



**FOCUS
FORWARD**



Sustainability and Food Companies

The evolving world and the need for a practical approach

Introduction

- **Dan Sonke, DPM**

- B.A. Environmental Studies, 1994
- Doctorate of Plant Medicine, 2005
- 19 years working in international and sustainable agriculture programs
 - California Almond Sustainability Program
 - Oregon Hazelnut Sustainability Program
 - Specialty Crop Sustainability Template
 - California Sustainable Winegrowing Alliance
 - Stewardship Index for Specialty Crops
 - Florida Integrated Pest Management Program

- **Family almond farm near Ripon California**



Introduction

- **Manager, Ag Sustainability for Campbell:**
 - Tomato ingredient program in California
 - The Sustainability Consortium/Wal-Mart
 - Stewardship Index for Specialty Crops
 - Agriculture portion of Corporate Social Responsibility relationships with investors



Recognition of Campbell's Leadership in Sustainability

- **Dow Jones Sustainability Indexes – 4 years running**

- Bronze Class in 2013



- **2012 US EPA Climate Leaders Award** for excellence in GHG management and reductions



- **Best Corporate Citizen in Russell 1000**

- 2011, 2012, 2013 (#11)



- **The Global 100 (Most Sustainable Corporations)**

- Named to list in 2013; only U.S. food company



- **MacLean's Social Responsibility List; Maplecroft Climate Innovation Leaders Index; MSCI Sustainability EFT; STOXX ESG Leadership Index**



First lightweighted product?

- **1897 - Condensed Soup**
 - Nephew of Campbell President invents condensed soup to remove water from product
 - From 32 oz -> 10.5 oz
 - Price reduction \$0.34 -> \$0.10
 - 100+ years before detergent followed suit





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2014 Campbell Corporate Social Responsibility report



2014 CORPORATE SOCIAL RESPONSIBILITY REPORT
EXECUTIVE SUMMARY



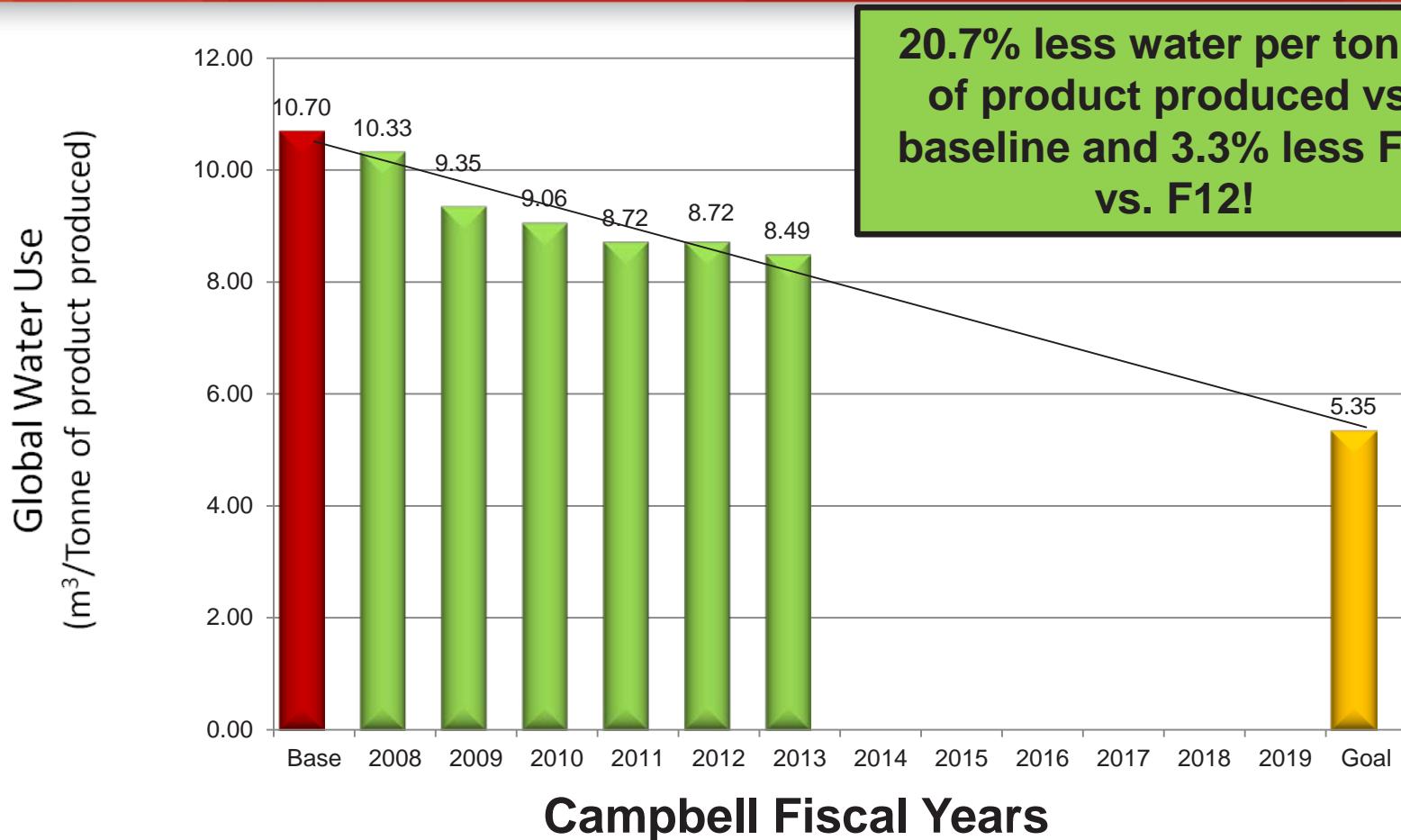
WHAT'S IN
A NAME?



