



Parks and Open Space

5201 St. Vrain Road • Longmont, Colorado 80503
303.678.6200 • Fax: 303.678.6177 • www.bouldercounty.org

PARKS AND OPEN SPACE ADVISORY COMMITTEE SPECIAL MEETING

TO: Parks & Open Space Advisory Committee

DATE AND LOCATION: Tuesday, March 15, 6:30 p.m. Commissioners Hearing Room, 3rd floor
Boulder County Courthouse, 1325 Pearl Street, Boulder, CO

AGENDA ITEM TITLE: Cropland Policy Five-Year Review and Recommendation RE Genetically Engineered Corn and Sugarbeets

PRESENTER: Ron Stewart, Director, and other Parks and Open Space Staff

ACTION REQUESTED: Recommendation to BOCC

The Boulder County Parks and Open Space Cropland Policy, adopted on December 20, 2011, lays out the framework for realizing Boulder County's vision to be a leader in sustainable agriculture. Section 6.1 of the Cropland Policy approved the use of genetically engineered (GE) crops for a period of five years on agricultural lands leased from Boulder County with specific protocols. The approved GE crops are corn and sugarbeets—both genetically engineered for glyphosate resistance—and corn, genetically engineered with Bt (*Bacillus thuringiensis*).

The purpose of this special meeting is for POSAC to make a recommendation to the Board of County Commissioners regarding continued use of genetically engineered (GE) crops on county open space agricultural land. A public hearing was held on Monday, February 29, 2016 before the members of POSAC and BOCC, and no further public testimony will be taken. The Board of County Commissioners will hold a hearing to consider public testimony and POSAC's recommendation on Thursday, March 17 at 4 p.m.

This memo will summarize background information on the Agriculture Division, and the development, adoption and implementation of the Cropland Policy.

Overview of Agricultural Resources Division

- With 11 full-time equivalent employees and three part-time employees the Agricultural Resources Division oversees approximately 25,000 acres of agricultural land and related water rights, including ownership in over 90 ditches and 13 reservoirs.
- Approximately 16,000 acres are considered cropland, used for irrigated and dryland crops, irrigated pasture lands, related support facilities (roads, irrigation ditches) and some limited areas set aside for resource values.
- The Agricultural Resources Division has 116 leases with 65 farmers and ranchers, including 17 leases for market and/or organic farms to 10 tenants

- Typical conventional crops include: alfalfa, corn, sugarbeets, barley, wheat and grass for hay and pasture.
- Typical organic crops include: alfalfa and grass hay, corn, wheat and vegetables. Crops may also include oats, triticale, millet and sorghum.
- Tenant farmers are required to develop soil and water conservation plans with the Natural Resource Conservation Service. County staff and farmers/ranchers work together to ensure that the property's goals are being met based on county/tenant goals and objectives.
- Leases are either crop share (30%) or cash rent (70%). Rent for grazing is considered part of cash rent.
- Lease procedures are outlined in Policies 1.1-1.4 in the Cropland Policy (Attachment A); Appendix 2 contains a sample lease and Appendix 3 explains the bid process (for Appendices, see <http://www.bouldercounty.org/doc/parks/croppolicy.pdf>)
- The County invests the net rental proceeds back into agricultural properties for property maintenance and infrastructure improvements through the five-year Capital Improvement Plan. Capital Improvement funds are leveraged with grants and partnerships.

Cropland Policy Development and Adoption

The Cropland Policy was adopted in December 2011 following a two-year process. This process included several steps.

- Staff scoping
- Sustainable agricultural literature review conducted by Natural Capital Solutions
- BOCC-appointed nine-member Cropland Policy Advisory Group, representing diverse experiences and viewpoints, developed cropland policy recommendations over a period of nine months, meeting twice a month with a professional facilitator
- Public outreach through six farm tours over two years, online virtual harvest tour, Sustainable Agriculture Forum, Farm and Ranch Panel Discussion, two Open Houses and numerous public hearings to gather input on policies
- Public hearings with POSAC and Food and Agriculture Policy Council (FAPC)
- Adoption by the BOCC in December 2011

Cropland Policy Implementation

GE Crops. The following is a summary of trends and actions regarding GE corn and sugarbeets on BCPOS croplands since adoption of the Cropland Policy:

- Nine farmers grow GE crops on open space. This number has not varied since 2011.
- The number of acres planted in GE sugarbeets ranged from 494 (2012) to 135 (2015), and the number of acres planted in GE corn ranged from 2,307 (2011) to 1,044 (2015).
- In December 2015, farmers submitted a letter of request to for two additional GE crops: drought resistant corn and GE alfalfa. These requests have not been vetted through cropland policy process.
- Since the Cropland Policy was adopted in 2011, POS implemented the collection of information on multiple aspects of the production of GE crops as directed by the Cropland Policy, including data on crop yields, production costs, IPM and pesticide use, soil health and water quality.

In addition to the policies pertaining to GE crops, the Cropland Policy lays out a number of goals. The following is a summary of much of the Department's work over the last four years toward the Cropland Policy goals. More details are contained in Appendix B.

Encourage Organic Production Toward Goal of 20% by 2020

- Acres in organic production: In 2011, BCPOS had 724 acres in certified organic or in transition production (4% of cropland). The acreage has increased each year, and by 2015 stood at 2,416 acres (15%).
- Subsidized rent during transition: Five lessees have received a 50% reduction in rent for multiple years during the transition process. Originally the rent reduction was offered for the three-year transition period and was increased to five years in 2015. Some tenants did not request the rent reduction as they transitioned.
- Since 2011, the organic preference in agricultural leases has resulted in 11 out of 19 new leases being awarded to organic producers. This represents 58% % of the bids awarded between 2011 through present.
- Held a series of workshops for producers: "Is Organic Certification an Option For Me?" "Organic Conversations: Vegetables," "Organic Conversations: Crops," "Organic Conversations: Livestock," and an Organic Certification Workshop.
- Assistance with cost of organic certification: Boulder County offered to subsidize 50% of organic transition cost not covered by USDA programs, but none of the transitioning farmers requested this assistance.
- Boulder County provides a full-time seasonal weed crew to work on control of weeds adjacent to organic production fields; 2016 will be the third consecutive year.
- Boulder County has invested over \$830,000 in organic and market farm improvements on open space properties since 2012. Most of these improvements are infrastructure in support of irrigation, such as holding ponds, electric service, pipes and ditch improvements. County investments through the Capital Improvement Program are leveraged with partnerships and grants.

