

Local Food & Marketing

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Local Food Advisory Council – Who we are and What We are Doing

The Local Food Advisory Council was created by the Utah Legislature in 2017 in response to increasing demand for local food. The mission of the Council is to increase production and supply of local food, while keeping farms viable and preserving agricultural land.

Jack Wilbur

Public Information Officer

Utah Department of Agriculture and Food

jackwilbur@utah.gov

Jack Wilbur is a public information officer at the Utah Department of Agriculture and Food. He also serves as staff for the Local Food Advisory Council, and coordinator for UDAF in urban Ag programs.

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State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of Agriculture and Food

LUANN ADAMS
Commissioner

SCOTT ERICSON
Deputy Commissioner

Local Food Advisory Council

2017 Annual Report

Assembling a Council:

After HB 121, Local Food Advisory Council was passed by the 2017 Legislature and signed into law, bill sponsor Rep. Stephen G. Handy (R-Layton) and Jack Wilbur, designated staff at the Utah Department of Agriculture and Food (UDAF) started the process of assembling the Council. Of the 13 members, three are legislators. Rep. Handy and Sen. Gene Davis (D-Salt Lake) are the Council co-chairs, and the third Legislative member is Rep. Marie Poulson (D-Salt Lake). One employee from the Utah Department of Health and one employee from UDAF are appointed by their respective agency leadership. The other eight members are appointed by the Governor from applications received at the Governor's website boards.utah.gov.

Applications were solicited and received in May and June, 2017. The Governor's Office appointed the remaining eight positions in mid-August. At the printing of this report the council members are:

- Representative Steve Handy (R-Layton) (co-chair)
- Senator Gene Davis (D-Salt Lake) (co-chair)
- Representative Marie Poulson (D-Salt Lake)
- Bjorn Carlson, Blue Tree Farms, Bluebell, Utah
- Shayn Bowler, Utah Natural Meat, West Jordan, Utah
- Carly Gillespie, B.U.G. Farms, Salt Lake City, Utah
- Jordan Riley, Riley Farms, Perry, Utah
- Maryann Alston, Urban Farm and Feed, Sandy/Draper, Utah
- Sterling Brown, Utah Farm Bureau
- Marti Woolford, Utahns Against Hunger
- Dr. Kelsey Hall, Utah State University
- Heather Borski, Utah Dept. of Health
- Wayne Bradshaw, Utah Dept. of Agriculture and Food

The Council met twice in 2017, September 21 and October 26. Over the next five years the Council will study and make recommendations on:

- How to best promote vibrant, locally owned farms
- How to best promote resilient ecosystems
- How to best promote strong communities and healthy eating
- How to best enhance thriving local food economies
- How best to assess impacts of population growth and urbanization and the decline in productive ranch and farmland

Council Priorities

During the first meeting of the Local Food Advisory Council, September 21, 2017, several potential priorities were discussed. They include:

- Food Co-ops—consumer owned stores that buy and sell local farm and value added food products
- Regulations that impact farms and food producers—can any of them be simplified or eased without putting the public at risk
- Agri-tourism—corn mazes, hay rides, pumpkin patches, etc. as a way to increase local food sales and farmer income
- Food hubs—local distribution systems designed to increase farmer income and local access to local food
- Increase access to local food by low income people—through easier use of SNAP and other benefits to buy local food at farm stands, farmers markets, etc.
- Increase farmer income—through innovative crops and production techniques, innovative products, and improved distribution
- Marketing and education as a way to increase access to local food
- Farm to school and other institutional local food distribution outlets
- Increase farm production through technologies to grow more food on less land
- Preserve agricultural land

The Council continued to discuss priorities during the second meeting, October 26, 2017 at Riley Orchards located in Perry, Utah. Ad-hoc working groups were formed to research, better identify problems and potential solutions, and review priority areas. The working groups will meet remotely via email, telephone conference calls, video conferencing, etc. At the next full council meeting, tentatively scheduled for March 2018, the working groups will begin to present findings to the Council for consideration for inclusion in the next annual report.

The working groups are:

- Ag. Land Preservation--Research ways to preserve small and larger plots of farm land in the face of population growth and development pressure.
- Regulations--Review food safety and other regulations impacting farmers and food producers.
- Innovations in Production—Examine the feasibility of introducing production innovations including food innovation centers, aquaponics, season extension, new crops, etc, to increase local food supplies and farmer income.
- Innovations in Distribution—Review at food hubs, improved efficiencies with use of SNAP benefits, etc, to improve local food distribution and food access in Utah.



Local Food Advisory Council

Presentation to the Urban & Small Farms Conference



Local Food Advisory Council

- Created by the Utah Legislature in 2017
- Staffed by Utah Department of Agriculture and Food
- Members come from various backgrounds
 - Three State Legislators
 - Two from the House of Representatives
 - One from the Senate
 - Two crop farmers who sell directly to the public
 - Two animal/livestock growers who sell directly to the public
 - One local Ag. Organization (Utah Farm Bureau)
 - One urban farming rep.
 - Two State Government Reps.
 - One from UDAF
 - One from Utah Department of Health
 - One anti-hunger advocate
 - One academic



Current Council Members



1

Rep. Steve Handy (R-Layton) (co-chair)

2

Sen. Gene Davis (D-Salt Lake) (co-chair)

3

Rep. Marie Poulson (D-Salt Lake)

4

Bjorn Carlson, Blue Tree Farms,
Bluebell, UT

5

Shayne Bowler, Utah Natural Meats,
West Jordan, UT

6

Carly Gillespie, BUG Farms, Salt Lake

7

Jordan Riley, Riley Farms, Perry

8

Maryann Alston, Urban Farm
& Feed, Sandy/Draper

9

Sterling Brown, Utah Farm
Bureau

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Marti Woolford, Utahns
Against Hunger

1

1

Dr. Kelsey Hall, USU

1

2

Heather Borski, Utah Dept.
of Health

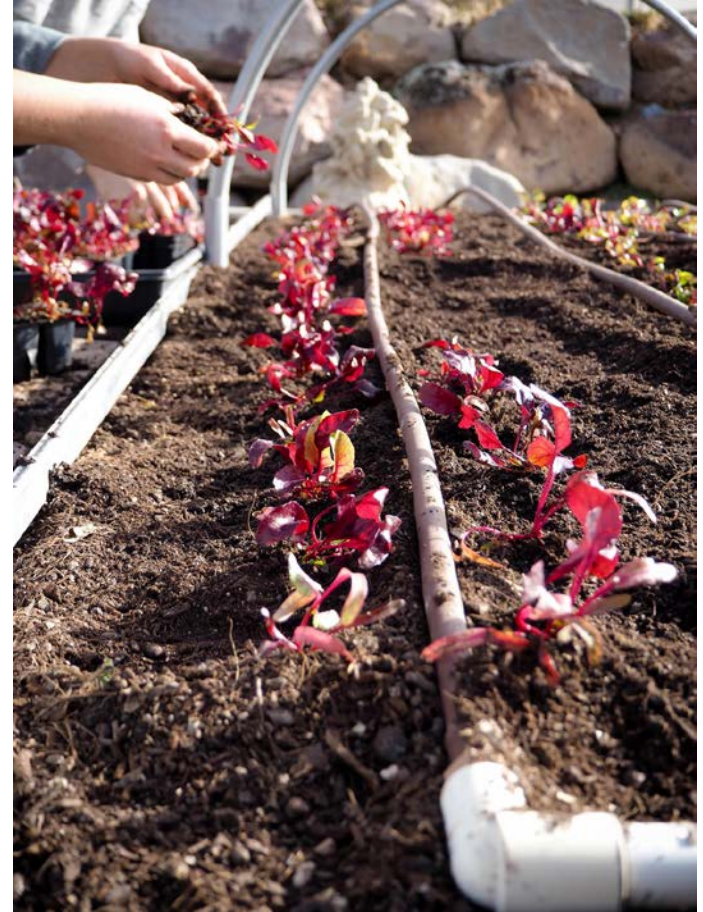
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(open position), Utah Dept. of
Agriculture & Food

Local Food Advisory Council Goals

- Goals during the council's 5-yr. life--Research and make recommendations on:
 - How to best promote vibrant, locally owned farms
 - How to best promote resilient ecosystems
 - How to best promote strong communities and healthy eating
 - How to best enhance thriving local food economies
 - How to best assess impacts of population growth and urbanization, and the decline in productive ranch and farm land



Council Priorities

- Food Co-ops
- Food Innovation Centers
- Agri-tourism
- Food hubs
- Increased food access to low income populations
- Increase farm to school/institution distribution
- Better/more marketing and education
- Increase production through technologies to grow more food on less land
- Preserve Ag. land



— Council Activities to Date



- Two meetings in 2017; Four meetings/year each year through 2022

Sept. 2017 Meeting

- Listed Council priorities

Oct. 2017 Meeting

- Boiled priorities down into four working groups:
 - Ag. Land Preservation
 - Regulations
 - Innovations in Production
 - Innovations in Distribution

Working Groups

Research subject matter; report to the full council; make recommendations to the council

- Volunteer participation
- Not limited to council members
- Meet remotely mostly; limited in person mtgs.



Working Groups

Ag Land Preservation

– Research ways to preserve small and larger plots of farm land in the face of development pressure

- Conservation easements
- Local zoning strategies
- Agri-tourism and other methods to diversify and increase Ag. income



Working Groups

Regulations

–Review food safety and other regulations impacting farmers and food producers

- What are they; how are they negatively or positively impacting producers?
- Level of govt. created
- Who enforces them?
- What can be done differently?



Working Groups

Innovations in Production

– Examine new technologies and models that can improve yield, farm efficiencies and income

- Food innovation centers
- Aquaponics
- New crops, transitioning farms to specialty crops
- High tunnels



Working Groups

Innovations in Distribution

– Increase local access to local food across the population

- Review local food hubs; why is Utah one of four states with no food hubs? Will one work here?
- Improved efficiencies with use of SNAP benefits
- Increase farm to School distribution
- Increase distribution to other institutions (corporate CSAs, higher ed. Hospitals, etc)





Local Food Advisory Council

What's Next?

Next meeting: March 22,
2018 2 pm - 4 pm. UDAF

Topic: Ag Land
Preservation

Subsequent Meetings

Roll out discussions about
other working group
topics

Follow up discussions of
previously discussed topics

Five Year Goals

Research and discuss each
subject area

??? Proposed Legislation?

Grant opportunities?

Thank you.



Utah's Own: Oh How We've Grown

Updates on Utah's Own program.



Laurie Seron

Utah's Own Program Director

Utah Department of Agriculture and Food

lseron@utah.gov

Laurie Seron has been a food producer in the Salt Lake Valley for over 20 years. She is founder of Laurie's Buffalo Gourmet Tortilla Chips. Laurie has lived through the ups and downs of being an entrepreneur in the food industry. In 2011, Laurie organized a successful vendor community group called "Utah Specialty" which gave food vendors a place to gather, share their experiences and be educated. As a result, in 2015 Laurie was hired by the Department of Agriculture as a Business Liaison. In January of this year, Laurie was happily promoted to Utah's Own Program Director. Laurie currently serves on the Board of Directors for Women in Business and on the committee for the Women's Entrepreneurial Conference. A conference that is held annually to award grants ranging from \$500 to \$5,000 to women who are beginning or growing their business. Laurie and her husband live in Salt Lake City and have 6 children and 6 wonderful grandchildren.

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**Utah's
Own.**

Utah's Own

Let's keep the momentum going!



Urban Farm & Feed - Sandy, Utah

2017 Accomplishments

- 1 Launched a new mobile-responsive website that allows consumers to easily search for local products and learn more about local businesses.
- 2 Produced an award-winning brand video that showcased four local Utah businesses and told their unique stories. The video won a 2017 MarCom Award.
- 3 98 new companies have signed up to become Utah's Own members since the launch of our new website last July.
- 4 In 2015, we had 475 Instagram followers. **Today, we have over 12,000.** In 2015 we had 7,500 Facebook followers. **Today we have over 15,000.**

- 5 We introduced product photography sessions to help small businesses photograph & promote their products

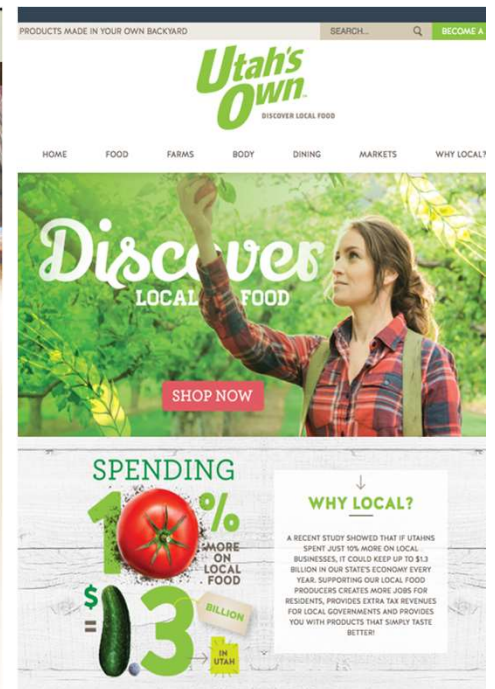
Actual Photos We've Taken For Companies:



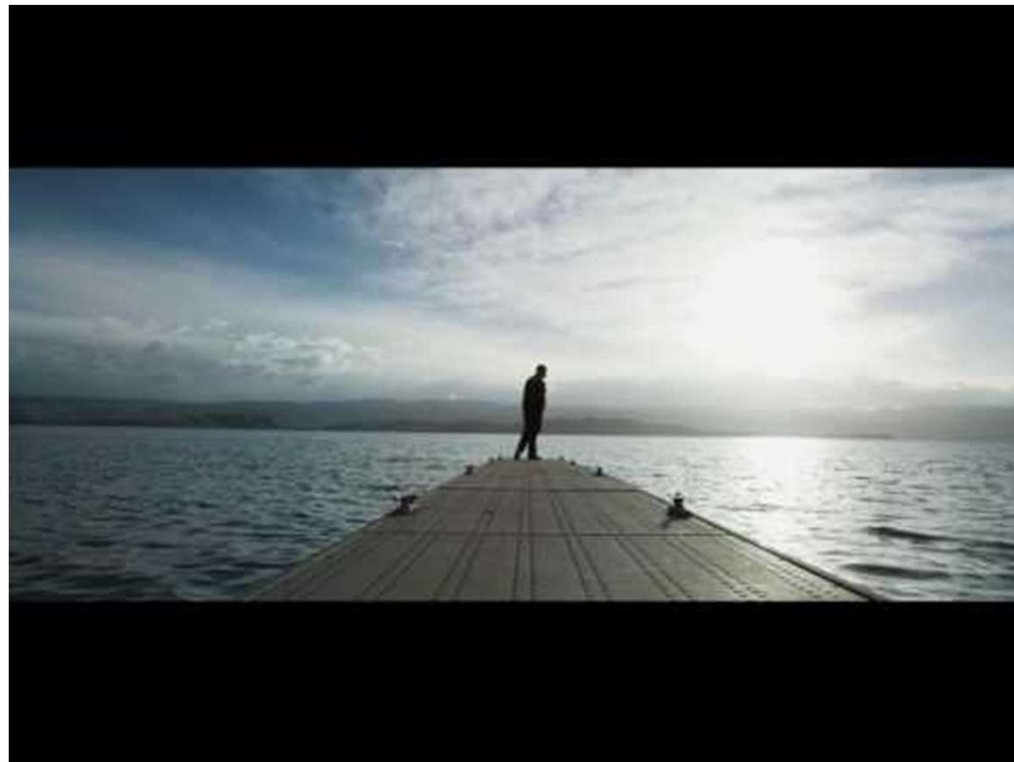
New Website

As you can see in the side-by-side comparisons, our new website got a big upgrade. Not only is the design cleaner and easier on the eyes, but it is mobile-responsive—allowing consumers to easily navigate and search for local products on their phone or tablet.

This new website is more efficient, cost effective and just looks amazing.




**2017
Local
Stories
Video**



Using The Logo

As members of Utah's Own, companies have access to the trademarked Utah's Own logo to identify their products as a quality local product. Over the last year, many more companies have added the logo to their packaging, event displays and even business cards. Buyers seeing the logo know that producers have been vetted for UDAF registration and business license.



Target Audience

We've identified our target audience through extensive market research analysis and consumer surveys. Female primary shoppers are the ones going to the grocery store and farmers market to purchase local products. They are the shelf front decision makers and key components to our mixed-media marketing plan.

- 01 | Women
- 02 | 25-55 Years Old
- 03 | Primary Household Shoppers
- 04 | Live in Utah





Marketing Impact

Overall Impressions

19.1M

Our marketing materials were seen over 19 million times last year.

Web Traffic Last Month (Dec. 2017)

23K

Our home page was visited 23,000 times last month.

Cost Per Thousand Impressions

\$7

How much it costs for a particular advertisement to be seen 1,000 times.

2018 Goals

- 1 Have 200 new companies sign up to become members this year.
- 2 Collect \$25 annual membership fees from all members (*as requested by legislature.*)
- 3 Build an in-store local food brand identity and ask Kroger and Associated Foods to adopt it as their in-store brand.
- 4 Continue our exponential growth in social media followers
- 5 Hold quarterly networking events for our member companies that focus on helping them build their businesses.





Our Companies

Our mission is helping our hundreds of amazing local companies grow, create more jobs and strengthen our state economy in the process.

Our funding is used to drive consumers to purchase their products and to utilize the skills of our diverse and talented staff to ensure their business plan is in the best shape for them to succeed.





Our Funding Focus

Right now 100% of our money is focused on two things: 1) Building awareness around local food in Utah to keep more dollars in our economy, and 2) Helping our small food producers grow in sales and employees. Every dollar spent is used to keep ten more dollars in Utah. **A recent study showed that if all Utah consumers spent just 10% more on local food each year, it could keep up to \$1.3 billion in Utah's economy each year.**

Let's keep the momentum going towards making Utah's Own the premier local-food program in the nation and our state as a successful local food hub.





In Their Words...

“Being a member of Utah’s Own has given Stacked Pancakes opportunities to build new relationships in the food industry that have helped us build and position our business for success.”

Adam Brown
Owner
Stacked Pancakes

“The Utah’s Own program and people have been extremely helpful to us in getting exposure to our products—helping our business grow and keep money into the Utah economy.”

Gil Bowles
Owner
Gluten-Free Heaven

“Utah’s Own is a tremendous asset to my small business. They have helped me gain new clients, given me first hand knowledgeable advice, and have provided a place where I feel welcomed and appreciated.”

Heather Peeters
Owner
Solstice Spices

Thank you.



Online Marketing on a Budget

Learn about social media and online website marketing and communications for your small farm or agriculture business. No experience necessary! This session will provide useful tips for user engagement online through social media platforms and practical ways to increase the quality and quantity of traffic to your website.



Jennifer Werlin

Extension Educator, Community Food Systems

University of Idaho

jwerlin@uidaho.edu

Jennifer Werlin is a University of Idaho Extension Educator in community food systems for Teton County, Idaho. As the only extension educator in her region with a focus on community food systems, she delivers small farms, community development, and food systems education to her county and surrounding eastern Idaho communities. In addition, she supervises her county 4-H youth development programs. Through interdisciplinary education and facilitation, she delivers extension programming aimed at integrating various components of her local food system (i.e., production, distribution, consumption, and waste disposal).

Prior to working in extension, she worked for over a decade in nonprofit administration and programming, including work as an environmental educator and a communications coordinator for the Idaho-based food and farm organization Rural Roots and the University of Idaho's Sustainable Agriculture Program. Ms. Werlin is a founding member and currently facilitates a food and farm coalition in her region and serves on the board of directors for her county farmers market. She has extensive experience in delivering hands-on educational programs and working with collaborative teams, agriculture professionals, farmers, and others.

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Online Marketing on a Budget

Presented by:
Jennifer Werlin

Extension Assistant Professor in Community
Food Systems,
Teton County, Idaho

jwerlin@uidaho.edu

University of Idaho
Extension

February 22-23, 2018



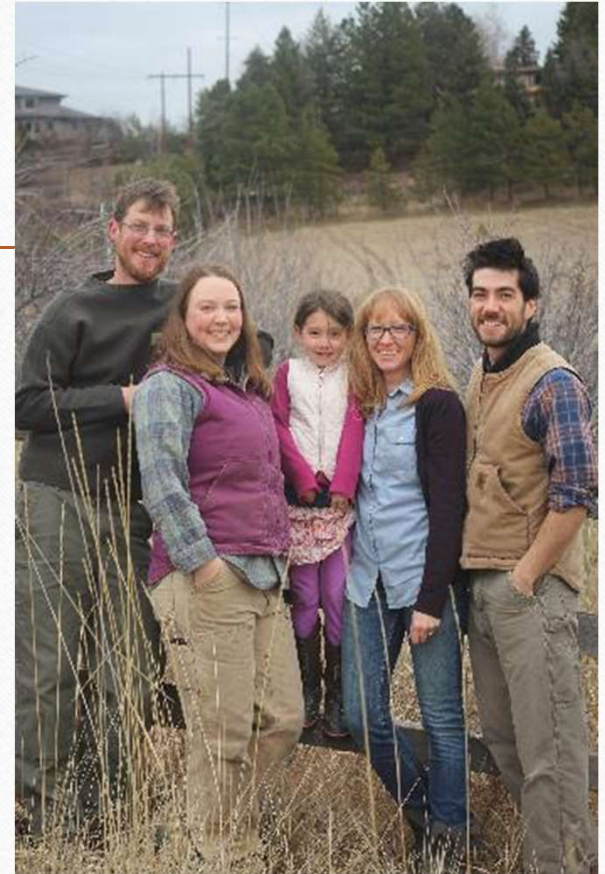
What is your brand?

- Can start with your goals, vision, mission
- What products do you sell?
- Know your customer to reach your customer
- You are your brand and your brand is you

DEEP ROOTS

A SMALL FARM IN THE CITY *farm*

- Collective rather than one person
- Small scale
- Local, direct market
- Certified Naturally Grown
- Transparent
- Values driven
- LOCAL





Who is your customer?

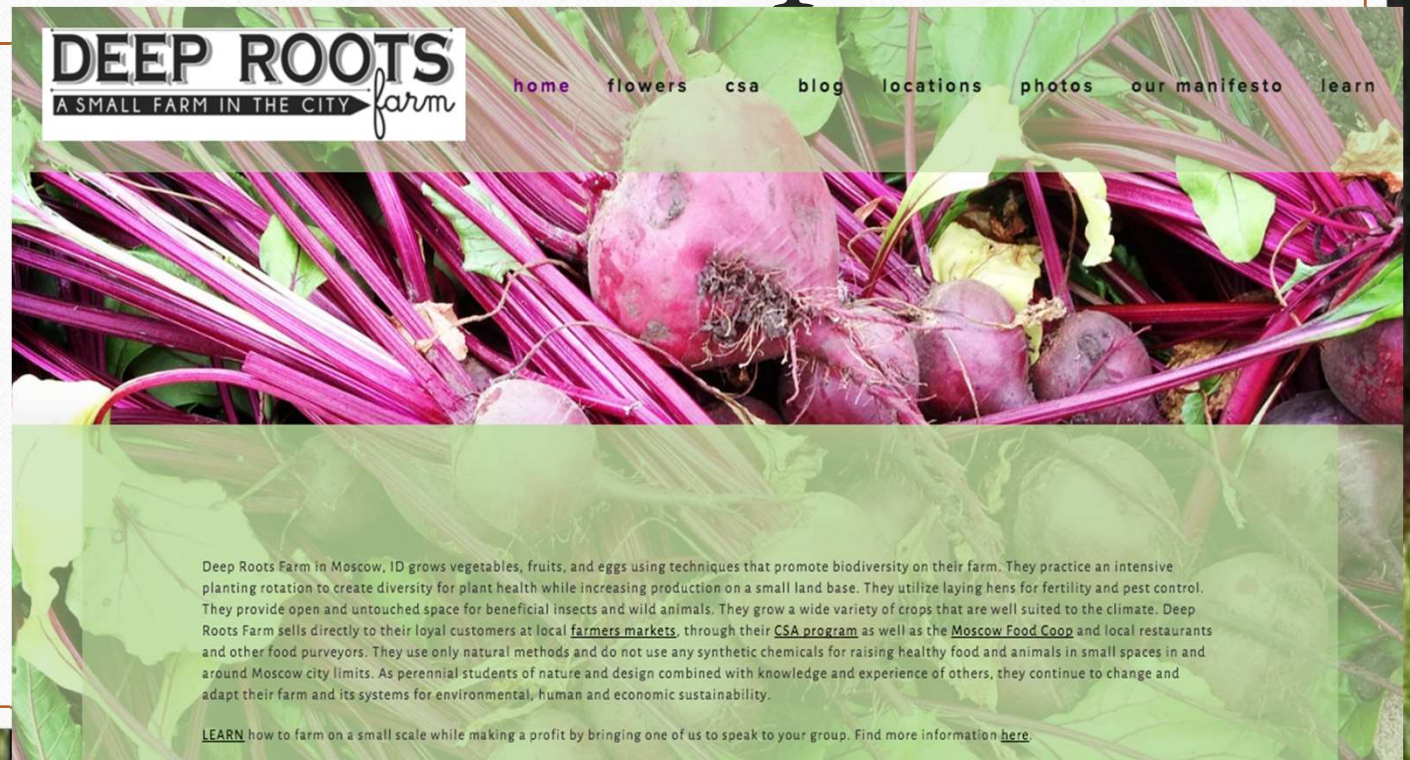
- Demographics
- Women, families, relationships
- Health conscious, etc.

Websites

- Getting noticed → SEO (Search Engine Optimization)
- Organic= “free” search results vs. Paid Advertising (e.g., Google AdWords)
- Quality content, clarity
- Buy your own domain. Can use free or cheaper site hosts/content management systems (e.g., Squarespace, Weebly, Word Press, Wix, etc.).
- Make sure site has cross device compatibility (smart phones, iPads, etc.)
- Include blog with keywords (Google likes blogs and helps increase your web search results)

Website Examples

- Note: Free website builders can be hard to use and may not come up in Google search



Keywords/Quality Content

DEEP ROOTS
A SMALL FARM IN THE CITY *farm*

All produce sold in this stall is grown within **three miles** of this space and are all thoughtfully and organically grown by us, the farmers of Deep Roots Farm.

We use **no synthetic chemicals** including fertilizers, herbicides or pesticides. We adhere to National Organic Program standards & practices while choosing not to certify organic.

We encourage you to **ask questions** about our growing methods & philosophy and do the same of every farmer you purchase your food from.

Items that we process for sale (pickles, salsa, pesto, etc) that are not grown by us are sourced from farmers that are Certified Organic or Certified Naturally Grown and we use our purchasing choices to **support other local businesses on the Palouse.**

Thank you for supporting local farmers

Link to Local Food and Farm Directories

- Localharvest.org
- Eatlocalgrown.com
- Eatwild.com
- Localdirt.com
- agrilicious.org
- 1000ecofarms.com (online sales)
- USDA Ag Marketing Service
(<https://www.ams.usda.gov/services/local-regional/food-directories-listings>)
- Local/regional specific directories!