2012 CSC CSR Report, campbellsoupcompany.com/csr



Campbell Soup Company Global Water Use (m³/Tonne of product produced)



Renewable Energy Projects - Napoleon BioGas



BioGas Plant began accepting organic material from Napoleon during the last week of August and began generating electricity for the beverage plant in December. Organic material now being diverted from Henry County landfill.



Watershed Metrics Data

Annual renewable supply per person

No Data

Extreme Scarcity

Scarcity

Stress

Sufficient

Abundant

No Data

Low

Medium

Stress

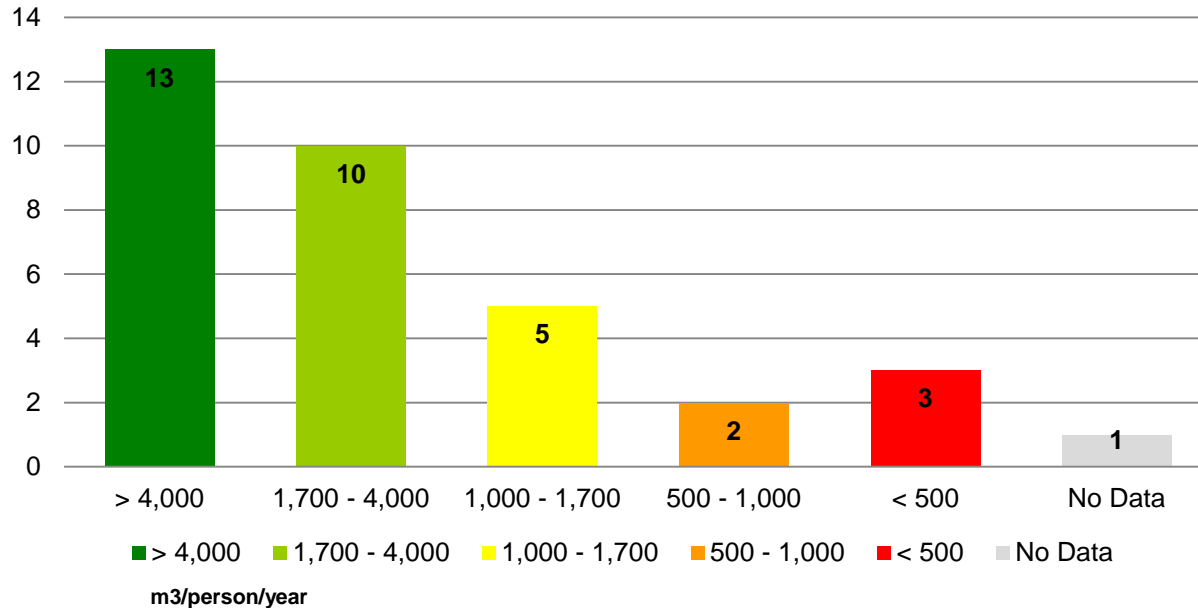
Scarce

Plant/Office Name	Country	Total Water Consumption (m ³ /year)	Annual Renewable Water Supply per Person (m ³ /person/year)		Mean Annual Relative Water Stress Index (unitless)
			(1995)	(2025)	(2000)
Aiken	United States of America	30,211	> 4,000	> 4,000	< 0.2
Bekasi Indonesia	Indonesia	91,777	1,700 - 4,000	1,000 - 1,700	< 0.2
Bloomfield	United States of America	64,776	> 4,000	> 4,000	< 0.2
Camden - WHQ	United States of America	192,287	1,700 - 4,000	1,700 - 4,000	< 0.2
Davis	United States of America	*N/A	1,700 - 4,000	1,700 - 4,000	< 0.2
Denver	United States of America	59,813	1,700 - 4,000	1,700 - 4,000	< 0.2
Dixon	United States of America	*N/A	1,700 - 4,000	1,700 - 4,000	No Data
Downers Grove	United States of America	68,520	> 4,000	> 4,000	> 1
Downingtown	United States of America	87,719	1,700 - 4,000	1,700 - 4,000	< 0.2
East Brunswick	United States of America	4,376	1,000 - 1,700	1,000 - 1,700	< 0.2
Everett	United States of America	349,771	1,700 - 4,000	1,000 - 1,700	< 0.2
Huntingwood	Australia	75,121	500 - 1,000	< 500	< 0.2
Kristianstadt	Sweden	*N/A	> 4,000	> 4,000	< 0.2
Lakeland	United States of America	46,727	1,000 - 1,700	1,000 - 1,700	0.2 - 0.4
LePontet	France	481,647	> 4,000	> 4,000	< 0.2
Lubeck	Germany	444,913	1,000 - 1,700	1,000 - 1,700	< 0.2
Malaysia	Malaysia	243,231	> 4,000	> 4,000	< 0.2
Marleston	Australia	30,995	< 500	< 500	0.2 - 0.4
Maxton	United States of America	4,777,784	> 4,000	> 4,000	< 0.2
Milwaukee	United States of America	256,245	> 4,000	> 4,000	< 0.2
Napoleon	United States of America	8,297,638	> 4,000	> 4,000	< 0.2
New Castle	United States of America	*N/A	1,700 - 4,000	1,700 - 4,000	< 0.2
Norwalk	United States of America	*N/A	1,700 - 4,000	1,700 - 4,000	< 0.2
Paris	United States of America	4,737,667	> 4,000	> 4,000	< 0.2
Puurs	Belgium	87,598	500 - 1,000	500 - 1,000	< 0.2
Richmond	United States of America	83,513	< 500	< 500	0.2 - 0.4
Sacramento	United States of America	2,088,780	1,700 - 4,000	1,700 - 4,000	< 0.2
Shepparton	Australia	759,469	> 4,000	> 4,000	> 1
South Plainfield	United States of America	235,914	1,700 - 4,000	1,700 - 4,000	< 0.2
Stockton	United States of America	*N/A	1,700 - 4,000	1,700 - 4,000	< 0.2
Toronto	Canada	1,467,232	> 4,000	> 4,000	0.4 - 1.0
Villagran	Mexico	87,500	500 - 1,000	500 - 1,000	0.2 - 0.4
Virginia	Australia	59,942	No Data	No Data	No Data
Willard	United States of America	41,624	> 4,000	> 4,000	< 0.2
Sum of Total Water Consumption (m ³ /year)		25,252,790			