Integrated Pest Management (IPM)

- Pesticide application data collection began 2011
- Tenant survey documenting current pest management practices developed with input from CSU faculty, extension and local crop consultant, 2012-2013
- Environmental Impact Quotient (EIQ), a method to measure the environmental impact of pesticides, was identified as primary tool for measuring and reporting impact of pesticides of agricultural properties, 2012-2013
- Identified "IPM Elements" as a way for monitoring pest management practices, 2012-2013
- Mandatory IPM checklists completed with IPM Elements and EIQ Section for alfalfa, barley, corn, wheat, and sugarbeets, 2014
- Data from 2014 cropping year collected and entered into database
- Checklists revised and improved, 2015
- Checklist completed for irrigated pasture, grass hay and dryland pasture, 2015

Soil Health

- Implemented a soil health monitoring program on eight properties
- Implemented soil pesticide residue testing on five properties

Pollinator Protection

- Implemented Fieldwatch, an on-line registry of bee hive and crop locations to locate and contact bee keepers adjacent to POS lands, 2013-2015.
- Facilitated coordination of farming and beekeeping activities between POS ag tenants and beekeepers, 2013-2015.
- Incorporated pollinator protection awareness into Strategic IPM program (2012- present)
- Continue to establish pollinator habitat on ag and non-ag POS properties.
- Managing grassland restoration projects for pollinator species on hundreds of acres of Rock Creek grasslands, which were former agricultural lands.
- Xerces field training to train staff and tenants for planning pollinator habitat projects on ag lands, 2016.
- Formed Pollinator Action Team (PAT) composed of POS and Extension staff, 2014.
- Drs. Kearns and Oliveras, CU Researchers, begin conducting a five-year study titled “Agricultural practices on BCPOS: Implications for bee conservation” with a BCPOS small research grant, 2015.
- Native pollinator volunteer monitoring program (2014, 2015, will continue)
- Installed 10 nesting block or “bee blocks” on ag properties (2014, 2015).

Support Beginning Farmers and Small Acreage Farms

- Boulder County Extension Agent Adrian Card developed the “Building Farmers Program” to train aspiring small-acreage farmers in business and farm planning. Boulder County requires completion of this course as a prerequisite to bidding on market farm properties. More information on Building Farmers is at this link: <http://buildingfarmers.colostate.edu/states/colorado.shtml>

Water Quality

- 2015 initial year of implementation, tested nutrients, pesticides, sediment and bacteria
- 2016 will expand locations and include pesticides including neonicotinoids

Local Food Initiatives

See Appendix B for details about the numerous programs and strategies Boulder County has pursued

Public Process

A public hearing was held at a joint hearing with the Board of County Commissioners and POSAC on Monday February 29, 2016 and no further public testimony will be taken at this meeting. Public comments submitted to date on this issue along with the audio recording of the February 29 public testimony are available at bit.ly/BCcropland.

Action Requested

A recommendation to the Board of County Commissioners on whether to continue or change the current approval for the use of genetically engineered corn and sugar beets on Boulder County Parks and Open Space agricultural land.

Attachments

- A. Cropland Policy (body of document only; the entire document, including Appendices is available at <http://www.bouldercounty.org/doc/parks/croppolicy.pdf>)
- B. Summary of Cropland Implementation Actions, 2012-2015

ATTACHMENT A

Boulder County Parks and Open Space Cropland Policy



Approved by the Boulder County Board of County Commissioners

December 20, 2011

Boulder County POS Cropland Policy

Contents

Boulder County Cropland Policy Background	5
1. Boulder County Parks and Open Space.....	5
2. Management Background.....	5
3. Cropland Management on Boulder County Open Space.....	7
4. Purpose of the Cropland Policy.....	7
5. Cropland Policy Process	8
6. Cropland Policy Advisory Group	9
7. Document Overview	9
Boulder County Parks and Open Space Cropland Policy	10
1. Administration	10
2. Market, Small, and Specialty Crop Farms	12
3. Water	13
4. Soil Health and Quality.....	14
5. Economic Viability.....	15
6. Agricultural Inputs.....	16
6.1. Genetically Engineered Crops	16
6.2. Pest Management.....	18
6.3. Soil Fertility and Amendments.....	19
7. Livestock Management.....	20
8. Recreation on Cropland	21
9. Natural Resources on Cropland	21
Appendices.....	23
Appendix 1: Cropland Policy Advisory Group Minority Reports.....	23
Appendix 2: Sample Lease	25
Appendix 3: Bid Process.....	42
Appendix 4: Education and Outreach	45
Appendix 5: Boulder County POS Good Neighbor Policy.....	47
Appendix 6: Soil Health and Quality	48
Appendix 7: Strategic Integrated Pest Management.....	50
Appendix 8: Biosolids Standard Operating Procedures	51
Appendix 9: Pesticide Application Protocols	54

Boulder County POS Cropland Policy

Appendix 10: Wildlife Best Management Practices..... 55
Appendix 11: Riparian and Wetland Best Management Practices 56
Appendix 12: Background Information..... 59

Cropland Policy Advisory Group

Rich Andrews

Keith Bateman

Ewell Culbertson

Jeannette Hillery

Dan Lisco

Emily Prisco

Dea Sloan

Jane Uitti

Jules Van Thuyne

Cropland Policy Planning Team

Ron Stewart, Parks and Open Space Director

David Bell, Parks and Open Space Agricultural Resources Division Manager

Therese Glowacki, Parks and Open Space Resource Management Division Manager

Rich Koopmann, Parks and Open Space Resource Planning Division Manager

Tina Nielsen, Parks and Open Space Special Projects Manager

Adrian Card, Colorado State University Extension Service, Boulder, Extension Agent

Meaghan Huffman, Parks and Open Space Agricultural Resource Division, Resource Specialist

Jesse Rounds, Parks and Open Space Resource Planning Division, Resource Planner

Boulder County Cropland Policy Background

Boulder County Parks and Open Space Mission

To conserve natural, cultural and agricultural resources and provide public uses that reflect sound resource management and community values

1. Boulder County Parks and Open Space

Geographically situated at the intersection of the Great Plains and the Rocky Mountains, Boulder County's boundaries encompass enormous diversity of land forms, natural resources and habitat. This rich, scenic and natural heritage forms the foundation for Boulder County's quality of life. The idea of the Parks and Open Space Department was initiated in the mid-1960s by citizens who were interested in preserving open space land in the face of rapid county development. Citizens have supported the county Parks and Open Space program, voting in favor of several sales tax ballot issues between 1993 and 2010.

Today Boulder County owns an interest in nearly 100,000 acres of land (63,696 ac in fee, 36,023 ac in Conservation Easements) divided roughly equally between the plains and mountains. Along with these lands, Boulder County owns water rights valued at \$70 million. Open space lands are governed by the Boulder County Comprehensive Plan, which outlines several purposes (emphasis added):

- Urban shaping between or around municipalities or community service areas
- Preservation of critical ecosystems, habitats and scenic vistas, outdoor recreation areas and trails
- Conservation of natural resources, including forest lands, range lands and agricultural lands
- Protection of designated areas of environmental concern

2. Management Background

The Boulder County Comprehensive Plan provides the overarching vision and guiding policies for managing county open space lands. The Boulder County Comprehensive Plan addresses cropland policies in two sections: the Open Space Element and the Agriculture Element. Two pertinent examples:

Policy OS 2.03.03:

Management of individual open space lands, including those under agricultural leases, shall follow good stewardship practices and other techniques that protect and preserve natural and cultural resources.

Policy AG 1.02

The county shall foster and encourage varied activities and strategies which encourage a diverse and sustainable agricultural economy and utilization of agricultural resources.

In 2007, Boulder County Parks and Open Space staff started working on a series of policy documents to streamline decision-making and help translate the broad goals of the Boulder County Comprehensive Plan into practice. For staff within the organization, these policies serve as a reference for decision-

Boulder County POS Cropland Policy

making and bridge the conceptual direction of the Comprehensive Plan and the detailed direction in property management plans. For the public and elected officials, the policies serve as a guide to the management philosophy within the organization.

