselves. Ms. Pirozhkov stated that additional concerns not included in the framework include the potential for high wind damage and vandalism.

Ms. Pirozhkov informed the Commission that most other regional jurisdictions allow for backyard structures such as greenhouses including: Bismarck, ND, Duluth, MN, Grand Forks, ND, Lincoln, NE, Mankato, MN. Rochester, MN, Mankato, and Sioux Falls, SD. Ms. Pirozhkov noted that most regional jurisdictions do not directly address the allowance of other structures as accessory uses. Ms. Pirozhkov stated that larger metropolitan areas such as Kansas City, MO, Boston, MA, Baltimore, MD, and Cleveland OH address additional season extenders as backyard structures. Ms. Pirozhkov concluded with an example of the process of constructing the hoop house at Concordia College.

Ms. Arneson asked whether costs for permits was addressed. Ms. Pirozhkov answered that this is a valid question and that jurisdictions would likely apply a cost for a building permit for backyard structures.

Mr. Evert asked for clarification on whether season extenders are addressed in current zoning ordinances or not. Ms. Pirozhkov reiterated that greenhouses are allowable structures but that ordinances do not mention other types of structures which may include high tunnels or low tunnels. Ms. Mongeau stated that if accessory structures aren't specifically addressed in an ordinance, they would not be allowed. Chair Durand stated clear guidelines and a clear process would be an important consideration for additional season extension structures.

Mr. Thorstad asked whether there were parameters for the types of materials allowed in the construction of backyard season extenders or guidance on how to build one properly. Chair Durand stated that she had the same concerns and that it would be advisable for the blueprint to specify construction specifications and standards. Mr. Thorstad stated that jurisdictions would look more favorably on a blueprint which would address these concerns. Mr. Nelson stated that the Minnesota High Tunnel Production Manual provides information on construction practices for commercial applications. Ms. Haugen added that the ordinance information from Duluth, MN appears to address some of the residential construction standards.

Mr. Evert asked whether temporary greenhouse structures which appear in colder months would be subject to some of the parameters laid out in the blueprint. Chair Durand stated that it may be because they are commercial structures and permitted differently.

4(c). Public Input

Mindy Grant with Growing Together informed the Commission that, with regards to safety issues, the foundation and structure of season extenders is more pertinent. Ms. Grant stated that the plastic sheathing used to cover structures would be less of a safety consideration.

4(d). Commission Discussion

The Commission stated that they would like additional information on the application of high tunnels and low tunnels for homeowners, including best practices and parameters for construction. A motion to approve the season extension blueprint was tabled until the next meeting.

5. Dirthead Farms

Ms. Myrdal informed the Commission that Paul Peter Nielson, owner and operator of Dirthead Farms, was ill and would not be addressing the Commission at this meeting. Ms. Myrdal stated that Mr. Nielson is interested in proposing the first permanent urban farm in the Fargo-Moorhead Metropolitan Area and that season extension structures would be an important consideration for his operations.

6. Community Gardens Update
Chair Durand informed the Commission that three people would be providing updates on community gardening activities in the area: Sarah Stenerson for Probstfield Farm, Kim Lipetzky for Cooper Garden, and Jack Wood for Growing Together.

7. Online Community Input
Ms. Lipetzky explained that community members who may not be able to attend Commission meetings are able to submit public comments through the City of Fargo Let's Eat Local website. Ms. Lipetzky stated that no public comments were received between March and April 2016.

8. Public Comment Opportunity
Chair Durand informed the Commission that time would be allotted for public comments.

No public comments were made.

9. Commission and Steering Committee Roundtable
Chair Durand asked for the Commission and the Steering Committee to share any additional updates.

Ms. Myrdal stated that Abby Gold had written an article to the High Plains Reader regarding a talk by Dr. Marla Spivak entitled "Pollinators in Peril: Helping Our Bees Back on their Own Six Feet." Ms. Myrdal stated that the discussion focused on bee nutrition and how plant resins benefit bee health, diverse agricultural landscapes affect honey-bee survival, and that "bee lawns" could improve new bee pastures in urban environments. Ms. Myrdal stated that Ms. Gold referenced the urban beekeeping blueprint approved by the Commission.

Mr. Williams stated that there was opportunity for downtown gardening on 5th Street between 2nd and 3rd Avenue. Mr. Williams stated that about 50 square feet is available for gardening and that rain barrels are provide on-site. Ms. Lipetzky stated that several participant from North Dakota State University and the Pickled Parrot have already begun gardening operations.

Ms. Baker provided information on Eco Practicum Catskills, a program in New York which focuses on organic agriculture, natural resource management, and urban-rural connections. Ms. Baker stated that the program is currently accepting applicants.

10. Commission Action Steps
Ms. Myrdal stated that the next meeting would be held on July 13, 2016.

Chair Durand adjourned the meeting at 11:37 AM.