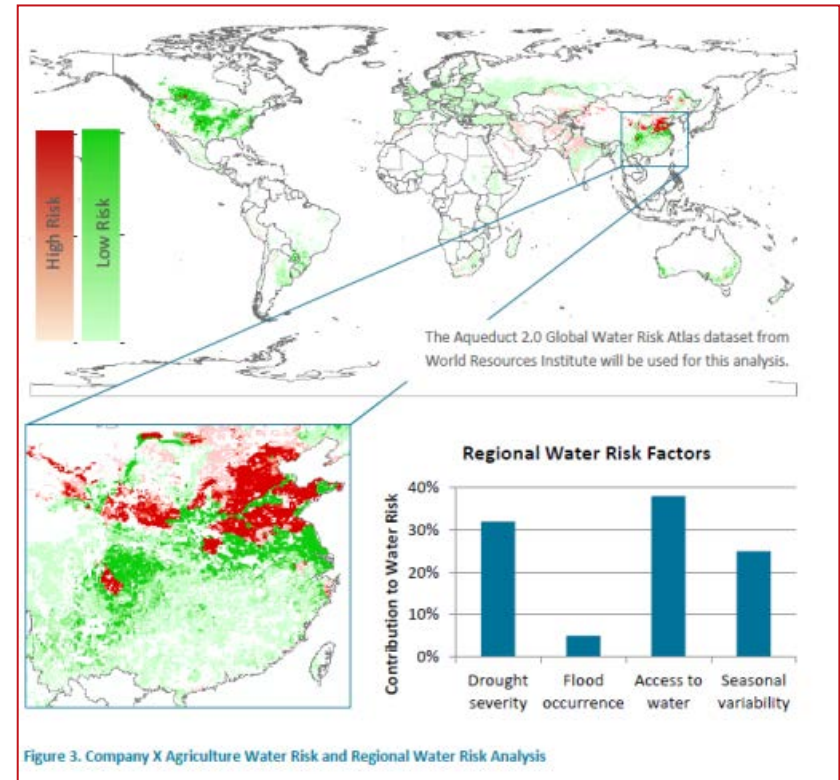
Water Metrics Data (2025)

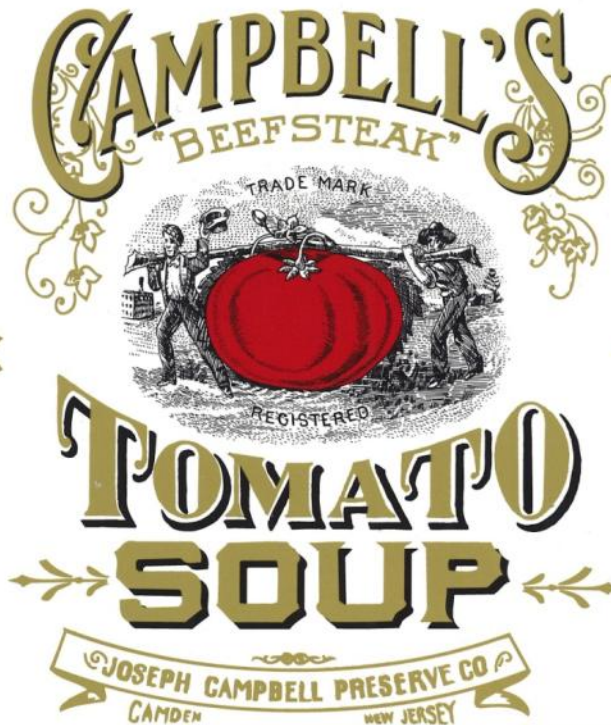
Projected Site Distribution (Watershed) Annual Renewable Water Supply per Person (WRI 2025)



Beyond manufacturing

- **The Sustainability Consortium**
- **Commodity mapping project**
 - Phase 1 – map biodiversity hotspots
 - Phase 2 – map water supply risks
 - Major and now minor commodities
- Proposing top 10 ingredients analysis
 - Also look at alternate scenarios
 - E.g. water risk of tomato supply in CA vs Italy