Policies include:

- Forest Policy (2010)
- Conservation Easement Policy (2010)
- Water Policy (internal Draft 2008)
- Cropland Policy (2011)
- Grasslands Policy (2012)
- Cultural Resources Policy (2012)
- Visitor Use Policy (2013)
- Wildlife Policy (2013)

Early Agriculture in Boulder County

Miners flocked to Boulder County after the discovery of gold in the foothills northwest of Boulder in 1859. But few who travelled across the Plains found the fortunes in gold that they came for. Many returned disillusioned to their families back East. Others saw opportunities to provide food, livestock feed and supplies for the mining camps.

Farming began in Boulder County with the harvesting of prairie grasses for the gold camps in 1859. Many of the first settlers filed homestead claims along the streams to assure their water supplies, while others understood the need to develop irrigation systems to move water onto land further from the creeks to make it more productive. While the first irrigation ditch was dug by Marinus Smith and William Pell in Boulder, the first water court approved ditch decree in the County is Lower Boulder Ditch with an appropriation date of October 1, 1859.

Many of the early farms provided fresh fruit, vegetables, flour, dairy products and meat for the local residents as well as produce and livestock hay for the mining camps west of Boulder. Living conditions on the plains were harsh and farming methods learned back East had to be adapted for our semi-arid climate.

During the 1860's, especially with the relocation of the remaining Indian populations to reservations, there was renewed interest in migration to the Colorado Territory. Coal was discovered in Marshall, new mineral discoveries in the mountains swelled their populations, toll roads were constructed into the mining camps, public schools were established, worship services were moved from homes to church buildings, newspapers were published and postal services were extended from Denver. Over the next decade railroad tracks were laid to extend commercial activity, new towns sprang up and the University of Colorado was established in Boulder. This renewed activity and population also increased the need for more agriculture products.

3. Cropland Management on Boulder County Open Space

Today, Boulder County Parks and Open Space oversees approximately 25,000 acres of agricultural land through the Parks and Open Space Agricultural Resources Division. About 15,100 acres are considered cropland. Cropland is defined as land used for irrigated crops, dryland crops, irrigated pastureland, and areas set aside for support facilities and some limited areas set aside for natural resource protection. The majority of the rest of the land managed by the Agricultural Resources Division is dry pastureland used for grazing.

Unlike other properties owned by the County, agricultural lands are managed through a partnership with farmers who pay to lease the land for agricultural production. Today, the county has 120 leases with 70 farmers and ranchers. With assistance from the Natural Resource Conservation Service (NRCS), these farmers and ranchers develop water and soil conservation plans for the property, County staff develop operating plans for each lease, and then County staff and the farmers/ranchers work together to ensure that infrastructure is up-to-date, water is being properly delivered and the property and the goals for the property are being met. The County invests the rental proceeds back into the agricultural lands, through the five-year Capital Improvement Project plan.

4. Purpose of the Cropland Policy

Boulder County manages cropland for the long-term. The purpose of the Cropland Policy is to link the goals of the Boulder County Comprehensive Plan with the operational activities of Boulder County Parks and Open Space staff.

Cropland Policy Vision

Boulder County Parks and Open Space's vision is to be a national leader in sustainable agriculture.

There are many definitions of sustainable agriculture, and most of them include three elements: economic, environmental and social sustainability. Examples include the work of policy organizations such as the USDA National Institute for Food and Agriculture, the Leopold Center for Sustainable Agriculture and Sustainable Agriculture Research and Education.

The Cropland Policy sets forth the policies and practices that define sustainable agriculture on Boulder County open space lands.

Soil and Water

Soils: Boulder County soils are suited to many kinds of native grasses, shrubs, and other forage plants. Most soils tend toward the clayey end of soil texture, with some sandier areas. Boulder County producers need to implement soil management practices similar to other producers in notable crop production centers of the U.S.

Water: Understanding the intimate connection between land and water, Boulder County Parks and Open Space (BCPOS) has been vigilant in its acquisition not only of land, but also the water necessary to keep that land and associated ecosystems healthy and productive. The County's water portfolio is valued at over \$70 million and includes ownership in 61 incorporated ditches, 31 unincorporated ditches, 13 reservoirs and at least 57 directly held water rights.

Boulder County Parks and Open Space operators are required to work with the NRCS to develop soil and water conservation plans.

5. Cropland Policy Process

The Cropland Policy was developed in several stages: internal scoping, public outreach, policy development and public review.

The first stage, internal scoping, began with a series of brainstorming sessions. These brainstorming sessions led to the development of a staff team including members of the Director's staff, the Agricultural Resources staff, Planning staff, Resource Management, and a representative from the Colorado State University Extension Service. This staff met regularly to manage the policy development process, work directly with advisory groups, and draft the proposed policy.

In May 2010 the public education phase of the process began with the Cropland Management Policy Open House. Over 100 interested residents of Boulder County attended this event at the Boulder County Fairgrounds. The purpose of the event was to reintroduce residents of the county to the Agricultural Resources Program, provide data regarding the program, and release a preliminary plan for the public outreach portion of the Cropland Management Policy.

Following on the heels of the Open House, staff organized Cropland Tours each month during the summer of 2010 and again in July and August of 2011. These tours took hundreds of county residents into the fields to talk to farmers and get a first-hand look at challenges and opportunities of farming in Boulder County. County staff created a virtual Harvest Tour online, allowing residents to learn what types of crops were being harvested and where the harvests might be taking place. The online tour also posted information about crops commonly grown in the county.

The 2010 public education phase of the outreach process continued in November with a Sustainable Agriculture Forum. This public forum brought together a small group of experts to discuss the subject of sustainable agricultural practices and policies in Boulder County. In February of 2011 the staff brought together local producers to discuss their work in the fields at the Farmer and Rancher Panel Discussion. These forums allowed stakeholders to understand the many different ways in which agriculture and farmers directly impact the lives of people who may never see wheat being harvested.

In 2011 the public process shifted to developing policies for managing croplands in the long-term. The Boulder County Commissioners appointed nine citizens to the Cropland Policy Advisory Group (CPAG) to develop policy recommendations.

The final stage of the Cropland Policy process was public review, with an informal open house and formal public hearings with the Food and

Agriculture in Boulder County today (Quick Facts)

Boulder County, 2007 Census of

Agriculture:

No. of Farms: 746

Avg. Size of Farms: 185 ac

Top crops: Forage, Wheat, Corn for grain, Barley for grain, Corn for silage

Market Value of Farm Products sold: \$34,037,000

Avg. Market Value per Farm: \$45,625

Federal Government Payments: \$376,000

Avg. per farm receiving payments: \$4,525

Avg. age of principal operator: 59.4 years

Primary Occupation of Principal Operators: 39% Farming, 61% Other

Boulder County Parks and Open Space:

Agricultural Land: 25,000 ac

Cropland: 15,100 ac

Types of operations: crop, crop/livestock, livestock, market farm

No. of leases: 120

No. of tenant farmers: 70

Lease revenues: \$1.1M - \$1.3M per year

Budget: 74% of lease revenue goes toward crop share and water assessments; 17% goes toward operation and maintenance

Agriculture Policy Council and the Parks and Open Space Advisory Committee. The final step was a public hearing before the Boulder County Commissioners who approved the Cropland Policy on December 20, 2011.