LocalHarvest
real food, real farmers, real community



Local Dirt

eat
local
grown

eatWILD®

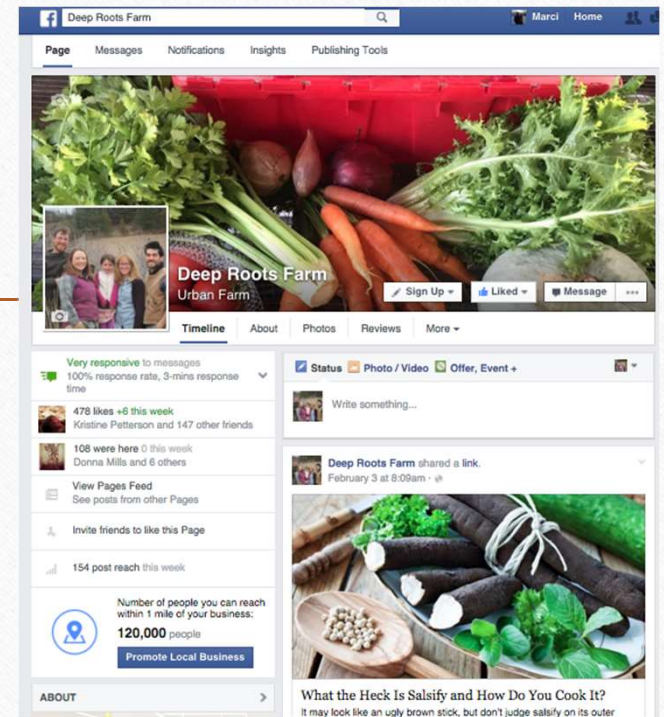

1000™
ECOFARMS

Social Media



Facebook Tips

- Facebook: (Business Page vs. Profile)
- Link to other sites: Website, Twitter, LinkedIn, Pinterest, Instagram, YouTube, etc.
 - Hootsuite, TweetDeck, etc.
- Post regularly (can schedule); post in Groups
- Use photos! Respond to comments and questions
- Have contests, ask questions, share other posts (80% relevant, 20% FUN)
- Sponsored Posts, aka “Boosted”



Instagram

#CNGProud
#certifiednaturallygrown
#MoscowIdaho
#youngfarmers
#localfood
#pasturedpoultry
#MoscowFarmersMarket

- PHOTOS! Use hashtags
- Can share photos and content using other apps
- Can have business or personal profile
- Tag others with whom your work with
 - @ (seed company you buy from)
 - @ (restaurant you just sold produce to)
- Link to other platforms (Facebook, Twitter, etc.)



deeprootsfarm [EDIT PROFILE](#)

Deep Roots Farm Small scale urban ag, no chemicals, just healthy soil. Certified Naturally Grown 🌱 Moscow, ID www.deep-roots-farm.com

182 posts 366 followers 259 following



Twitter

- Create custom Twitter Handle
- <180 characters, create links:
<https://bitly.com/> or <https://goo.gl/>
- Keep posts relevant and short
- Retweet, use hashtags #
- Follow your followers
- Respond to posts
- Connect to other platforms



Pinterest



HEALTHY ^{lemon}raspberry
FROZEN YOGURT



- Great for recipes, visually appealing images; pin regularly (can schedule)
- Create and pin images with text (include hyperlinks)
- Write keyword rich descriptions and boards:
 - Include relevant details with actions
 - <100 characters
 - No hashtags, sales promotions
 - Use multiple images in pin at proper size: 2:3 or 1:3:5 aspect ratios
 - Vertical is best

Other Media

- **LinkedIn:** Create profile and link to website
- **YouTube/Vimeo:** Videos can link to other social media sites and webpage; custom url's
- **Podcasts:** Another popular avenue, can draw attention to product/site
- **E-newsletters & Blogs:** (great for CSA's, 1-2x/mo., link to blog, social media sites)

e-Newsletters

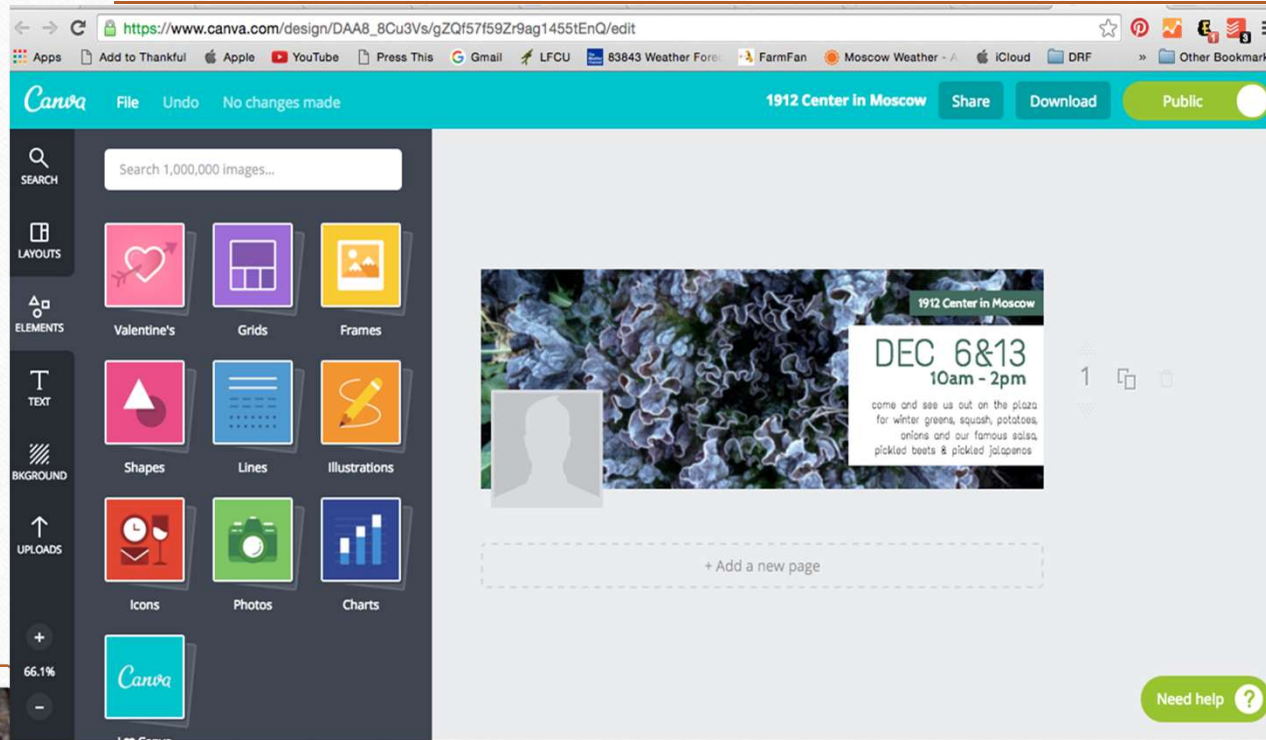
- Can use template program like Mail Chimp, Vertical Response, Emma, Constant Contact, etc.: helps track opens and click through rates
- Keep them focused on one topic/call-to-action (e.g., weekly CSA, event, etc.); No clutter; consistent branding, fonts, etc.
- 90% educational; 10% promotional
- Creative email subject lines: No sales-y pitches
- Images have Alt-text descriptions; copyrights;
- P.S.: read more frequently

Customer Service

- Especially with direct-marketing sells, have quality customer service.
- You are the GROWER and RETAILER
 - Return phone calls, emails, and messages
 - Attune to customer's needs
- Tell your story...develop relationships



Making beautiful marketing materials



www.Canva.com

- Can also use:
Microsoft
Publisher; Adobe
Photoshop

Organization/Management Tips

1. Custom branding, fonts, color choices, etc.
2. You are your brand. Your brand is you. Avoid controversial posts. Save that for your personal profiles (even that is public and recorded in history).
3. Get listed in local food and farm guides/directories.
4. Create personalized Facebook, etc. pages and Website. Keep it simple. Track your open, site visitors, unique visitors.
5. Link Social Media sites together. Use business profiles. Post on a schedule.
6. First, Eat the Frog! Eliminate unnecessary work.



Thank you!

Jennifer Werlin

University of Idaho Extension Educator,
Community Food Systems, Teton County
jwerlin@uidaho.edu (208) 354-2961

Fresh Produce Price Comparison

This study seeks to illustrate actual pricing differences between farmers' markets and grocery stores by comparing fresh produce pricing, as well as comparing organic and conventionally grown produce pricing in Northern Utah for the 2016 and 2017 growing seasons.



Karli Salisbury

M.S. Student Applied Economics

Utah State University

Karli.Salisbury@usu.edu

Karli received her BS in Economics from USU and is now working on her MS in Applied Economics with an emphasis in rural development. She is currently working for USU as a research assistant providing money management outreach materials to American Indians as well as conducting impact analysis.

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A Comparison of Direct Market and Conventional Produce Pricing

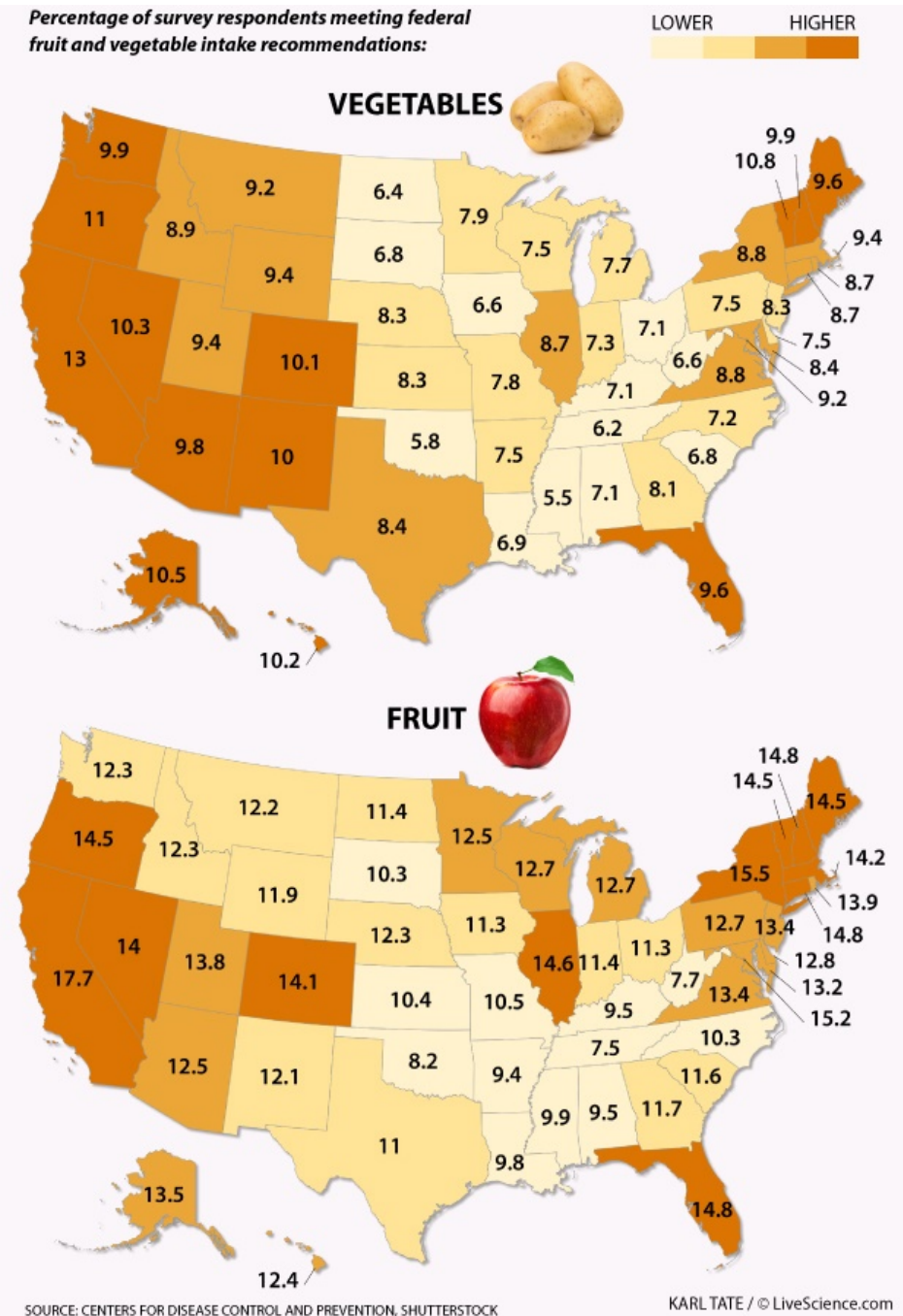


Utah State University:
Karli Salisbury
Kynda Curtis
Veronica Pozo
Carrie Durward



Introduction

- Health benefits of consuming recommended levels of fruits and vegetables
 - Lowers risk of chronic diseases
 - Decreases risk for obesity
- Yet, only 5-20% of the U.S. population meet the recommended intake
- Especially true for low-income households