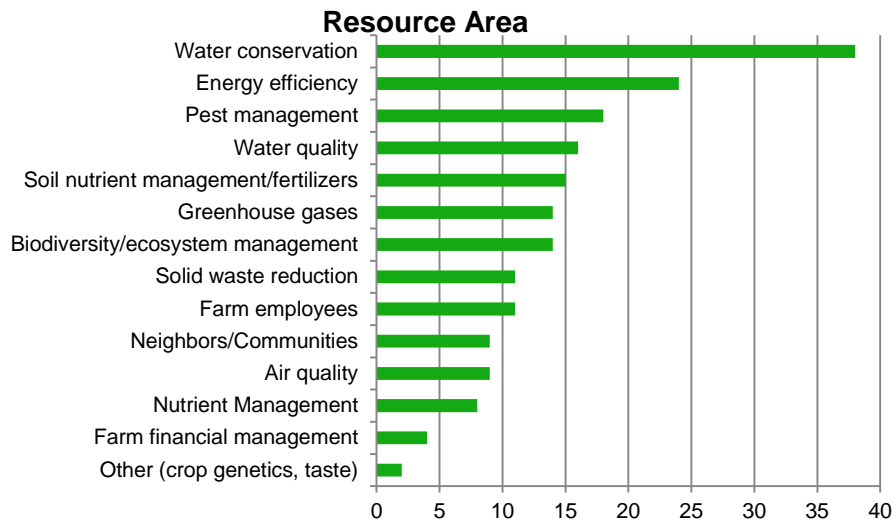


THIS SOUP
IS MADE FROM THE
CELEBRATED
"BEEFSTEAK TOMATO"
AND IS PREPARED ONLY
BY THE
JOSEPH CAMPBELL PRESERVE CO.



Campbell Agriculture Sustainability Focus

- **The Campbell Ag Sustainability Program was launched in 2012 and focuses on tomatoes and other vegetables - iconic crops for our iconic and innovative products.**
 - Manager of Ag Sustainability Programs hired Aug 2011
 - Campbell's first formal stakeholder survey for a sustainability program was used to identify priorities with customers, investors, farmers, and environmentalists.



Campbell Tomato Manufacturing Facilities



CSSC
Dixon



CSSC
Stockton

- Purchased 1976
- Plant Site Dixon, CA
- Plant Production
 - Chilled/Aseptic Paste
 - Aseptic Diced Tomatoes

- Purchased 1976
- Plant Site Stockton, CA
- Plant Production
 - Chilled/Aseptic Paste
 - Hot Fill Diced Tomatoes





Ag Sustainability Priorities

- **Campbell Ag Sustainability focuses on 5 priority areas selected by our stakeholders:**
 - Water use
 - Fertilizer use
 - Greenhouse gasses
 - Soil quality
 - Pesticides
- **Goals: by 2020...**
 - Reduce water use per unit of ingredient by 20%.
 - Reduce nitrogen applied per lb of ingredient by 10%.
 - Reduce GHGs per lb of ingredient by 20%.



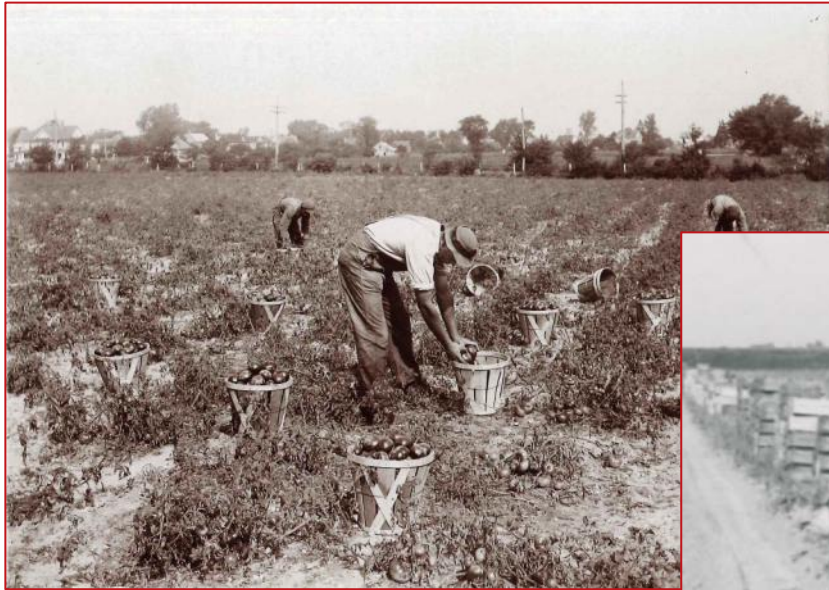
Telling our Agriculture Story

- **Campbell canned tomatoes as early as 1869**
 - Tomato soup first made in 1897
 - 1947 - started processing tomatoes in California; some families still growing for us 65 years later
- **All 50 contracted farms are family owned**
 - Many in 2nd or 3rd generation with Campbell
 - 2012 – ave distance field to plant was 38 miles
- **The company has won several awards for reducing vegetable pesticide use**
 - Campbell has ongoing research projects on water, pests, fertilizer optimization with tomato farmers



Tomato data model

- In 2013, Campbell tomato field staff worked with 50 tomato farms to get data from 449 tomato fields



How are we doing?