6. Cropland Policy Advisory Group

The nine members of the Commissioner-appointed Cropland Policy Advisory Group represented a variety of stakeholder perspectives, with three conventional farmers, two organic farmers, a representative from an organic dairy, and three at-large citizens. CPAG met approximately twice a month for nine months in 2011. The advisory group process was designed to encourage collaboration and consensus-building through discussion and deliberation. Where consensus was not possible, minority opinions are included in this report.

CPAG meetings were open to the public for observation; public comments were taken in written form and forwarded to CPAG for review; at the request of members of the public, a public input session was added to the CPAG schedule. All meetings were run by a professional facilitator from outside of Boulder County government, contracted to provide her services throughout this process and ensure a fair and balanced group process.

7. Document Overview

The remainder of this document includes the policy, working documents, supporting materials, and public comment from throughout the process. Not every issue pertaining to day-to-day operation is covered specifically in this document. In many cases, some policies are expanded upon in other documents.

The Policy section of the document includes the policies developed by the Cropland Policy Advisory Group. The majority of policies reflect a consensus of the CPAG; where members of CPAG disagreed with a specific policy or felt more policies were needed, individual members submitted minority opinions, which are included in the policy document.

The appendices include a number of examples of working documents used by staff to carry out the policies described in the body of the Cropland Policy, supporting documentation submitted by members of CPAG, and public comments received during the process.

Boulder County Parks and Open Space Cropland Policy

This document consists of the collected consensus proposals of the Cropland Policy Advisory Group and, where applicable, the minority opinions. In cases where consensus was not reached, the split within the Advisory Group is noted at the end of the policy.

1. Administration

The Agricultural Resources Division manages thousands of acres of cropland and rangeland in cooperation with tenants who lease land from Boulder County. Boulder County supports agriculture in the county and preserves open space. Through this partnership the Agricultural Resources Program shall be administered in a manner that promotes sustainable agriculture and in alignment with community goals.

This Cropland Policy shall be periodically reviewed and revised, as needed, in response to new scientific developments, new farming tools and techniques, changes in the global and local economy, environment and the evolution of community goals for this publicly-owned land.

Sustainable agriculture is defined by a long term view and by farming practices that ensure that croplands can be farmed and crops produced in perpetuity without diminishing yield, quality of crop, or health and resource of the soils, by continually regenerating soil quality in balance with what is removed in food and fiber.

Sustainable agriculture provides a livable financial base for the farmer and both serves and receives support from the local economy in which it operates.

- 1.1. Most leases shall be bid competitively and the selection criteria shall be publicly available. In some cases properties are not competitively bid in order to respect a specific purchase agreement, or to recognize the efficiencies gained by combining adjacent parcels for improved land management including irrigation management.
- 1.2. Leases are negotiated based on a standard form at market rates, but reflect conditions at each property, the type of operation proposed, and the goals of sustainable agriculture as stated in the Cropland Policy.
- 1.3. Parks and Open Space uses both cash rent and crop share methods to tailor leases to the character of the land and the type of operation.
- 1.4. Leases are awarded to farmers who employ sustainable practices and who demonstrate a commitment to investing in innovative practices through education and skills development. (Appendix 3: Bid Process)

Boulder County POS Cropland Policy

- 1.5. Boulder County recognizes the importance of developing farmers interested in many different forms of farming. Boulder County shall continue to support beginning farmers through youth in agriculture programs, working with Boulder County Extension, and providing competitive lease rates. Boulder County shall develop programs to foster the development of beginning farmers on Boulder County Open Space.
- 1.6. Revenue obtained through the lease of agriculturally designated land should first be used to fund the Agricultural Resources Program and the capital and maintenance activities of the Program.
- 1.7. Lessees seeking USDA organic certification shall receive a 50% reduction in rent during the three-year transition period.
- 1.8. Boulder County shall prioritize opportunities for organic operations on POS land and continue expansion of certified organic agriculture on Open Space land with the goal of maintaining a growth rate in acres leased for organic agriculture that meets or exceeds the national growth rate of organic acres in each year, with the goal of reaching or exceeding 20% of cropland certified organic or in transition by 2020, if market forces allow. Boulder County will work with producers, the natural foods industry, and other stakeholders to explore and expand market opportunities.
- 1.9. Staff shall develop methods for creating public awareness of the role of public open space in crop and local food production. (Appendix 4: Education and Outreach)
- 1.10. Boulder County will prioritize the expansion of food crops on Open Space land for local markets.
- 1.11. Standard operating procedures shall be developed to protect cultural resources on cropland.
- 1.12. Structures, facilities, and special uses for agricultural properties may be allowed, but must first be approved by POS, allowed under County Land Use Code, and not remove cropland from productive use. Such structures, facilities, and uses shall be of a scale such that they do not impact the predominate nature of Open Space as open land. POS approval shall consider neighborhood compatibility and other potential impacts.
- 1.13. Boulder County shall adopt a Good Neighbor Policy. All agricultural tenants shall be provided, and comply with, the expectations of the Good Neighbor Policy.
- 1.14. Boulder County Parks and Open Space shall establish the Good Neighbor Policy to assist farmers of Open Space properties in resolving conflicts arising from common practices and practices specific to a lessee's operations. Boulder County shall provide a venue for sharing

Boulder County POS Cropland Policy

information on the standards and policies for farming on Open Space and provide a method and venue for mediating disputes arising out of the interaction among farms and with residential areas. A draft Good Neighbor Policy as discussed and approved by the Cropland Policy Advisory Group can be found in the Appendix 5: Boulder County POS Good Neighbor Policy.

- 1.15. Lease applications and lease consideration shall be available to individuals, non-profits, or community groups who wish to lease an agricultural parcel for the purpose of rebuilding soil and ecosystem health of the parcel, transitioning the parcel to organic certification and production, or farming the parcel for public and community benefit.
- 1.16. Boulder County Parks and Open Space supports farmer succession planning. Boulder County considers succession plans as one of many factors evaluated in the lease bid process.
- 1.17. Food safety regulations for producers on Boulder County cropland are enforced through governmental entities, which include but are not limited to: Boulder County Health Department, Colorado Department of Public Health and the Environment, and Federal regulators. Farmers must abide by these regulations.

2. Market, Small, and Specialty Crop Farms

Boulder County Parks and Open Space can play an important role in developing alternative markets and diversifying the agricultural economy in Boulder County. The small and market farm programs are designed to provide a stepping stone to economic sustainability and contribute to the availability of local food.

- 2.1. Boulder County shall administer a program to support and encourage small acreage farms on Boulder County Parks and Open Space land.
- 2.2. Boulder County shall develop and maintain a Growers' Association program to help beginning farmers to develop skills and practices while sharing land management responsibilities with other farmers.
- 2.3. Boulder County supports the development of direct-to-market operations such as on-site sales and shall consider facilities and structures, subject to land use code, necessary for such operations as described in the Administrative Section of the Cropland Policy.
- 2.4. Boulder County shall work collaboratively with farmers' markets and other marketing opportunities to support the use of open space products in providing local foods.
- 2.5. Boulder County shall work with County Extension and other organizations to foster communication and coordination among growers to proactively address co-existence issues such as cross-pollination and chemical trespass.