Introduction

- USDA programs for SNAP participants to shop at farmers' markets

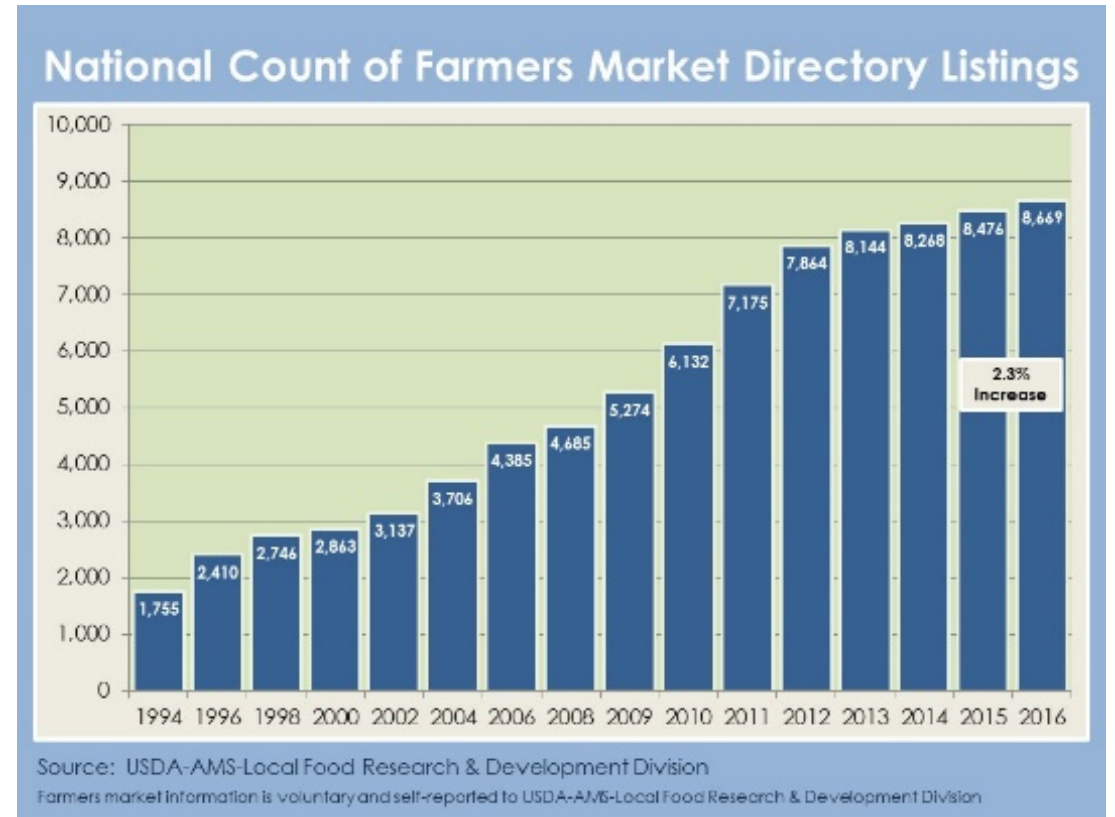
	2008 Participation	2015 Participation	% Increase	2008 Redemptions	2015 Redemptions	% Increase
Utah	4	31	675%	\$5,667	\$75,428	1,231%
National	753	6,996	829%	\$2.7 million	\$20.2 million	639%

- In 2015, state agencies collectively issued ~\$70.6 billion in SNAP benefits, of that, Utah issued \$313.8 million in benefits



Introduction

- The growth rate of farmers' markets has slowed over recent years
- Farmers are seeking a new customers base
- Price setting at direct markets difficult for farmers
- Consumers want fresh, quality produce at an affordable price
- Low income households perceive direct markets to be much more expensive





Research Goals

- Illustrate pricing differences for fresh produce at direct market and traditional outlets
- Illustrate pricing differences between organically and conventionally grown produce at direct markets and traditional outlets
- Provide direct market fresh produce pricing information for produce growers
- Illustrate pricing differences among fresh produce items in-season and out-of-season at direct markets and traditional outlets



Methodology

- Collected data June – October 2016 & June – September 2017
 - 4 Farmers’ markets across Northern Utah
 - 7 Local/national grocery stores
 - 33 Different produce items
 - 28 Items are used in the initial analysis
- Total observations
 - 2,546 Farmer’s market observations
 - 10,038 Grocery observations
- Comparisons made on an individual produce items, as well as a “basket of produce”
- Compare local vs. national grocery store chains, organic vs. conventional, and farmers’ market vs. grocery store



Grocery Store vs. Farmers' Market

Conventional Basket of Produce

Basket Items		Average Weight	Grocery Unit Store Price	Farmers' Market Price	Diff.
1 head	Broccoli	0.5 lb	\$ 0.77	\$ 1.38	-79%
1 head	Cabbage Green	2 lb	\$ 1.46	\$ 1.99	-37%
1 each	Cucumbers Normal	0.62 lb	\$ 0.65	\$ 0.70	-7%
1 each	Green Bell Peppers	0.5 lb	\$ 0.83	\$ 0.81	2%
1 bag	Mixed greens	5 oz	\$ 2.25	\$ 2.06	8%
1 each	Onions White	12 oz	\$ 0.85	\$ 1.02	-20%
5 pounds	Potatoes Gold	5 lb	\$ 5.04	\$ 6.43	-27%
2 pounds	Potatoes Red	2 lb	\$ 1.81	\$ 3.10	-71%
1 bunch	Spinach	12 oz	\$ 1.57	\$ 4.31	-175%
1 carton	Strawberries	1 lb	\$ 2.53	\$ 5.05	-99%
1 pint	Tomatoes Cherry	10.5 oz	\$ 3.18	\$ 2.39	25%
1 lb	Tomatoes Slicing/Vine	1 lb	\$ 1.60	\$ 1.61	-1%
1 each	Watermelon	13 lb	\$ 5.67	\$ 5.82	-3%
1 each	Zucchini	7 oz	\$ 0.58	\$ 0.40	32%
Total Price			\$ 28.78	\$ 37.06	-28.76%

95% CI Significance level: 5%

Organic Basket of Produce

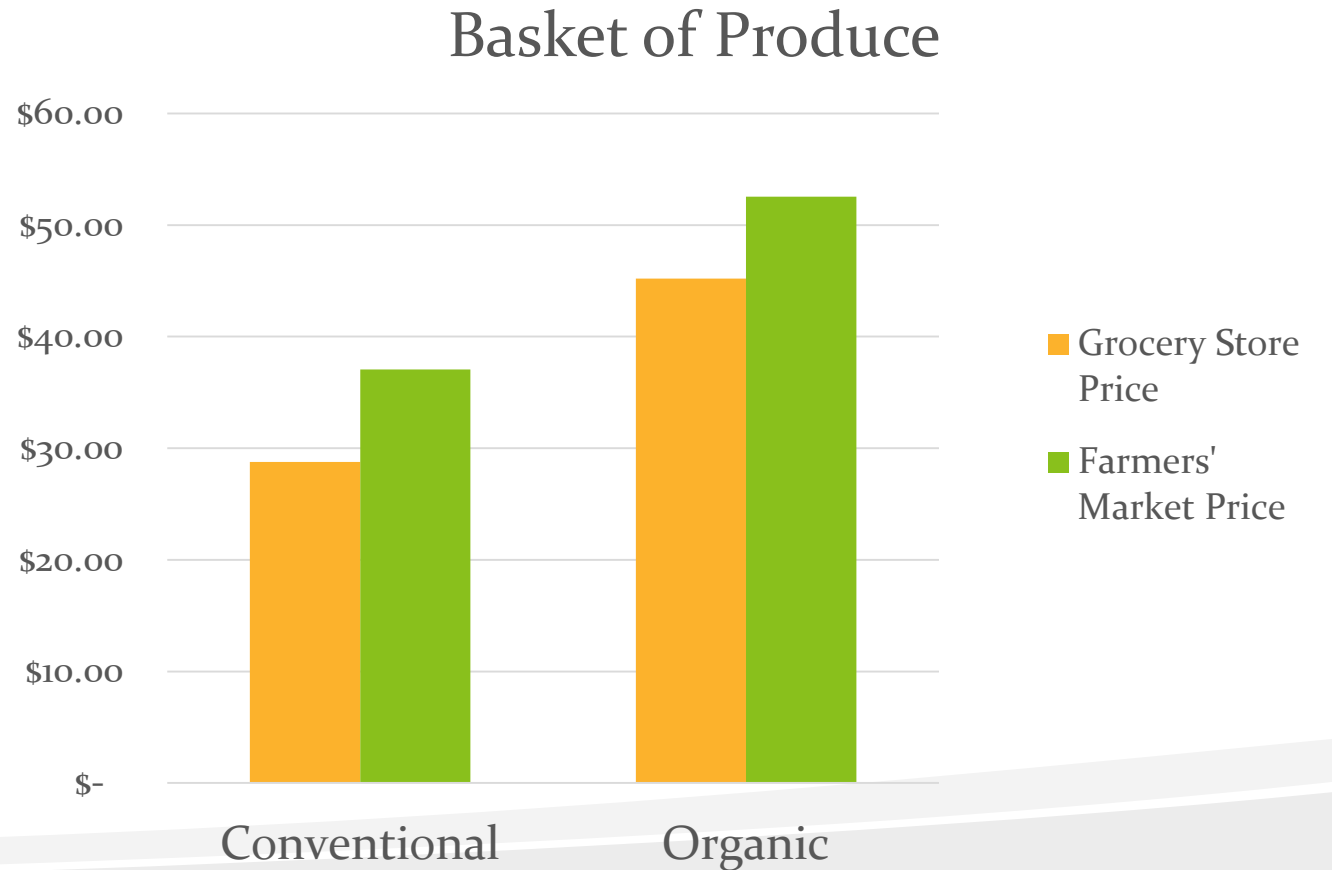
Basket Items		Average Weight	Grocery Unit Store Price	Farmers' Market Price	Diff.
1 head	Broccoli	0.5 lb	\$ 1.08	\$ 1.14	-5%
1 head	Cabbage Green	2 lb	\$ 3.00	\$ 3.30	-10%
1 each	Cucumbers Normal	0.62 lb	\$ 1.35	\$ 1.35	0%
1 each	Green Bell Peppers	0.5 lb	\$ 1.50	\$ 1.14	24%
1 bag	Mixed greens	5 oz	\$ 2.69	\$ 1.77	34%
1 each	Onions White	12 oz	\$ 1.20	\$ 1.76	-47%
5 pounds	Potatoes Gold	5 lb	\$ 6.01	\$ 10.61	-77%
2 pounds	Potatoes Red	2 lb	\$ 2.70	\$ 4.17	-55%
1 bunch	Spinach	12 oz	\$ 3.56	\$ 4.79	-34%
1 carton	Strawberries	1 lb	\$ 3.74	\$ 9.38	-151%
1 pint	Tomatoes Cherry	10.5 oz	\$ 2.96	\$ 3.12	-5%
1 lb	Tomatoes Slicing/Vine	1 lb	\$ 2.46	\$ 2.53	-2%
1 each	Watermelon	13 lb	\$ 11.80	\$ 6.50	45%
1 each	Zucchini	7 oz	\$ 1.15	\$ 0.97	16%
Total Price			\$ 45.21	\$ 52.54	-16.22%

95% CI Significance level: 5%



Grocery Store vs. Farmers' Market

	Basket Items	Average Weight
1 head	Broccoli	.5 lb
1 head	Cabbage Green	2 lb
1 each	Cucumbers Normal	.62 lb
1 each	Green Bell Peppers	.5 lb
1 bag	Mixed greens	5 oz
1 each	Onions White	12 oz
5 pounds	Potatoes Gold	5 lb
2 pounds	Potatoes Red	2 lb
1 bunch	Spinach	12 oz
1 carton	Strawberries	1 lb
1 pint	Tomatoes Cherry	10.5 oz
1 lb	Tomatoes Slicing/Vine	1 lb
1 each	Watermelon	13 lb
1 each	Zucchini	7 oz



Grocery Store vs. Farmers' Market

- Comparison of 28 fresh produce items

Item	Conventional			Organic		
	Grocery Store (\$/lb)	Farmers' Market (\$/lb)	Difference	Grocery Store (\$/lb)	Farmers' Market (\$/lb)	Difference
Beets	\$1.35	\$1.61	-19%	\$1.93	\$2.37	-23%
Broccoli	\$1.54	\$2.75	-79%	\$2.17	\$6.33	-192%
Cabbage Green	\$0.73	\$1.00	-37%	\$1.50	\$1.65	-10%
Cabbage Red	\$1.00	\$0.96	3%	\$1.45	\$1.50	-3%
Cantaloupe	\$0.52	\$0.75	-44%	\$0.94	\$0.85	10%
Carrots	\$0.78	\$2.11	-171%	\$1.25	\$2.33	-86%
Cucumbers Normal	\$1.05	\$1.12	-7%	\$2.17	\$2.18	0%
Garlic	\$3.82	\$7.55	-97%	\$7.95	\$7.61	4%
Green Beans	\$2.44	\$2.88	-18%	\$4.37	\$3.71	15%
Green Bell Peppers	\$1.65	\$1.62	2%	\$3.00	\$2.29	24%
Mixed greens	\$7.19	\$6.60	8%	\$8.60	\$5.67	34%
Onions Red	\$1.33	\$1.73	-30%	\$2.24	\$3.04	-36%
Onions White	\$1.13	\$1.35	-20%	\$1.59	\$2.35	-47%
Onions Yellow	\$0.72	\$1.21	-69%	\$1.26	\$1.92	-52%
Potatoes Gold	\$1.01	\$1.29	-27%	\$1.20	\$2.12	-77%
Potatoes Red	\$0.91	\$1.55	-71%	\$1.35	\$2.08	-55%
Potatoes Russet	\$0.68	\$1.02	-51%	\$1.17	\$2.32	-97%
Potatoes Sweet	\$1.60	\$1.00	38%	\$1.84	N/A	N/A
Raspberries	\$8.96	\$7.24	19%	\$11.12	\$8.00	28%
Romaine lettuce	\$1.28	\$3.26	-154%	\$2.24	\$3.06	-36%
Spinach	\$2.09	\$5.75	-175%	\$4.75	\$6.39	-34%
Strawberries	\$2.53	\$5.05	-99%	\$3.74	\$9.38	-151%
Sweet Corn^	\$0.50	\$0.55	-11%	\$1.27	\$0.83	34%
Tomatoes Cherry	\$4.84	\$3.64	25%	\$4.51	\$4.75	-5%
Tomatoes Roma	\$1.12	\$1.57	-40%	\$1.59	\$2.36	-48%
Tomatoes Slicing/Vine	\$1.60	\$1.61	-1%	\$2.46	\$2.53	-2%
Watermelon^	\$0.44	\$0.45	-3%	\$0.91	\$0.50	45%
Zucchini	\$1.33	\$0.91	32%	\$2.63	\$2.21	16%

^ Less Than 10 observation for the organic prices.