- **In 2012:**

- It took more than 9 gallons of water just to grow a pound of raw tomatoes
- Drip irrigated fields did better
 - 28% less water than furrow
- But only 39% of Campbell tomato acres were on drip in 2012, compared to 60% statewide

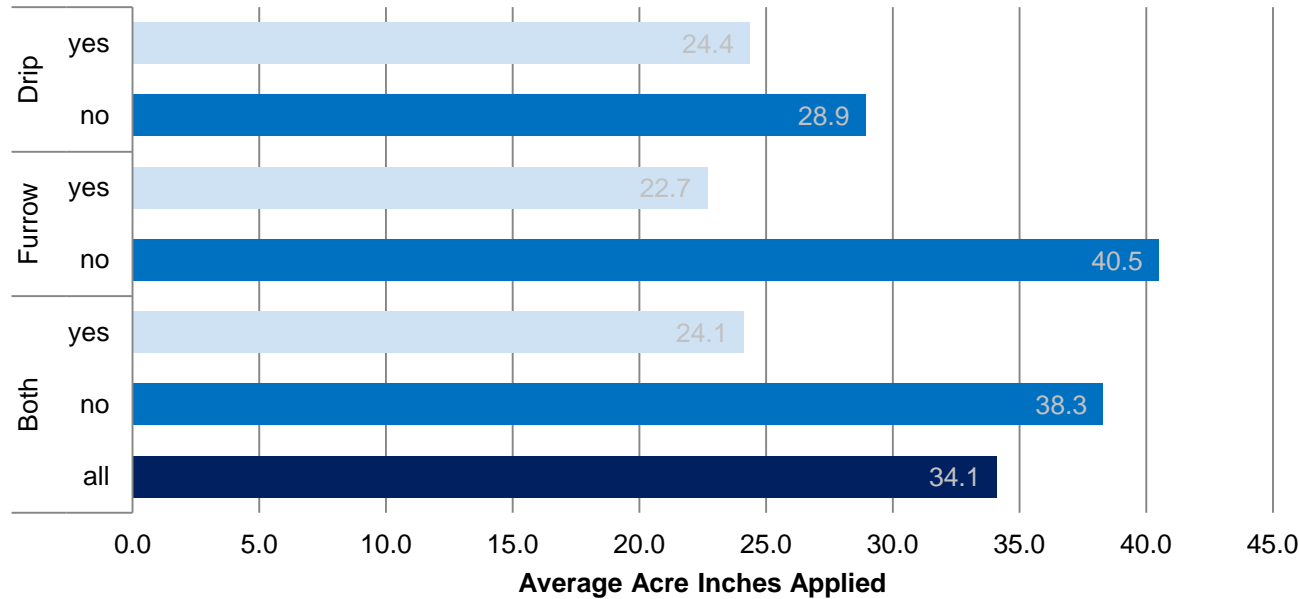


- **In 2013:**

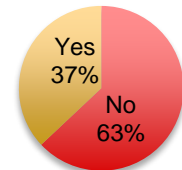
- Our water use was essentially flat, in a drought year we actually expected it to go up
- Again, drip was more efficient
 - 34% lower water use
- However, adoption of drip irrigation did not go up as much as expected
 - 42% of harvested acres in 2013
 - With the record drought, access to government funding for drip installation is increasing

Identifying Opportunities

Use of ET Scheduling v. Water Applied



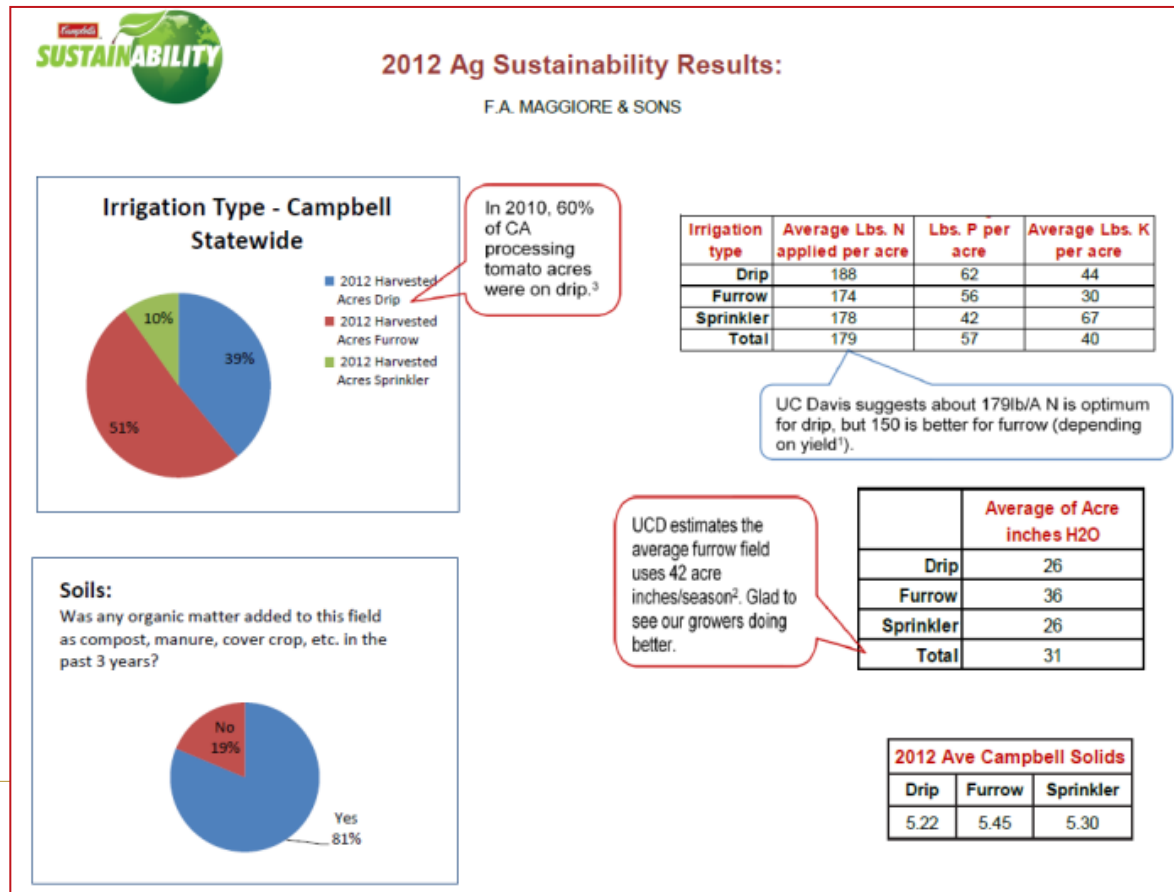
Use of ET Scheduling?