3. Water

Boulder County owns and manages a significant portfolio of water resources for environmental and agricultural purposes. The water resources managed by Parks and Open Space allow farmers to successfully produce crops on our Cropland. Parks and Open Space must continue to manage water such that farmers can have access to the water they need to succeed.

Water is a precious resource for agriculture in Boulder County and throughout the arid west. Yearly fluctuations in precipitation and the seasonality of that precipitation make managing water a key to any successful agricultural resources program. Boulder County addresses this issue in two important ways. First, the staff works with farmers to ensure that water is delivered and used in the most efficient manner. Boulder County works with farmers to install more efficient watering systems such as pivot irrigators, and when possible, drip irrigation systems. Second, as a major holder and user of water in the county, Boulder County is on the board of or an active participant in, most ditch companies within Boulder County.

The Water Policy is a separate document covering the full range of water management issues. It will be presented to the public in 2012 for review and comment. The policies below relate to agriculture and are cross-referenced to the Water Policy where applicable.

- 3.1. Boulder County shall maximize the beneficial application and use of water by analyzing available water resources, agricultural properties, and diversity of crops. Fully use county-owned water to avoid potential abandonment.
- 3.2. (Water Policy 1a.ivi.) [Boulder County shall] Use supplemental water shares, primarily Colorado Big Thompson water, where it can provide the most benefit and when possible, purchase all water rights, including supplemental water, in new acquisitions.
- 3.3. (Water Policy 1e.i.) [Boulder County shall] Work with policy makers to advocate that water law continues to support agricultural uses.
- 3.4. (Water Policy 1h.) [Boulder County shall] Explore and implement rainwater storage devices where legally possible.
- 3.5. (Water Policy 1i.) [Boulder County shall] Continue to purchase additional water rights if funds are available and if they can be beneficially used.
- 3.6. (Water Policy 1l.) [Boulder County shall] Monitor water supply and delivery in both the short and long term, to measure the impact of climate change. Alter practices and planning as appropriate to reflect anticipated climate impact changes.
- 3.7. (Water Policy 2a.iv.) [Boulder County shall] Advocate for maintaining Ditch Company by-laws that support continued agricultural use of water.
- 3.8. (Water Policy 2e.) Boulder County shall work collaboratively with other agencies to protect the quality of irrigation waters

Boulder County POS Cropland Policy

- 3.9. (Water Policy 3e.) Boulder County shall research the potential impacts of climate change on riparian habitats along water delivery systems. Develop practices that maintain riparian ecosystem health under future conditions.
- 3.10. (Water Policy 4g.) Boulder County shall evaluate all storage proposals and support those that benefit the Department's agricultural or conservation programs and that are suitable environmentally.
- 3.11. (Water Policy 7a.iv.) Boulder County shall use Best Management Practices to protect water quality and reduce soil erosion.

4. Soil Health and Quality

The long-term health of agricultural soils is a major determining factor in how successful Boulder County will be in creating a sustainable agricultural system on its cropland. Sustainability as it relates to soil health and quality requires affirmative efforts to protect the resource base of cropland so that it shall be productive in the future. Indicators of soil health and quality include, but are not limited to: percent of organic matter, soil salts, pesticide residue, and the degree of soil erosion. Soil health policies address these dimensions of soil health and quality. The policies below are cross-referenced to the Water Policy where applicable.

- 4.1. Tenants shall operate in accordance with Soil and Water Conservation Plans approved by the Natural Resources Conservation Service.
- 4.2. Tenants shall operate in accordance with operating plans developed in collaboration with Parks and Open Space.
- 4.3. Boulder County shall maintain relationships with partner agencies, organizations, and consultants that provide guidance to farmers; provide access to these agencies, organizations, and consultants; and encourage farmers to seek innovative solutions to sustainable practice and soil healthy/quality issues.
- 4.4. (Water Policy 2e.) Boulder County shall work collaboratively with other agencies to protect the quality of irrigation waters entering and leaving Boulder County properties.
- 4.5. (Water Policy 7 b.) Boulder County shall meet or exceed local, state, and federal water laws and regulations.
- 4.6. (Water Policy 7b.iii.) Boulder County shall be informed of, identify, summarize, and comply with relevant water quality regulations and laws pertaining to Boulder County activities.

Boulder County POS Cropland Policy

- 4.7. Boulder County shall require best management practices with respect to soil health and quality (Appendix 6: Soil Health and Quality). These practices may include but are not limited to:
- Conservation tillage
 - Soil amendments
 - Cover crops
 - Residue management
 - Crop Rotation
 - Rotational Grazing
- 4.8. Boulder County shall implement monitoring regimes to ensure that practices and policies are stabilizing and improving soil health and quality.
- 4.9. Boulder County shall encourage experimental farming practices and adoption of these practices where and when appropriate. Boulder County shall collect and disseminate data on experimentation. Such lands shall be administered as a part of a lease to an existing farmer tenant or as a special lease for the purpose of RD&D and may include crop sharing or flat rentals as with other leases, or incentive leases to stimulate RD&D. BCPOS shall be a repository of all such RD&D reports and shall make the reports and raw data readily available two years after the completion of the project.
- 4.10. Boulder County gathers and maintains, and makes available if requested data concerning the key indicators of soil health.

5. Economic Viability

Economic viability requires attracting high quality agricultural operators and providing an environment that supports their long term economic survival. Boulder County develops and follows clear practices and guidelines that allow agricultural operations to flourish.

- 5.1. Boulder County supports self-sufficient and economically viable agricultural operations and recognizes they are essential to the overall viability of the agricultural program.
- 5.2. Boulder County shall promote and encourage diversity in cropping systems, crops, and practices, to balance risks associated with factors beyond farmers' control, such as weather events, price fluctuations, federal price supports, etc.
- 5.3. Boulder County supports operators willing to explore and adopt new farming practices and new markets that embody the Department's and the community's long term goals while also practicing sound management.
- 5.4. Boulder County shall work with local and regional economic development, business and community organizations to integrate agricultural economic development into overall community and economic development strategies and to promote strategies to strengthen

and expand existing farm and agri-businesses and attract activities complementary to agriculture to Boulder County.

- 5.5. Boulder County works with farmers, resource providers, local businesses, and organizations to encourage development of necessary infrastructure and relationships to support existing markets and explore new markets.
- 5.6. Boulder County works with a variety of organizations including CSU Extension to support educational programs that promote farming as a career, enrich farming practices, and encourage engagement with farmers.
- 5.7. Boulder County maintains current infrastructure and invests strategically in capital improvement projects to attract a larger pool of agricultural producers.
- 5.8. Boulder County supports creating lease terms that encourage tenant investment in infrastructure to enhance productivity.
- 5.9. Boulder County reviews economic viability of agricultural operations on Boulder County Parks and Open Space land. The Agricultural Resources Division shall work with farmers to improve productivity when and where possible.

6. Agricultural Inputs

Agriculture has an impact on the air, land, and water. Sustainable agriculture includes efforts to reduce extractive and destructive processes. Different types of agriculture use different techniques for maintaining a balance of practices to sustain the air, land, and water. The policies below attempt to address these different techniques while making it clear that Boulder County Parks and Open Space is committed to sustainable agriculture.