Organic vs. Conventional

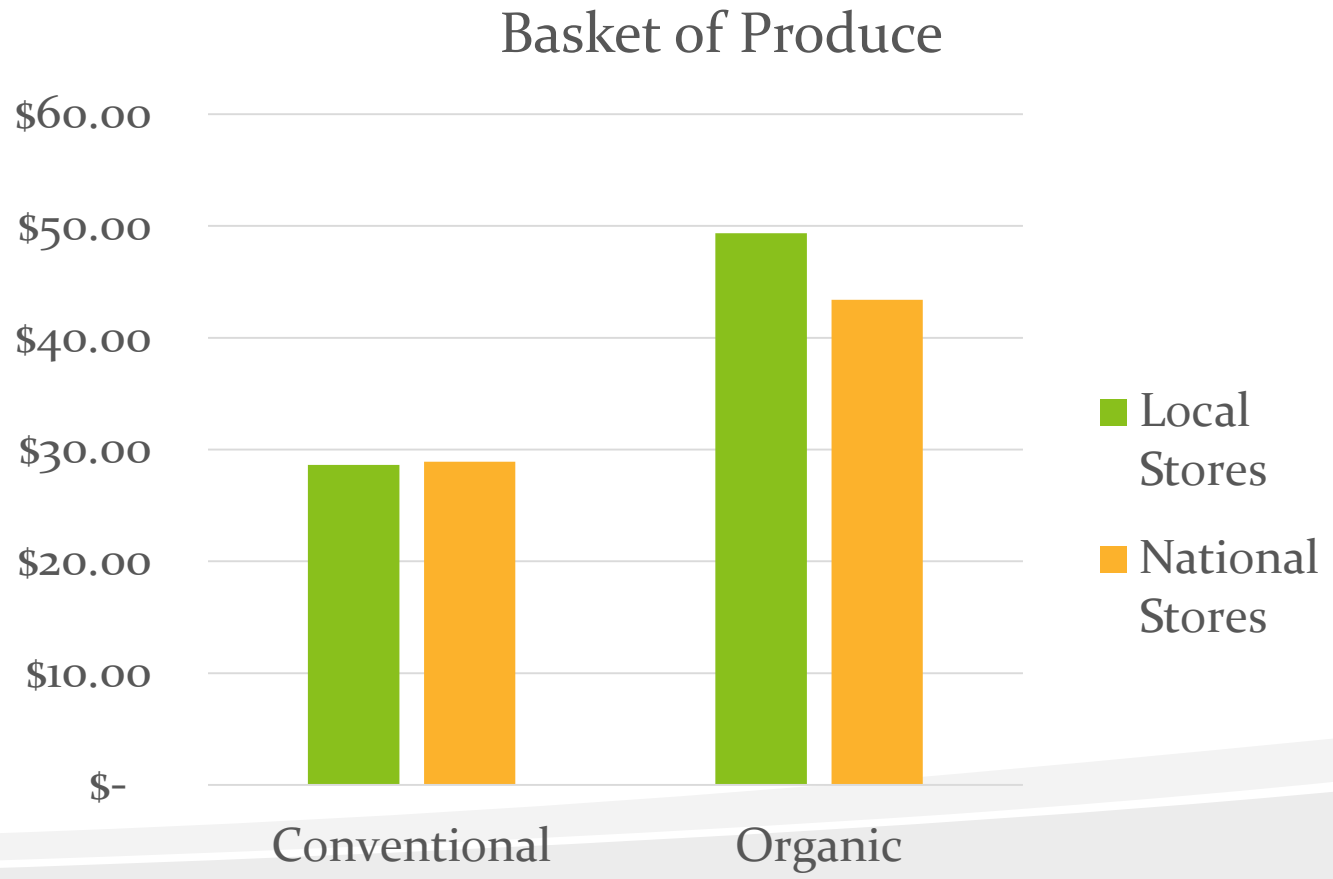
- Comparison of 28 fresh produce items

Item	Farmers' Market			Grocery Stores		
	Conventional (\$/lb)	Organic (\$/lb)	Difference	Conventional (\$/lb)	Organic (\$/lb)	Difference
Beets	\$ 1.61	\$ 2.37	-47%	\$ 1.35	\$ 1.93	-42%
Broccoli^	\$ 2.75	\$ 6.33	-130%	\$ 1.54	\$ 2.17	-41%
Cabbage Green	\$ 1.00	\$ 1.65	-66%	\$ 0.73	\$ 1.50	-106%
Cabbage Red	\$ 0.96	\$ 1.50	-56%	\$ 1.00	\$ 1.45	-46%
Cantaloupe	\$ 0.75	\$ 0.85	-13%	\$ 0.52	\$ 0.94	-79%
Carrots	\$ 2.11	\$ 2.33	-10%	\$ 0.78	\$ 1.25	-61%
Cucumbers Normal	\$ 1.12	\$ 2.18	-94%	\$ 1.05	\$ 2.17	-107%
Garlic	\$ 7.55	\$ 7.61	-1%	\$ 3.82	\$ 7.95	-108%
Green Beans	\$ 2.88	\$ 3.71	-29%	\$ 2.44	\$ 4.37	-79%
Green Bell Peppers	\$ 1.62	\$ 2.29	-41%	\$ 1.65	\$ 3.00	-82%
Mixed greens	\$ 6.60	\$ 5.67	14%	\$ 7.19	\$ 8.60	-20%
Onions Red	\$ 1.73	\$ 3.04	-76%	\$ 1.33	\$ 2.24	-68%
Onions White	\$ 1.35	\$ 2.35	-73%	\$ 1.13	\$ 1.59	-41%
Onions Yellow	\$ 1.21	\$ 1.92	-59%	\$ 0.72	\$ 1.26	-76%
Potatoes Gold	\$ 1.29	\$ 2.12	-65%	\$ 1.01	\$ 1.20	-19%
Potatoes Red	\$ 1.55	\$ 2.08	-34%	\$ 0.91	\$ 1.35	-49%
Potatoes Russet	\$ 1.02	\$ 2.32	-127%	\$ 0.68	\$ 1.17	-74%
Potatoes Sweet	\$ 1.00	N/A	N/A	\$ 1.60	\$ 1.84	-15%
Raspberries	\$ 7.24	\$ 8.00	-10%	\$ 8.96	\$ 11.12	-24%
Romaine lettuce	\$ 3.26	\$ 3.06	6%	\$ 1.28	\$ 2.24	-75%
Spinach	\$ 5.75	\$ 6.39	-11%	\$ 2.09	\$ 4.75	-127%
Strawberries	\$ 5.05	\$ 9.38	-86%	\$ 2.53	\$ 3.74	-48%
Sweet Corn^	\$ 0.55	\$ 0.83	-51%	\$ 0.50	\$ 1.27	-154%
Tomatoes Cherry	\$ 3.64	\$ 4.75	-31%	\$ 4.84	\$ 4.51	7%
Tomatoes Roma	\$ 1.57	\$ 2.36	-50%	\$ 1.12	\$ 1.59	-42%
Tomatoes Slicing/Vine	\$ 1.61	\$ 2.53	-57%	\$ 1.60	\$ 2.46	-54%
Watermelon^	\$ 0.45	\$ 0.50	-12%	\$ 0.44	\$ 0.91	-108%
Zucchini	\$ 0.91	\$ 2.21	-144%	\$ 1.33	\$ 2.63	-98%



National vs. Local Grocery Stores

	Basket Items	Average Weight
1 head	Broccoli	.5 lb
1 head	Cabbage Green	2 lb
1 each	Cucumbers Normal	.62 lb
1 each	Green Bell Peppers	.5 lb
1 bag	Mixed greens	5 oz
1 each	Onions White	12 oz
5 pounds	Potatoes Gold	5 lb
2 pounds	Potatoes Red	2 lb
1 bunch	Spinach	12 oz
1 carton	Strawberries	1 lb
1 pint	Tomatoes Cherry	10.5 oz
1 lb	Tomatoes Slicing/Vine	1 lb
1 each	Watermelon	13 lb
1 each	Zucchini	7 oz





National vs. Local Grocery Stores

Conventional Basket of Produce

Basket Items	Average Weight	Unit	National Stores	Local Stores	Diff
1 head Broccoli	0.5 lb		\$ 0.80	\$ 0.73	9%
1 head Cabbage Green	2 lb		\$ 1.43	\$ 1.49	-4%
1 each Cucumbers Normal	0.62 lb		\$ 0.62	\$ 0.68	-9%
1 each Green Bell Peppers	0.5 lb		\$ 0.79	\$ 0.87	-10%
1 bag Mixed greens	5 oz		\$ 2.24	\$ 2.26	-1%
1 each Onions White	12 oz		\$ 0.88	\$ 0.81	8%
5 pounds Potatoes Gold	5 lb		\$ 4.69	\$ 5.39	-15%
2 pounds Potatoes Red	2 lb		\$ 1.91	\$ 1.71	10%
1 bunch Spinach	12 oz		\$ 1.55	\$ 1.59	-3%
1 carton Strawberries	1 lb		\$ 2.44	\$ 2.65	-8%
1 pint Tomatoes Cherry	10.5 oz		\$ 3.14	\$ 3.22	-3%
1 lb Tomatoes Slicing/Vine	1 lb		\$ 1.70	\$ 1.49	12%
1 each Watermelon	13 lb		\$ 6.12	\$ 5.21	15%
1 each Zucchini	7 oz		\$ 0.61	\$ 0.55	11%
Total Price			\$ 28.91	\$ 28.64	0.94%

* No significant differences

Organic Basket of Produce

Basket Items	Average Weight	Unit	National Stores	Local Stores	Diff.
1 head Broccoli	0.5 lb		\$ 1.06	\$ 1.12	-6%
1 head Cabbage Green	2 lb		\$ 2.43	\$ 4.62	-90%
1 each Cucumbers Normal	0.62 lb		\$ 1.36	\$ 1.32	3%
1 each Green Bell Peppers	0.5 lb		\$ 1.31	\$ 1.85	-41%
1 bag Mixed greens	5 oz		\$ 2.53	\$ 2.89	-14%
1 each Onions White	12 oz		\$ 1.19	\$ 1.34	-13%
5 pounds Potatoes Gold	5 lb		\$ 6.15	\$ 4.97	19%
2 pounds Potatoes Red	2 lb		\$ 2.64	\$ 2.84	-7%
1 bunch Spinach	12 oz		\$ 3.61	\$ 3.47	4%
1 carton Strawberries	1 lb		\$ 3.54	\$ 4.25	-20%
1 pint Tomatoes Cherry	10.5 oz		\$ 3.06	\$ 2.74	10%
1 lb Tomatoes Slicing/Vine	1 lb		\$ 2.33	\$ 2.72	-16%
1 each Watermelon	13 lb		\$ 10.93	\$ 14.42	-32%
1 each Zucchini	7 oz		\$ 1.25	\$ 0.80	36%
Total Price			\$ 43.40	\$ 49.34	-13.68%