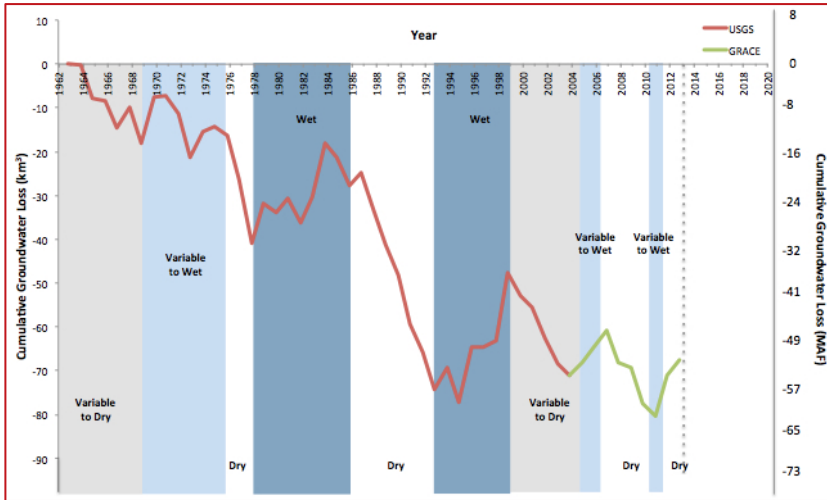
- Using program to identify best practices
 - Farmers who use evapotranspiration data to plan when and how much to irrigate clearly reduced water use

Moving the needle – motivating farmer adoption

- **Peer pressure - use data feedback in the form of custom reports and educational newsletters**
 - Compare grower results to peers and provide access to additional knowledge