6.1. Genetically Engineered Crops

Crops have been selectively bred and manipulated for thousands of years. With the advent of new technologies, corporations and universities are using advanced techniques for inserting and altering genetic codes to create commercially viable plants that address continued issues in agriculture such as pest control and drought tolerance. Controversies have sprung up around the techniques, practices, and consequences of this technology. However, commercially available seeds and treatments are reviewed, tested, and approved by the Environmental Protection Agency, the U.S. Department of Agriculture, and the Food and Drug Administration.

Boulder County Parks and Open Space believes that sustainable agriculture for Boulder County must be founded upon the idea of long term viability.

In light of ongoing controversy over the public health, environmental, and socio-economic impacts of genetically engineered (GE) crops, Boulder County will, in general, only allow the planting of GE crops on County Open Space cropland when the likely, demonstrable benefits from the planting of a federally-approved GE crop will surpass the known and potential risks associated with adoption of the GE technology.

Boulder County POS Cropland Policy

Boulder County shall consider the following potential impacts of a GE crop, as well as specific trait claims, in making its determination regarding whether the expected benefits exceed the costs and credibly verified scientifically-documented risks associated with planting the GE crop. Proposals shall be evaluated based on the applicable criteria that best relate to the specific trait claim made by the manufacturer. Decisions shall be made by POS staff in conjunction with appropriate representatives from The University of Colorado (CU), Colorado State University (CSU), CSU Extension, tenant representatives, and other agricultural organizations.

- 6.1.1. **Integrated Pest Management and Resistance Management:** The GE technology shall be compatible with the core principles of Integrated Pest Management, which include an emphasis on pest prevention, diversification in the tools used to control pests, avoiding excessive reliance on any single tool, and attacking pests at their most vulnerable points in their lifecycle.
- 6.1.2. **Pesticide Resistance:** The GE cultivar shall allow farmers to significantly reduce the impacts of pesticides on non-target organisms and people, water and soil quality, or biodiversity either through a shift to reduced-risk pesticides or a reduction in pesticide use on a per acre basis (or both).
- 6.1.3. **Conservation:** The GE technology shall be compatible with core principles of Best Management Practices promoting soil conservation, water quality and water conservation.
- 6.1.4. **Yield and Quality Management:** The GE technology shall substantially increase crop yield or crop quality, and/or profitability compared to best available genetics and production systems for the area.
- 6.1.5. **Human Nutrition:** The novel traits in the GE crop substantially enhance the nutritional quality and content of the harvested crop, so that any finished product containing the crop or ingredient qualify for FDA labeling requirements of “High,” Rich in,” or “Provides.” (Current FDA regulations specify 20% or more.)
- 6.1.6. **Allergens and Toxicity:** The engineered crop substantially reduces the levels of known or expected human allergens or toxins, and the label associated with the crop, or foods containing the crop, identifies the allergen whose levels have been reduced, the degree of reduction, and states that the crop was genetically engineered.

The terms and restrictions imposed as a condition of planting the GE crop should not abridge the ability of tenants to choose the GE and conventional crop genetics most suited to their farm, or otherwise limit management discretion.

Approval of any GE crop shall be granted for five years at a time. For all GE crops approved for use, Boulder County shall develop a monitoring system in cooperation with farmers, CSU and other

Boulder County POS Cropland Policy

partner agencies to determine whether the GE technology is consistently delivering the anticipated and claimed benefits and whether any unanticipated adverse impacts have occurred.

Any approval of genetically engineered crops or organisms on Boulder County Open Space land must address gene flow, notification, and resistance management. Genetically engineered crops must be approved for use by the Federal government and shall not be approved for planting on Open Space land for a minimum of three years after approval for use by the Federal government. This will allow experts and policy-makers to assess possible impacts.

Gene Flow: Protocols surrounding gene flow are instituted in order to minimize opportunities for the intermingling of GE and non-GE genetics. Procedures will vary based on how the organism under consideration reproduces. Common practices with respect to plants currently approved by the USDA include removing bolts and planting non-GE buffers. If the Department approves a particular genetically engineered organism for Open Space properties, protocols for minimizing gene flow must be included.

Notification is currently part of the protocols for genetically engineered corn planted on Open Space. As with gene flow, protocols for proposed genetically engineered organisms will vary. Notification protocols shall protect neighbors from the possibility of gene flow and encourage communication to help with resistance management.

Resistance management addresses concerns regarding the development of pests resistant to pesticides. Resistance can be managed in a number of ways and protocols may call for additional resistance management techniques. To prevent development of weed resistance to glyphosate, BCPOS growers are required to rotate to a non-Roundup Ready cropping system in the year following a Roundup Ready crop. If this is not possible and Roundup Ready cropping is done in two consecutive years then a field must stay out of Roundup Ready cropping system for two years before returning to a Roundup Ready crop.

Resistance management protocols will also be required for Bt corn. Boulder County reserves the right to require best management practices as indicated by BT resistance management studies.

Glyphosate-resistant crops are currently planted on Boulder County Parks and Open Space leased land. With protocols approved by staff, the glyphosate resistant crops permitted on BCPOS land shall be corn and sugarbeets. Glyphosate resistant alfalfa will not be permitted. If glyphosate resistant wheat becomes available, it may be considered for approval by staff based on the criteria in this policy. However, if approved for use it can only be planted in fields where no other glyphosate resistant crops are planted in rotation.

6.2. Pest Management

Managing pests whether animal, plant, fungus, or other is a constant battle for farmers in Boulder County. Tools for managing pests vary by farmer, crop, and area. However, clear state and federal guidelines dictate application practices and precautions. Boulder County reserves the right to impose additional protocols to protect farmers, neighbors, plants, and/or animals.

Boulder County POS Cropland Policy

- 6.2.1. Sustainable pest management is recognized as an integral part of agriculture operations. Boulder County supports the safe and controlled management of pests on Boulder County Property to protect the environment, neighbors and users.
- 6.2.2. Boulder County shall manage pests through a Strategic Integrated Pest Management Program that protects the environment, neighbors, and users (**Appendix 7: Strategic Integrated Pest Management and Appendix 9: Pesticide Application Protocols**).
- 6.2.3. Boulder County Ag tenants shall use any legal method for pest control allowed under State and Federal Law and in compliance with Boulder County Strategic IPM Guidelines. Boulder County Parks and Open Space reserves the right to restrict specific pesticides and/or application practices. Boulder County Ag tenants shall reduce pesticide usage over time with the goal of minimizing the use, volume, and toxicity of these pesticides.
- 6.2.4. Any pesticide application on Open Space Agricultural Lands shall be completed in compliance with the Agricultural Division's application protocols.
- 6.2.5. Signage shall be posted on any fee-owned county properties along trails where pesticide spraying will take place adjacent to trails. Signage will be posted prior to pesticide spraying. The signage will include the spray date (or range of dates), type of pesticide being sprayed, and trail closures if necessary.
- 6.2.6. Boulder County recognizes that in addition to offering sustainability, pest management with several integrated tactics often results in better environmental stewardship. All tenants shall be strongly encouraged to coordinate multiple complementary approaches of pest management to avoid excessive reliance on a single tactic, practice, genetic trait, or pesticide thus extending the length of time over which practices are effective.
- 6.2.7. Boulder County shall implement monitoring and reporting regimes to evaluate pesticide usage on Open Space Agricultural properties with the goal of reducing pesticide use, volume, and toxicity.
- 6.2.8. Boulder County shall work collaboratively with producers, technical advisors and researchers to determine the best and most effective tools for managing pests on Open Space Agricultural properties.
- 6.2.9. Agricultural tenants shall be provided, and comply, with clear expectations of Strategic Integrated Pest Management goals.