95% CI Significance level: 5%



Grocery Store Comparison

Conventional Basket of Produce

Basket Items	Average		Bowman's ^		Harmon's ^		Lee's Marketplace ^		Macey's ^	Rancho Market ^	Smith's Grocery	Target	Walmart
	Weight	Unit											
1 head	Broccoli	0.5 lb	\$ 0.65	\$ 0.97	\$ 0.86	\$ 0.94	\$ 0.62	\$ 0.76	\$ 1.14	\$ 1.05	\$ 1.14	\$ 1.05	
1 head	Cabbage Green	2 lb	\$ 1.64	\$ 3.11	\$ 1.72	\$ 1.58	\$ 1.16	\$ 1.67	\$ 1.66	\$ 2.05	\$ 1.66	\$ 2.05	
1 each	Cucumbers Normal	0.63 lb	\$ 0.72	\$ 0.99	\$ 1.02	\$ 0.82	\$ 0.53	\$ 0.78	\$ 0.78	\$ 1.27	\$ 0.78	\$ 1.27	
1 each	Green Bell Peppers	0.5 lb	\$ 0.88	\$ 1.24	\$ 1.39	\$ 1.08	\$ 0.72	\$ 0.97	\$ 0.91	\$ 1.05	\$ 0.91	\$ 1.05	
1 bag	Mixed greens	5 oz	\$ 2.18	\$ 2.86	\$ 2.46	\$ 2.59	\$ -	\$ 2.57	\$ 2.62	\$ 1.91	\$ 2.62	\$ 1.91	
1 each	Onions White	12 oz	\$ 0.93	\$ 0.79	\$ 0.78	\$ 1.00	\$ 0.39	\$ 1.10	\$ 0.82	\$ 0.68	\$ 0.82	\$ 0.68	
5 pounds	Potatoes Gold	5 lb	\$ 7.40	\$ 4.86	\$ 4.66	\$ 5.76	\$ 4.50	\$ 5.14	\$ 4.62	\$ 4.82	\$ 4.62	\$ 4.82	
2 pounds	Potatoes Red	2 lb	\$ 1.52	\$ 1.77	\$ 1.64	\$ 2.37	\$ 1.79	\$ 2.27	\$ 2.14	\$ 1.74	\$ 2.14	\$ 1.74	
1 bunch	Spinach	12 oz	\$ 1.71	\$ 2.19	\$ 2.36	\$ 1.70	\$ 0.94	\$ 2.60	\$ 1.34	\$ 1.79	\$ 1.34	\$ 1.79	
1 carton	Strawberries	1 lb	\$ 2.26	\$ 3.94	\$ 2.69	\$ 3.09	\$ 1.42	\$ 2.88	\$ 3.24	\$ 2.52	\$ 3.24	\$ 2.52	
1 pint	Tomatoes Cherry	10.5 oz	\$ 2.98	\$ 3.24	\$ 3.42	\$ 3.02	\$ 1.99	\$ 3.33	\$ 3.18	\$ 2.66	\$ 3.18	\$ 2.66	
1 lb	Tomatoes Slicing/Vine	1 lb	\$ 1.33	\$ 2.01	\$ 1.40	\$ 1.97	\$ 1.06	\$ 1.72	\$ 2.41	\$ 1.61	\$ 2.41	\$ 1.61	
1 each	Watermelon	12 lb	\$ 5.69	\$ 6.79	\$ 5.35	\$ 5.23	\$ 3.31	\$ 7.40	\$ 4.17	\$ 6.12	\$ 4.17	\$ 6.12	
1 each	Zucchini	7 oz	\$ 0.50	\$ 0.66	\$ 0.61	\$ 0.63	\$ 0.38	\$ 0.64	\$ 1.13	\$ 1.24	\$ 1.13	\$ 1.24	
Total Price			\$ 30.38	\$ 35.43	\$ 30.36	\$ 31.78	\$ 18.80	\$ 33.83	\$ 30.19	\$ 30.50	\$ 30.19	\$ 30.50	

^ Local Store



Grocery Store Comparison

Organic Basket of Produce

Basket Items		Average		Lee's				Smith's	Target	Walmart
		Weight	Unit	Bowman's ^	Harmon's ^	Marketplace ^	Macey's ^	Grocery		
1 head	Broccoli	0.5 lb		\$ -	\$ 1.09	\$ 1.12	\$ 1.17	\$ 0.84	\$ 1.51	\$ 1.30
1 head	Cabbage Green	2 lb		\$ -	\$ 4.98	\$ 3.33	\$ 1.38	\$ 2.32	\$ 3.58	\$ 2.61
1 each	Cucumbers Normal	0.63 lb		\$ -	\$ 1.27	\$ 1.47	\$ 1.21	\$ 0.98	\$ 1.43	\$ 2.28
1 each	Green Bell Peppers	0.5 lb		\$ -	\$ 1.66	\$ 2.08	\$ 1.66	\$ 1.14	\$ -	\$ 1.95
1 bag	Mixed greens	5 oz		\$ 2.35	\$ 3.20	\$ 2.82	\$ 3.26	\$ 2.71	\$ 2.72	\$ 2.19
1 each	Onions White	12 oz		\$ -	\$ 1.34	\$ -	\$ -	\$ 1.19	\$ -	\$ -
5 pounds	Potatoes Gold	5 lb		\$ -	\$ 4.95	\$ -	\$ 5.00	\$ 6.32	\$ -	\$ 6.06
2 pounds	Potatoes Red	2 lb		\$ -	\$ 1.80	\$ -	\$ 3.40	\$ 2.63	\$ 3.33	\$ 2.49
1 bunch	Spinach	12 oz		\$ -	\$ 2.95	\$ 3.09	\$ 5.99	\$ 3.68	\$ -	\$ 4.49
1 carton	Strawberries	1 lb		\$ -	\$ 4.44	\$ 3.66	\$ 4.14	\$ 3.28	\$ 3.94	\$ 4.24
1 pint	Tomatoes Cherry	10.5 oz		\$ -	\$ 2.88	\$ -	\$ 2.60	\$ 2.95	\$ 3.39	\$ 2.67
1 lb	Tomatoes Slicing/Vine	1 lb		\$ -	\$ 2.97	\$ -	\$ 2.54	\$ 2.09	\$ 3.53	\$ -
1 each	Watermelon	12 lb		\$ -	\$ 15.12	\$ 17.88	\$ -	\$ 10.62	\$ -	\$ -
1 each	Zucchini	7 oz		\$ -	\$ 0.76	\$ 0.74	\$ 0.78	\$ 0.77	\$ 1.70	\$ 1.81
Total Price				\$ 2.35	\$ 49.42	\$ 36.19	\$ 33.13	\$ 41.51	\$ 25.11	\$ 32.09

^ Local Store



Conventional Farmers' Market

- Comparison of 28 fresh produce items

Conventional

<u>Items (Average \$/lb)</u>	Logan	SLC	Ogden	Kaysville
Beets	\$1.87	\$1.93	\$1.40	\$1.20
Broccoli	\$3.07	\$2.61	N/A	\$1.86
Cabbage Green	\$0.90	\$0.86	\$0.91	\$0.80
Cabbage Red	\$0.61	\$1.08	\$1.67	N/A
Cantaloupe	\$0.85	\$0.68	\$0.59	\$0.90
Carrots	\$2.18	\$1.93	\$2.26	\$2.44
Cucumbers Normal	\$0.98	\$1.38	\$1.31	\$0.87
Garlic	\$6.22	\$8.88	\$9.65	\$3.46
Green Beans	\$2.69	\$3.06	\$3.17	\$2.50
Green Bell Peppers	\$1.48	\$1.49	\$1.75	\$1.48
Mixed greens	\$4.73	\$6.90	\$9.60	\$8.00
Onions Red	\$2.29	\$1.57	\$1.74	\$0.85
Onions White	\$1.21	\$0.96	\$2.07	\$1.49
Onions Yellow	\$1.49	\$1.17	\$1.20	\$1.02
Potatoes Gold	\$1.08	\$1.44	\$1.75	\$0.99
Potatoes Red	\$1.34	\$2.22	\$1.58	\$1.13
Potatoes Russet	\$0.94	\$1.00	\$1.15	\$0.88
Potatoes Sweet	N/A	\$1.00	N/A	N/A
Raspberries	\$7.78	\$6.85	\$7.24	\$7.26
Romaine Lettuce	\$3.29	\$2.33	N/A	\$8.17
Spinach	\$5.84	\$5.00	N/A	N/A
Strawberries	\$5.23	\$7.56	\$4.17	N/A
Sweet Corn	\$0.34	\$0.94	\$0.47	\$0.46
Tomatoes Cherry	\$4.85	\$4.00	\$3.25	\$2.74
Tomatoes Roma	\$1.52	\$1.68	\$1.35	\$1.67
Tomatoes Slicing/Vine	\$1.58	\$1.77	\$1.71	\$1.41
Watermelon	\$0.43	\$0.44	\$0.44	\$0.36
Zucchini	\$0.66	\$1.06	\$0.80	\$0.87
Total	\$65.44	\$71.78	\$61.23	\$52.80



Organic Farmers' Market

- Comparison of 26 fresh produce items

Organic			
Items (Average \$/lb)	Logan	SLC	Ogden
Beets	\$1.92	\$2.61	\$1.60
Broccoli	N/A	\$6.33	N/A
Cabbage Green	\$1.16	\$2.00	N/A
Cabbage Red	N/A	\$1.50	N/A
Cantaloupe	N/A	\$1.00	N/A
Carrots	\$2.66	\$2.10	\$1.50
Cucumbers Normal	\$1.51	\$2.44	\$1.00
Garlic	\$8.97	\$5.57	\$4.00
Green Beans	\$2.78	\$4.22	\$3.00
Green Bell Peppers	\$2.00	\$2.23	N/A
Mixed greens	\$6.40	\$8.00	\$6.00
Onions Red	\$3.67	\$3.04	N/A
Onions White	\$1.25	\$2.60	N/A
Onions Yellow	\$0.89	\$2.08	\$1.17
Potatoes Gold	N/A	\$2.10	N/A
Potatoes Red	\$1.71	\$2.17	N/A
Potatoes Russet	\$2.00	\$2.18	\$3.00
Raspberries	N/A	\$0.00	N/A
Romaine Lettuce	\$2.06	\$3.59	N/A
Spinach	\$5.19	\$16.00	N/A
Strawberries	N/A	\$9.38	N/A
Sweet Corn	\$0.61	\$0.49	\$0.44
Tomatoes Cherry	N/A	\$5.58	\$6.30
Tomatoes Roma	N/A	\$2.25	\$2.50
Tomatoes Slicing/Vine	N/A	\$2.50	\$2.00
Zucchini	\$1.07	\$2.66	\$1.83
Total	\$45.84	\$94.63	\$34.34



Conclusions

- At first glance, farmers' markets are more expensive than grocery stores
- These findings also include the off season pricing which can lead to an over stated price
- This information will be good for producers to know when pricing produce
- Further Analysis will be done



Thank You

Questions?

High Tunnels for Community Gardens on Nevada Indian Reservations

My presentation will cover our efforts in establishing our current high tunnel (hoop house) program and the effort we have in place to sustain and maintain our efforts. This can be divided into the initial phase and what our program has evolved to.



Randy Emm

Coordinator Native Programs

University of Nevada Cooperative Extension

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I am the project coordinator for three Federally Recognized Tribal Extension Programs (FRTEP) in Nevada. The three projects are located on the Duck Valley Shoshone-Paiute Reservation (Northeastern Nevada and Southern Idaho), Pyramid Lake Paiute Reservation (Western Nevada), and the Walker River Paiute Reservation (Western Nevada).

The major goals of this project consist of:

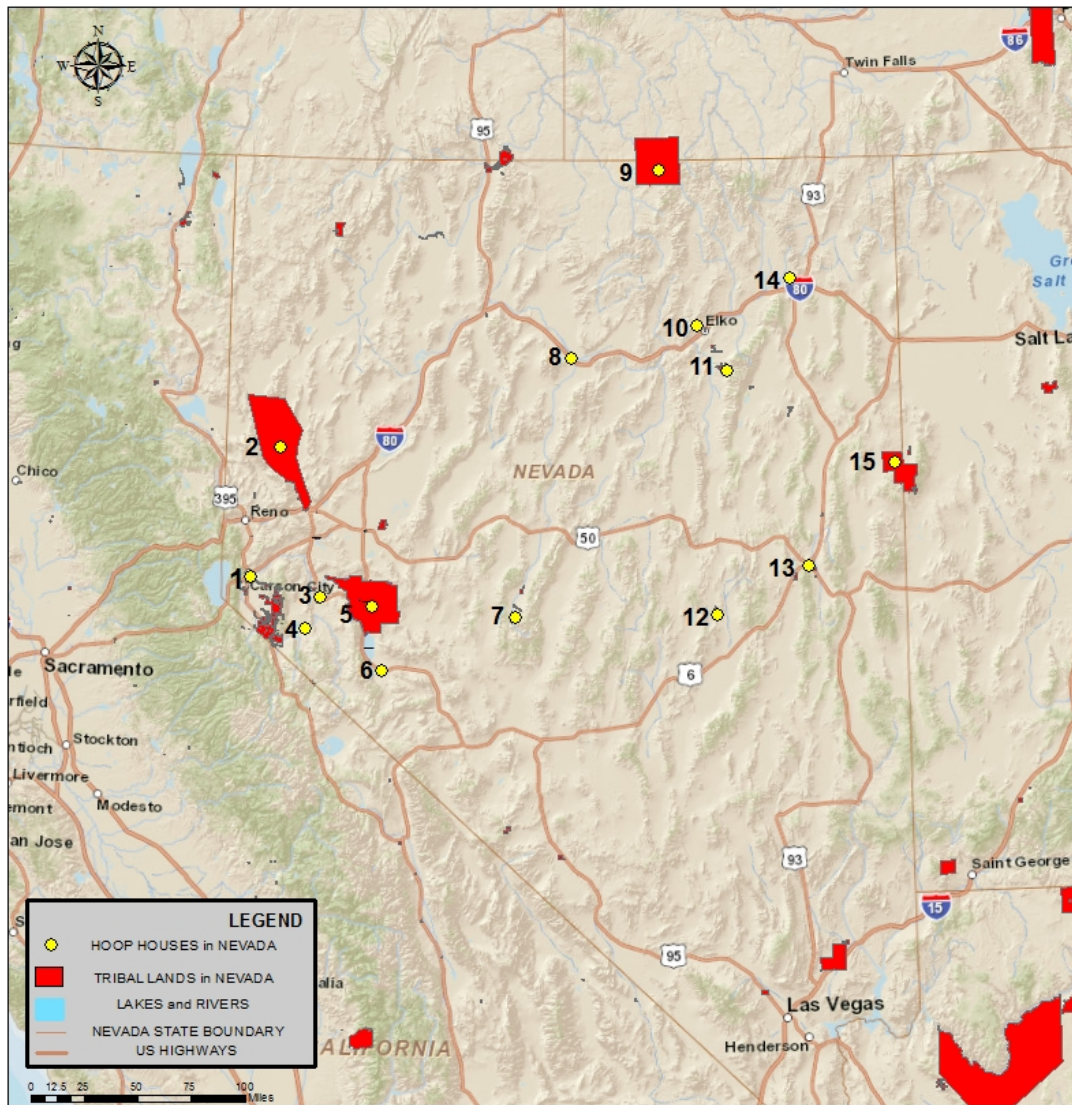
- Increasing the production and consumption of fresh fruits and vegetables on the target reservations
- Decreasing the incidence of obesity on these reservations through the increased consumption of fresh fruits and vegetables and traditional cultural foods through classroom instruction and inter-generational activities
- Improving the ability of Native American farmers and ranchers to effectively, efficiently and profitably manage their agricultural enterprises consistent with the conservation of reservation historic and cultural resources.
- Informing the Native American farmers and ranchers of available USDA programming to further the sustainability of agricultural operations located on the various Indian Reservations located in Nevada.