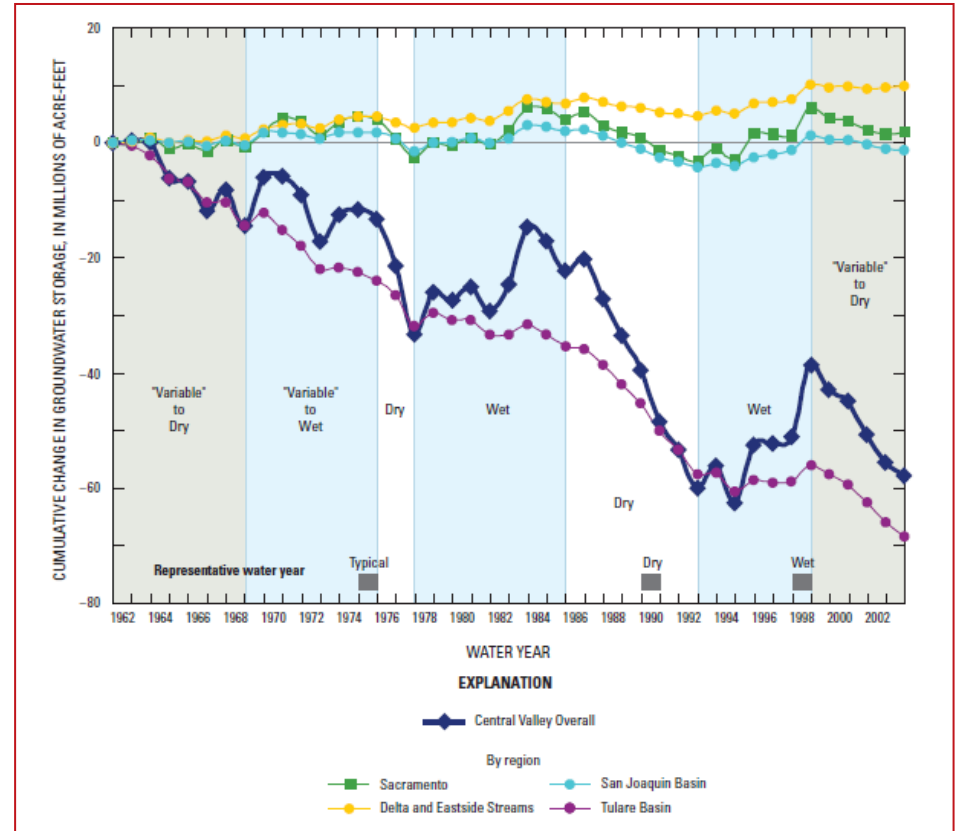


Campbell Tomatoes, Drought, Groundwater



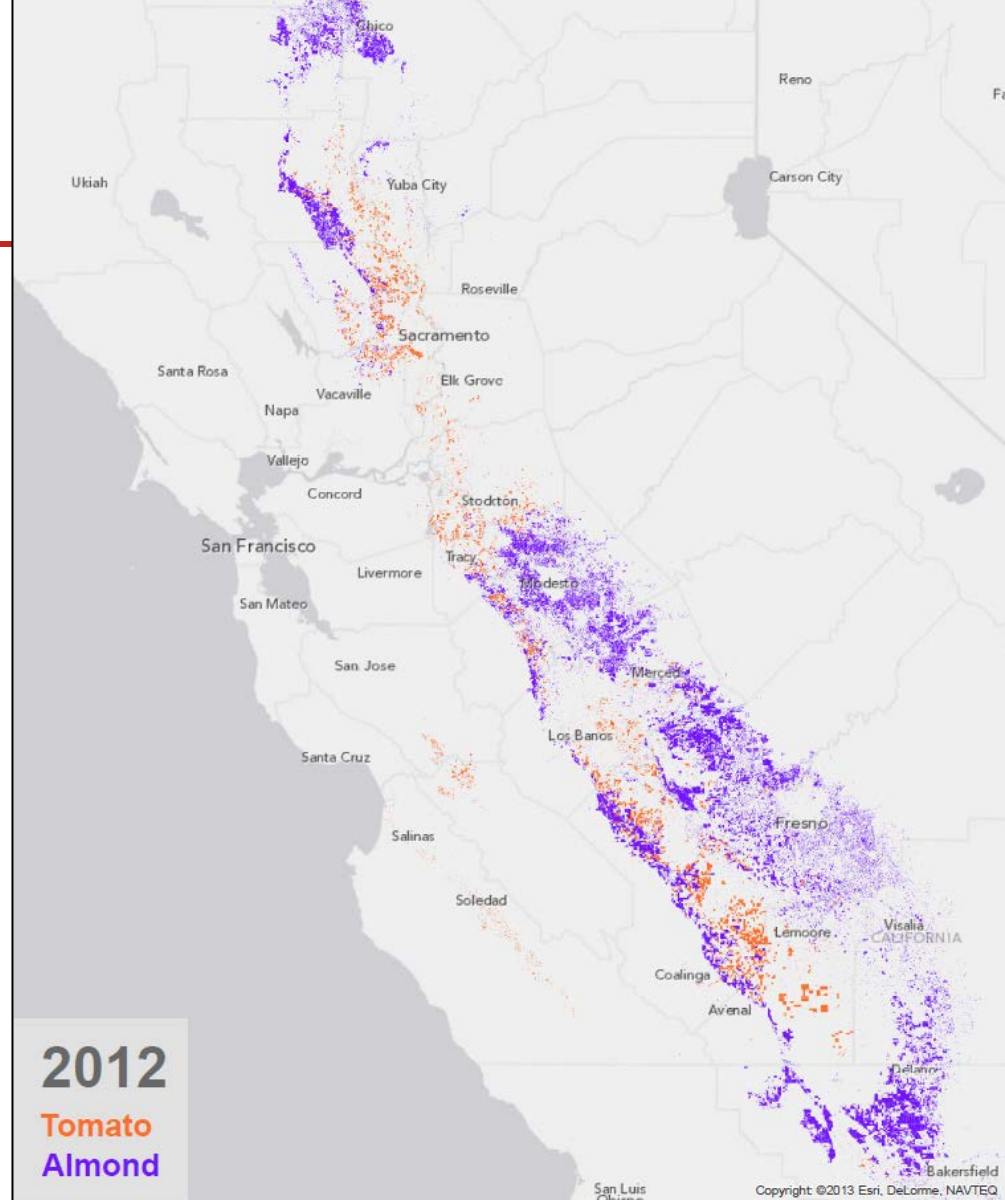
- **Groundwater is key to survival**

- Campbell sources mainly in northern CA
- 75% of water falls in northern part of state
- Groundwater resources greater in north
- But still very serious
- not all fields have wells



Competing Crops

- **Almonds, walnuts, pistachios**
 - Experiencing record demand and high prices
 - Demand is forecast to remain strong for many years
 - 25+ year tree life spans - “tie up” land
 - Tomato farmers have harder time finding land to rotate annual crops
 - Many planting trees themselves
- **Land prices are high**
- **Trees get water in dry years, while tomato land goes fallow**
 - Further restricting available land



Data Source: Han, W., Yang, Z., Di, L., Mueller, R., 2012. CropScape: A Web service based application for exploring and disseminating US conterminous geospatial cropland data products for decision support. Computers and Electronics in Agriculture, 84, 111–123




“Trillion \$ Selfie”

- **5 CPG CEOs join in committing to Walmart to reduce GHG in agriculture**
 - Walmart sees this as sustainability and cost opportunity
 - Agriculture GHGs dwarf our manufacturing GHGs, but are tied to critical fertilizer use

CEO CORNER

May 05, 2014

 VIEW PDF

Ensuring a Sustainable Food Supply

I'm pleased to tell that we are expanding our strong commitment to sustainable food production. In a collaborative partnership with Walmart, Campbell joined other food and beverage companies such as PepsiCo, General Mills and Kellogg in signing pledges last week to drive sustainable agriculture -- see our CEO selfie (right).