6.3. Soil Fertility and Amendments

Soil fertility is integral to sustainable agriculture. Boulder County supports efforts to maintain and improve soil fertility.

- 6.3.1. Maintain relationships with partner agencies, organizations, and consultants that provide guidance to farmers. Provide access to these agencies, organizations, and

Boulder County POS Cropland Policy

consultants; and encourage farmers to seek innovative solutions to sustainable practice and soil fertility issues.

- 6.3.2. Boulder County encourages farmers to implement practices that improve and/or maintain fertility over the long term while maintaining economic and environmental goals.
- 6.3.3. Boulder County shall implement monitoring regimes to ensure that practices and policies are stabilizing and improving soil fertility.
- 6.3.4. Boulder County shall assure compliance with all Federal, State and local health department requirements, as well as implement all Parks and Open Space requirements for the use of biosolids on Boulder County lands. (Appendix 8: Biosolids Standard Operating Procedures)

7. Livestock Management

Livestock of many different types have been an important component of agriculture in Boulder County for years. Livestock operations differ significantly from other cropland practices and many of their actions will be governed by the Grassland Management Policy, scheduled to be created and adopted in 2012.

- 7.1. Livestock operations are permitted on properties suitable for livestock.
- 7.2. Livestock operations shall be encouraged as a management tool when and where appropriate and employed as a valuable management or rotational use for rebuilding soil health.
- 7.3. Animal Feeding Operations (AFOs) are permitted on Parks and Open Space property on agricultural properties only with specific permission.
- 7.4. Animal Feeding Operations (AFOs) shall be sited according to federal, state and, county laws, in appropriate areas with consideration given for appropriate buffers for natural resources and neighbors.
- 7.5. AFOs shall employ BMPs for manure management to maximize the use and preservation of manure nutrients in local crop production and shall minimize the release of environmental air and water emissions.
- 7.6. Boulder County Parks and Open Space shall develop educational material demonstrating the value and importance of livestock and grazing for the agricultural economy of Boulder County and as a cropland management tool.
- 7.7. Lands for forage production shall be maintained within the Parks and Open Space system to support the livestock industry in Boulder County.

- 7.8. Parks and Open Space shall collaborate with others to develop infrastructure to support expanded livestock operations in Boulder County.

8. Recreation on Cropland

Passive recreation is part of the mission of Boulder County Parks and Open Space. While cropland is protected for agricultural uses, recreation opportunities may be part of sustainable agriculture in Boulder County.

- 8.1. Trails shall be developed on agricultural land only with appropriate considerations for agricultural value. Trails shall be:
 - Designed to minimize loss of cropland, irrigation interference, and impact on agricultural operations.
 - Sited to reduce the possibility of weed transfer to ditches or fields.
 - Closed to the public if/when pesticide application is in progress.

9. Natural Resources on Cropland

Natural resource protection is part of the mission of Boulder County Parks and Open Space. Sustainable agricultural practices include protecting natural resource systems.

- 9.1. Boulder County and its agricultural tenants shall abide by all federal and state laws governing wetlands, wildlife, and plant species.
- 9.2. The County Comprehensive Plan Critical Wildlife habitats shall be considered a priority for protection when leases and agricultural operating plans are developed.
- 9.3. For any wildlife designated as State Threatened or Species of County or State Concern, POS staff shall work with tenants to develop best management practices and site specific plans to manage them. (Appendix 10: Wildlife Best Management Practices)
- 9.4. If a new occurrence of a protected species occurs on POS land, no additional disturbance within the recommended US Fish and Wildlife Service (USFWS) or Colorado Department of Parks and Wildlife (CDPW) buffer shall occur. Existing operations can continue except where prohibited by these agencies.
- 9.5. At the beginning or at the renewal of a lease, lease terms may be modified to protect natural resources. If during a lease term, measures, approved by Boulder County, to protect a natural resource impact the terms of the lease, Boulder County shall compensate for the losses at the tenants share of an average crop insurance claim.
- 9.6. All cropland shall be defined as a No Prairie Dog Area as outlined in section 6.3 of the Prairie Dog Element of the Grassland Management Policy.

Boulder County POS Cropland Policy

- 9.7. Priority shall be given to discouraging prairie dogs from occupying cropland. Prairie dogs will be managed in accordance with Section 8.2 and 8.3 of the Prairie Dog Element of the Grassland Management Plan.
- 9.8. After training and with approval from Parks and Open Space, lease-holders may perform management of prairie dogs on their leased cropland through a system developed by BCPOS by July 1, 2012.
- 9.9. To the extent possible, Boulder County POS shall preserve wildlife corridors through agricultural land:
 - 9.9.1. Highest priority corridors to preserve are natural streams – POS shall develop BMPs and appropriate, site specific, buffers to protect these areas. (Appendix 11: Riparian and Wetland Best Management Practices)
 - 9.9.2. Ditches often serve as corridors and to the extent possible, these riparian-like habitats shall be maintained.
- 9.10. Boulder County shall preserve wetlands and Comprehensive Plan designated Critical Wildlife Habitat by developing site specific best management practices and buffers to protect these areas.
- 9.11. Where feasible, Boulder County shall enhance wildlife habitat on agricultural properties (drainages, grassed waterways, corners of pivot systems, and non-productive land).
- 9.12. Pollinators, especially bees, are vital to agriculture in Boulder County. Maintaining healthy pollinator populations requires cooperation between farmers, ranchers, bee keepers, and the county. The county shall provide opportunities for dialogue and cooperation between all parties. In the event that any pesticides or practices are linked with Colony Collapse Disorder, Boulder County will work with all involved to eliminate the impact possibly including a ban on a practice or pesticide.

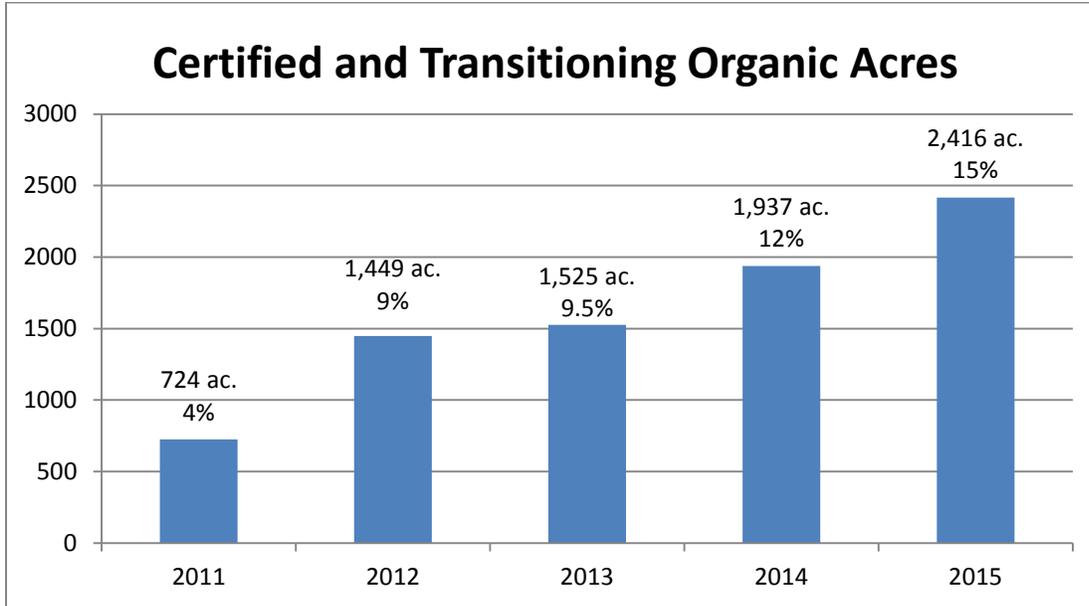
ATTACHMENT B

Cropland Policy Implementation Progress by POS Ag Division 2012-2015

Organic Transition

Organic Production Acres

- 16,000 Cropland Acres Total



Organic Production Incentives

Organic Preference in bid process

50% rent reduction for first 5 years

Organic Certification cost assistance (county pays 50% not covered by USDA programs)