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Utah Urban & Small Farms Conference

Presented By
Randy Emm
University of Nevada Cooperative Extension
Native Programs Coordinator



HOOP HOUSE LOCATIONS IN NEVADA

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Carson City (1 Hoop House) 2. Pyramid Lake Paiute Tribe (3 Hoop Houses) 3. Yerington (2 Hoop Houses) 4. Smith Valley (1 Hoop House) 5. Walker River Paiute Tribe (4 Hoop Houses 1 Underground Garden) 6. Hawthorne (2 Hoop Houses) 7. Yomba Shoshone Tribe (2 Hoop Houses) | <ol style="list-style-type: none"> 8. Battle Mountain Colony (1 Hoop House) 9. Duck Valley Shoshone-Paiute Tribe (12 Hoop Houses) 10. Elko Band Colony - Te-Moak Tribe of Western Shoshone (1 Hoop House) 11. South Fork Indian Reservation of Western Shoshone (3 Hoop Houses) 12. Duckwater Shoshone Tribe (2 Hoop Houses) 13. Ely Shoshone Tribe (4 Hoop Houses) 14. Wells Band Colony - Te-Moak Tribe of Western Shoshone (1 Hoop House) 15. Goshute - Confederated Tribes of the Goshute Reservation (1 Hoop House and Garden) |
|---|---|

Where We Began

- Attended a train the trainer workshop Put on by Utah State and was sponsored by our FRTEP Program and Western Nevada College at the Campbell Ranch location of the Yerington Paiute Tribe
- We then constructed a 33 foot version at my house to make sure we knew what we were doing and could replicate this activity.



Western Nevada College
SPECIALTY CROP INSTITUTE
www.wnc.edu/sci

HOME PERIOD
POSS
BONUS
FOULS PLAYER P
WCH GA











Randy's Hoop House

- Purchased only the plastic which was 6 ml and the fasteners and special parts (hangers and end brackets for top rail, etc)
- Utilized existing lumber material
- Had Big Bale twine 440 knot strength, rebar, steel posts, etc.









107

ASTM D2812 PRESSURE
ASTM D1785
450 PSI @ 73°F

ASTM D1785
450 PSI @ 73°F

ASTM D1785

107

ASTM D1785



GENOVA PKII PVC 1120 SCH 40 450 PPM @ 73°F ASTM D1784

GENOVA PKII PVC 1120 SCH 40 450 PPM @ 73°F ASTM D1784

Nevada FRTEP Program For Hoop House Construction

- The hoop house gets its name from its shape. This structure was engineered by Utah State University Cooperative Extension. This structure is a alternative to more expensive engineered steel structures but is not as sturdy.

TOOLS

- You will need preferably a electric miter saw, electric screw driver, electric drill, drill bits, a 1-1/4" hole drill bit, 25 foot measuring tape, 100 foot measuring tape, a square, tin snips, sledge hammer, steel post driver and paint brushes or rollers.

SITE SELECTION

- The high tunnel is designed for intensively managing a small area and site selection is critical. It should be located in well drained soil that is fertile and free of pathogens, weeds and other problems. The site should not be shaded on the south and west sides. It should be located near a year-round water source. Access to power may be beneficial. Consider the surrounding area so the structure will be protected against high winds and heavy snow. Position the hoop house so the air currents will help ventilate the hot air buildup.
- While the end walls can be constructed by one person, extra hands will be needed to cover the tunnel with plastic and to help fasten the plastic to the end walls. Extra hands will be beneficial throughout construction.
- Utilizing recycled lumber and other materials can greatly reduce the cost of the high tunnel hoop house.

DIMENSIONS

- Sizes of a hoop house may vary according to your needs or space available, etc.
- We chose two sizes to work with mainly because of the plastic size available. For instance a 24' x 50 ft piece of plastic will cover a 33 foot hoop house and a 24' x 100' piece of plastic will cover a 84 foot hoop house.



Low Cost Hoop House Materials (84 Foot Hoop House) Cost Estimates

• 6 mill Green House Plastic (327.85/100ft)	1 roll	\$ 327.85
• Rebar (\$3.00/2ft)	58 ea	\$ 174.00
• PVC 1" schedule 40 (\$7.16/20ft)	37 ea	\$ 264.92
• Tee, short 1" (\$7.59/ea)	2 ea	\$ 15.20
• Cross connectors for 1.315" pipe (\$3.50/ea)	27 ea	\$ 94.50
PVC Glue	1 cn	\$ 5.00
Paint	1 cn	\$ 20.00
8' 2 x 4 lumber (\$2.47/ea)	8 ea	\$ 19.76
10' 2x4 lumber (\$3.08/ea)	4 ea	\$ 12.32
16' 2x4 green lumber (7.39/ea)	2 ea	\$ 14.78
Lathe 4' 50/bundle (Need 22 pieces)	1 bd	\$ 20.44
Wood Screw 3" (.16 ea)	96 ea	\$ 15.36
Wood Screw 1-5/8" (.08 ea)	96 ea	\$ 7.68
Steel Posts (\$ 5.00)	4 ea	\$ 20.00
Plumbers Tape(1"x 10')	1 roll	\$ 2.30
Bailing Twine (recycled)		

Sub total

\$ 1,019.11

Top Vent Door Material

8' 2x4 lumber (\$2.47/ea)	8 ea	\$ 19.76
10' 2x4 lumber (\$3.08/Ea)	4 ea	\$ 12.32
Hinges (\$5.00/ea)	8 ea	\$ 40.00
Gate latch 6" (\$3.45/ea)	2 ea	\$ 6.90
Bolt latch 4" (\$7.75/ea)	4 ea	\$ 31.00
Duct Tape	1 roll	\$ 4.00

Sub total

113.98

Total materials for hoop house

\$ 1,128.09

- Cost of materials will vary according to size of hoop house, location and vendors. Cost of lumber and materials for end walls and doors will be the same regardless of length.

Low Cost Hoop House Materials (33 Foot Hoop House) Cost Estimates

• 6 mill Green House Plastic (3.85/ft)	50 ft.	\$ 192.50
• Rebar (\$3.00/2ft)	24 ea	\$ 72.00
• PVC 1" schedule 40 (\$7.16/20ft)	16 ea	\$ 114.56
• Tee, short 1" (\$7.59/ea)	2 ea	\$ 15.20
• Cross connectors for 1.315" pipe (\$3.50/ea)	10 ea	\$ 35.00
PVC Glue	1 cn	\$ 5.00
Paint	1 cn	\$ 20.00
8' 2 x 4 lumber (\$2.47/ea)	8 ea	\$ 19.76
10' 2x4 lumber (\$3.08/ea)	4 ea	\$ 12.32
16' 2x4 green lumber (7.39/ea)	2 ea	\$ 14.78
Lathe 4' 50/bundle (Need 22 pieces)	1 bd	\$ 20.44
Wood Screw 3" (.16 ea)	96 ea	\$ 15.36
Wood Screw 1-5/8" (.08 ea)	96 ea	\$ 7.68
Steel Posts (\$ 5.00)	4 ea	\$ 20.00
Plumbers Tape(1"x 10')	1 roll	\$ 2.30
Bailing Twine (recycled)		

Sub total

\$ 566.90

Top Vent Door Material

8' 2x4 lumber (\$2.47/ea)	8 ea	\$ 19.76
10' 2x4 lumber (\$3.08/Ea)	4 ea	\$ 12.32
Hinges (\$5.00/ea)	8 ea	\$ 40.00
Gate latch 6" (\$3.45/ea)	2 ea	\$ 6.90
Bolt latch 4" (\$7.75/ea)	4 ea	\$ 31.00
Duct Tape	1 roll	\$ 4.00

Sub total

\$ 113.98

Total materials for hoop house

\$ 680.88

- Cost of materials will vary according to length of hoop house, location and vendors. Material for end walls and doors will remain the same.

Table 3. Cutting instructions for 2x4 boards to construct one endwall.

Length	Length	Part#	Length	Part #
1	16'	un-cut	"A"	
2	10'	5'	"C"	4' - 6" "I"
		4' - 6"	"L"	(2) 2' - 6" "E", "H"
2	8'	(2) 4'	"F", "G"	(2) 3' - 10" "J", "K"
2	8'	(2) 6' - 5½"	"B", "D"	

Lumber must be cut according to cutting instructions

End wall dimensions & part names

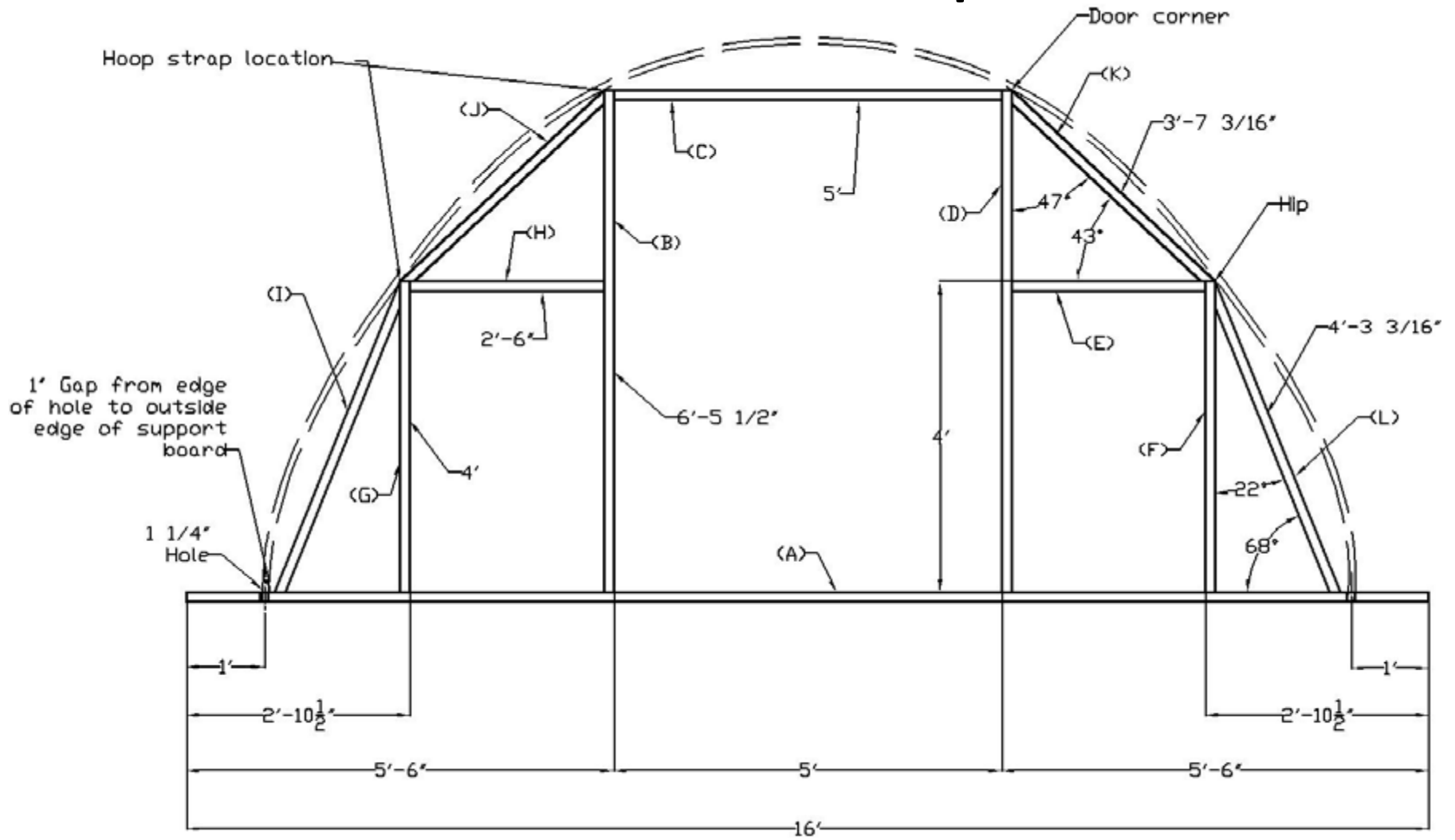








Table 5. Cutting instructions for 2x4 boards to construct a top-venting door.

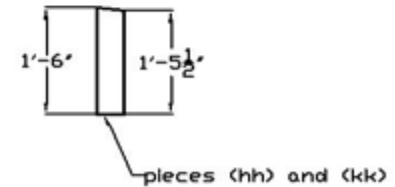
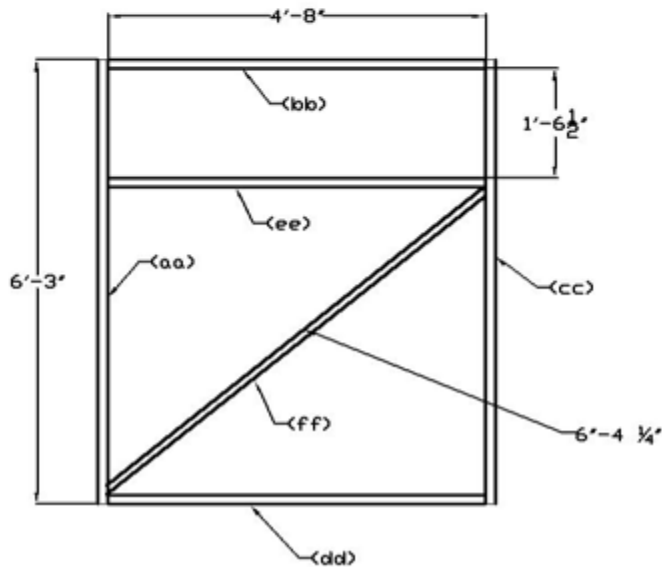
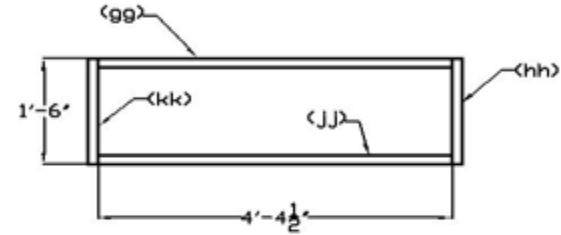
#	Length	Cut length	Part #	Cut length	Part #
2	8'	(2) 6'- 3"	"AA", "CC"	(2) 1'- 6"	"HH", "KK"
1	8'	4' - 8"	"BB"		
2	8'	Un-cut	"FF"		
2	10'	(2) 4'- 8"	"DD", "EE"	(2) 4'-4½"	"GG", "JJ"

IMPORTANT: Must follow cutting instructions in order to maximize lumber material.

Top-venting door dimensions & part names

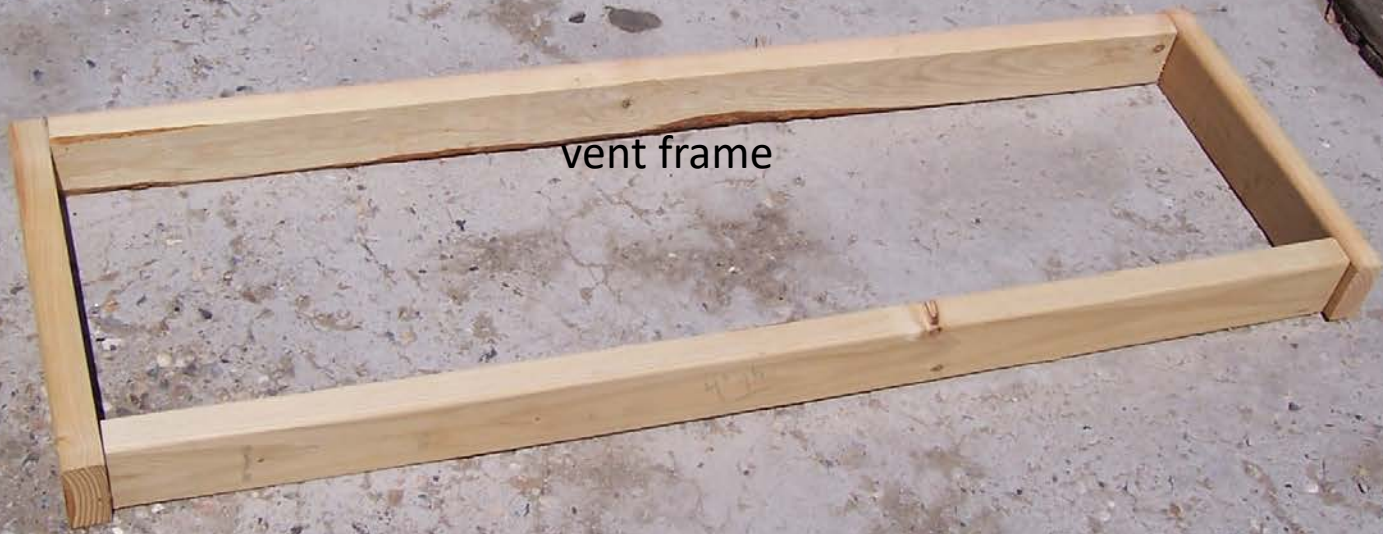


Hinge Placement



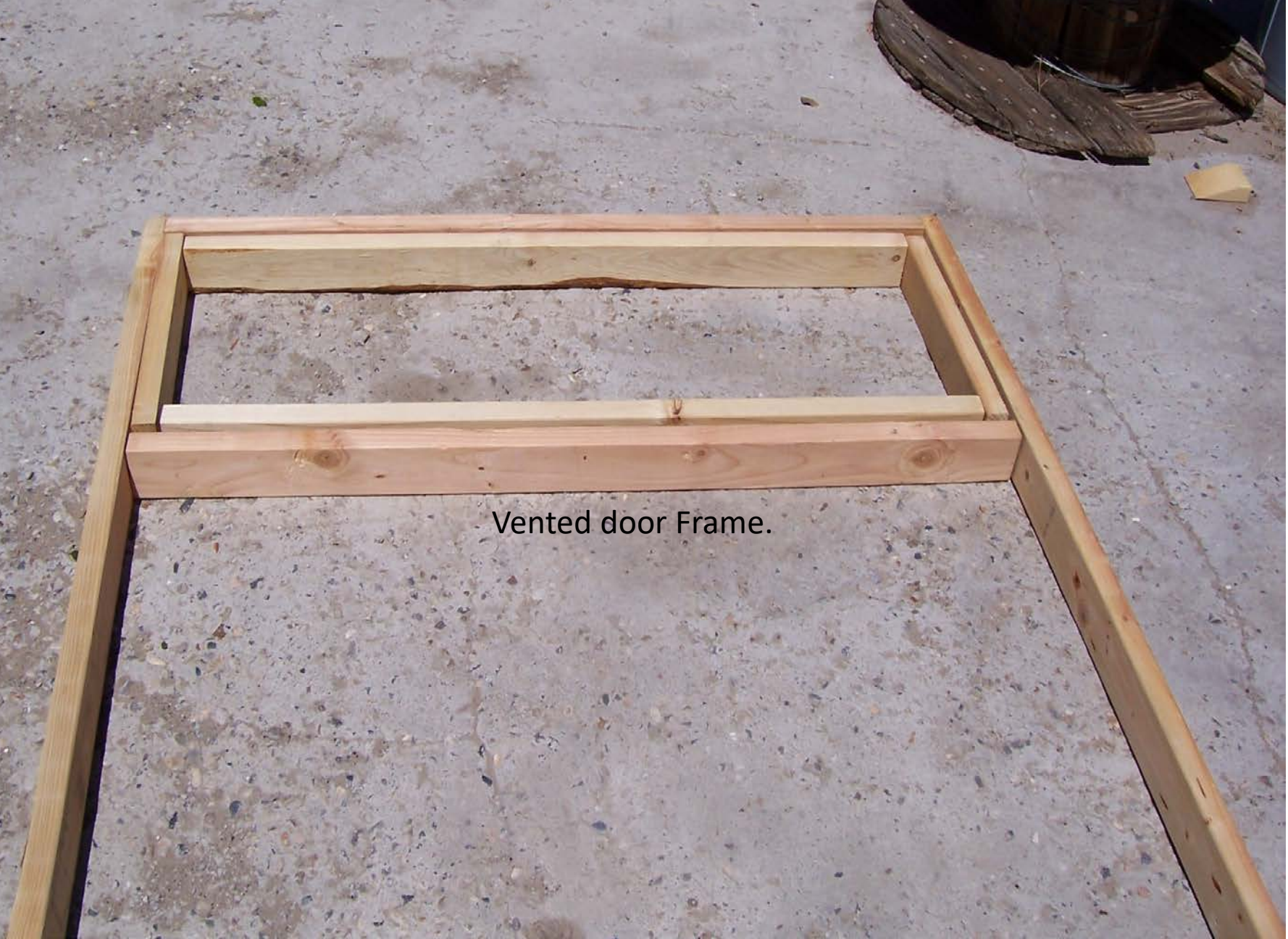


Door frame with vent port



vent frame





Vented door Frame.



INSIDE THIS SIDE

INSIDE THIS SIDE

PVC Pipe assembly

- Cut 28” pieces of PVC for each hoop you will need for your hoop house. Assemble the 22’ arches by gluing the 28” piece into the bell end of the 20’ PVC using PVC cement.
- Apply latex paint to plastic side of each PVC hoop

Rebar requirements & placement

- Two 24" x ½" rebar will be needed for anchoring each end wall and each hoop.
- Drive each rebar piece into the ground 18" at three foot intervals along each side using twine Stretched from corner to corner on each side as a guide.
- PVC will slide over rebar anchor and into 1-1/4" hole on end wall.







PVC hoops are spaced 3 feet apart



Installing PVC hoops



Vented hoop house door – “T” post attachments



Corners need to be taped to keep edges from tearing plastic



Purlin hangers or cross connectors





short "T" for connecting purlin to end hoop



Plastic being attached to far end wall





Using twine to tie
down plastic



stretching plastic and attaching to end wall
door frame with 4 ft lathe







Challenges Faced With The PVC Hoop House

- Snow in the higher elevation hoop houses
- Wind in all locations

Installing Support posts for snow load

- Measure distance from purlin to the ground
- Using 2"x4" lumber notch one end of the board
- Place notched end on purlin and attach with twine or any kind of strap



THIS SIDE



Wind Challenges

- Plastic Ripping apart
- End doors blowing open



Wind Support

- Extra material for 30 ft hoop house to prevent wind damage
- Materials needed: T-posts two (2) each, twine approximately 200 ft.
- Place posts at half way point on each side of the hoop house
- Attach twine from one corner of hoop house, stretching to T-post opposite of that corner, then from T-post to the other corner. Fasten ending in a “V” formation. Repeat steps for opposite corners and T-post.
- Finish by attaching twine to one T-post, then stretch straight across to opposite T-post. Tie loop ends to each cross over twine same as twine used on hoops



03/05/2013

Wind Support

- Extra material needed for 80 ft hoop house
- Materials needed: T-posts six (6) each, twine approximately 300 ft
- Place posts at 20 ft intervals along each side of the hoop house, i.e. one at 20', 40' and 60'
- Attach twine to post at 20' mark, cross over to post at 40' mark on opposite side, cross back over to post at 60' mark on other side making a "V" formation, cross straight over to post at opposite 60' mark, from there repeat cross over to 40' and 20' then cross straight over to opposite 20' mark
- Finish by stretching twine from 40' mark across to 40' mark on opposite side. Tie loop ends to each cross over twine same as twine used on hoops



03/05/2013



03/05/2013

The Current Program

- The round style 14 foot Wide x 24 foot long x 8 foot 5-7/16 inch high cold frame hoop house frame comes in a complete kit engineered by the ClearSpan Company.
- The hoop/rafters and purlin are made of 1.315 inch steel pipe. The kit contains all the hardware needed to assemble the frame, but does not contain any lumber.

The Current Program

- A solid end wall was engineered by Reggie Premo and is made of 2" x 4" lumber and standard 4' x 8' sheets of siding.
- The covering is 12 mil green house plastic
- Have implemented a monitoring program (1 – 2 times per year)
- Growing Local Education & Risk Management For Hoop House Production
- Basic Farming Principles For Successful Hoop House Growing

MATERIAL LIST FOR COLD FRAME

- Ground post 1.660" I.D. x 3' (2 ea)
- Rafter pipes 1.315" O.D. swaged & drilled for ground pipe (14 ea)
- Rafter pipe 1.315" swaged not drilled (7 ea)
- Rafter pipe 1.315" plain (7 ea)
- Purlin pipe 1.315" x 75" swaged (3ea)
- Purlin pipe 1.315" x 73.5" plain (1 ea)
- Purlin end clamp (2 ea)
- Purlin cross connector (5 ea)
- Tek self-tapping #14x1 (70 ea)
- Machine bolt w/nut 5/16" x 2-1/2" (14 ea)
- Carriage bolt w/nut 1/4" x 3-1/2" (42 ea)
- Base board pressure treated 2"x 6" x 14' (2 ea) (not supplied with kit)
- Base board pressure treated 2"x 6" x 10' (2 ea) (not supplied with kit)

MATERIAL LIST FOR ONE END WALL

- 2"x 4"x 16' pressure treated lumber (1 ea)
- 2"x 4"x 10' lumber (3 ea)
- 2"x 4"x 8' lumber (11 ea)
- 4'x 8' standard siding (3-1/2 ea)
- 3" wood screws (1 lb)
- 1-5/8" wood screws (1 lb)
- Metal to wood brackets (4 ea)
- Tek screws (8 ea)
- Wood connectors (12 EA)
- 4" metal hinges (4 ea)
- 4" bolt latch (2 ea)
- 6" gate latch (1 ea)

Estimated Costs For Kit Materials

UNCE/FRTEP Native Programs in conjunction with Barrick Mines

Western Shoshone Hoop House Projects cost breakdown per hoop house

1. Hoop houses from Growers Solution/FarmTek	1,423.00
• Steel frame, including all hardware	
• Green house plastic 12 mil	
• Shipping cost	
• Included at discounted rate for (15) units	
2. End wall material from Home Depot	450.00
• Includes all 2x4 & 2x6 material	
• 4x8' siding	
• Hinges, door latches, wood screws	
3. Total cost per hoop house (material only)	\$1,873.00

Note: when obtaining quotes online, make certain that you check the cost breakdown per item carefully to ensure there aren't any mistakes.



















- Schurz Hoop House in progress

Schurz Hoop House



















Conclusion

- A hoop house is a practical tool that is affordable to construct, practical to use and will extend the growing season by planting earlier in the spring and later in the summer and early fall. Some plants can be grown year around.
- With these structures one can make farming of food crops affordable, profitable and fun all year around.

Contact Information

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