Share cost of organic crop/marketing consultant (up to 50%)

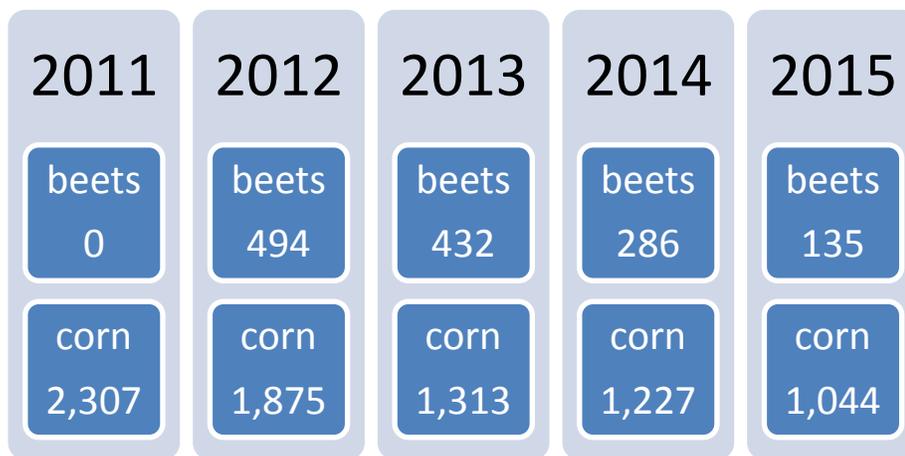
Infrastructure Improvements such as irrigation, fencing, buildings, etc.

Organic weed team available to help with weeds outside production areas

Organic Production Investments

- BCPOS has invested over \$830,000 in organic and market farm improvements since the adoption of Cropland Policy
- Examples: electrical service, irrigation projects, building upgrades, center pivots, livestock fencing, installing domestic water taps, and others
- Held a series of workshops for area producers titled “Is Organic an Option for Me?” “Organic Conversations Vegetables,” “Organic Conversations Crops,” “Organic Conversations Livestock,” and an Organic Certification Workshop.

Acres of GE on BCPOS Agricultural Properties



Integrated Pest Management

- 2011: Pesticide application data collection began
- 2012 – 2013
 - Tenant survey documenting current pest management practices developed with input from CSU faculty, extension and local crop consultant
 - EIQ calculator identified as primary tool for measuring and reporting impact of pesticides of agricultural properties
 - Identified “IPM Elements” as a way for monitoring pest management practices
- 2014
 - Mandatory IPM checklists completed with IPM Elements and EIQ Section for alfalfa, barley, corn, wheat, and sugarbeets
 - Data from 2014 cropping year collected and entered into database
- 2015
 - Checklists revised and improved
 - Checklist completed for irrigated pasture, grass hay and dryland pasture

Soil Health

- Soil Health discussions began in 2012 and have culminated in a two-pronged approach to monitor and respond to soil health.
 - Volunteer soil health monitoring (2015 and beyond)
 - 8 properties, 6 characteristics of soil health monitored
 - Soil pesticide residue testing (2015 and beyond)
 - 5 properties tested, results available

Pollinator Protection

- Facilitate coordination between POS tenants and Beekeepers (2011, 2012, 2013, 2014, 2015, will continue)
- Introduced and implemented *Fieldwatch*, an on-line registry of bee hive and crop locations to locate and contact bee keepers adjacent to POS lands (2013-2015)
- Incorporate pollinator protection awareness into Strategic IPM program (2013-2015)
- Establish pollinator habitat (2011-2015 and beyond)
 - Planted hundreds of acres of grasslands with pollinator species
 - Plant pollinator habitat on field margins (2015)
 - Xerces field training upcoming (2016)
- Formed Pollinator Action Team or PAT of POS and Extension staff (2014)
- Drs. Kearns and Oliveras, CU Researchers, begin conducting a five-year study titled “Agricultural practices on BCPOS: Implications for bee conservation” with a BCPOS small research grant, 2015
- Native pollinator volunteer monitoring program (2014, 2015, will continue)
- Installed 10 nesting block or “bee blocks” on ag properties (2014, 2015)
- Future Projects: Local honey bee health monitoring, access to ag land for beekeepers to keep hives

Water Quality

- 2015 initial year of implementation, tested nutrients, pesticides, sediment and bacteria
- 2016 will expand locations and include pesticides including neonicotinoids

Local Food Initiatives

- Double SNAP at area Farmer's Markets
 - Assisted in the development of the "Harvest Bucks" program at Boulder County Farmers Markets with a \$10,000 grant and POS staff support in 2014
 - In 2015, base SNAP reimbursements at BCFM markets increased by 176.5% due to the Harvest Bucks program.
- Boulder County Meat Marketing Cooperative
 - Received a 2013 Rural Business Enterprise Grant from USDA Rural Development Center to develop a feasibility study on how to best market locally raised beef; five local producers are on the steering committee
 - Feasibility study will be completed in the summer of 2016 and next steps will be considered
- Locally Grown Pinto Beans
 - Beginning in 2013, POS staff has worked with area producers to grow pinto beans that would then be sold to local institutional buyers and donated to Community Food Share
 - The first two seasons did not result in a viable crop. The 2015 season was more successful, and it is expected that beans will be sold to University of Colorado Dining Services and donated to Community Food Share.
- Fairgrounds Kitchen/Food Preservation Center
 - POS staff has looked at a number of options for building or renovating space at the Fairgrounds for a production and preservation kitchen.
 - A feasibility grant was awarded to hire consultants to better ascertain the need for and cost of the project. If built, it is envisioned that the kitchen would be open to members of the public for home canning and cooking purposes as well as used by area farmers to develop value-added products
- Rudi's Bakery Local Wheat Project
 - POS worked with Rudi's Bakery and tenant wheat farmers to explore whether locally grown wheat could be used in their bread products. A number of limiting factors were identified such as low protein content in area wheat. Rudi's subsequent sale to New York-based Hain Celestial has slowed these discussions.
- Local Food Groups
 - Boulder County has a Food Systems Advisory Committee made up of community members whose mission is to increase local food production and increase access to local food. POS staff actively works with this group to study these goals.
 - Making Local Food Work – POS staff and BOCC members attend MLFW meetings which have occurred at least once a month for the last three years.