At the invitation of Walmart President & CEO Doug McMillon, I had the pleasure of announcing Campbell's commitment at Walmart's inaugural Sustainable Product Expo in Bentonville, Arkansas.

I'm proud to say that Campbell set three important goals. We committed to:

- Reducing greenhouse gas emissions and water use by 20% per tonne of food for our five key agricultural ingredients: tomatoes, carrots, celery, potatoes and jalapenos.
- Working with our peer companies, growers, suppliers and customers to help achieve zero net deforestation by 2020.
- Preserving rain forests by sourcing our palm oil needs from certified sustainable sources by 2015.



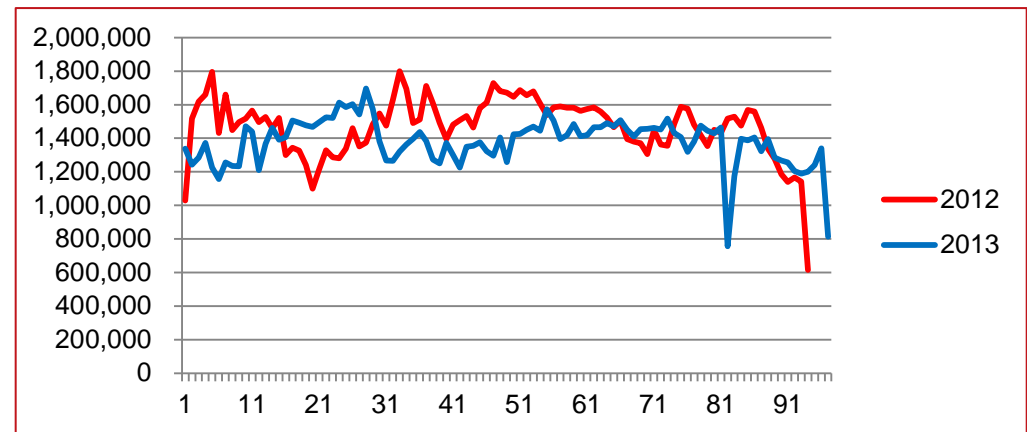
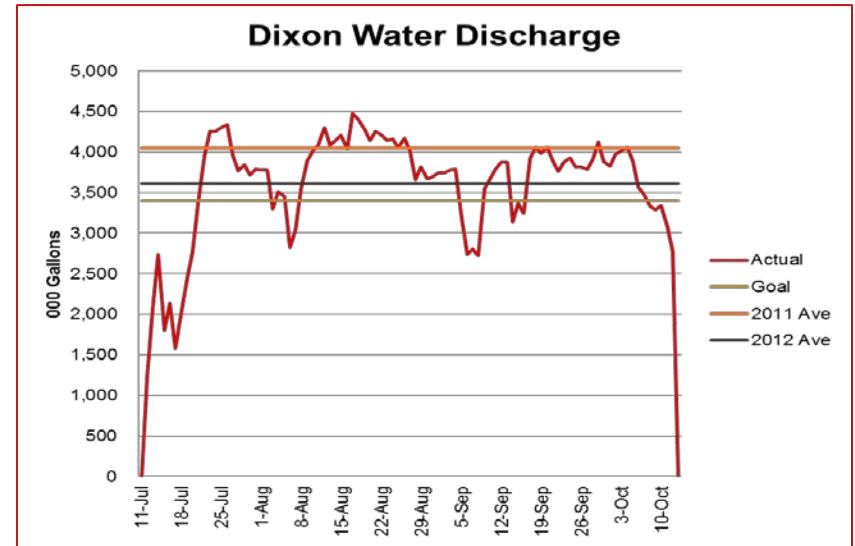
California – Tomato Processing

- **2012/13 Water Energy Nexus project**
 - Tracking energy & water use intersections
 - From well to discharge
 - Analyze efficiency of each point
 - Much more than a simple “audit”
 - Very useful for identifying opportunities to improve
- **Example learning**
 - 37% of electricity use in plant is to move water around
 - Potential for improving efficiency of both water and energy use, especially around steam
- **“Tomato water”**
 - Potentially reusable water but with heat and low level organics
 - Need economic ways to reuse heat and remove organics



Water conservation in tomato processing

- **Campbell's two tomato processing plants in CA**
 - Identifying ways to reuse water
 - Eliminating single-pass water where possible
- **2012 – Dixon plant reduced water use 10%, year over year**
- **2013 – Stockton plant reduced by 5%, year over year**



Conservation Action Project - Ohio

- **2008 Campbell signs agreement with Ohio EPA in lieu of fine**
 - \$50,000/year for 10 years, investing in upstream nitrate management projects on farms
 - wetlands, cover crops and controlled drainage projects in Lake Erie watershed
- **Has become a model project**
 - Implementation of water quality best practices
 - Utilization of farm land to offer “ecosystem services”
 - Ecosystem services – provision of clean water, air, wildlife benefits, etc. – an area of significant interest to USDA and EPA



Conservation Action Project - Ohio

- **Wetland Establishment**

- Number of wetlands - 2
- Acres established – 31



- **Cover Crops**

- Landowners participating - 60
- Acres established – 3,160 X 3 Years



- **Controlled Drainage**

- Landowners participating - 25
- Acres established – 1,434

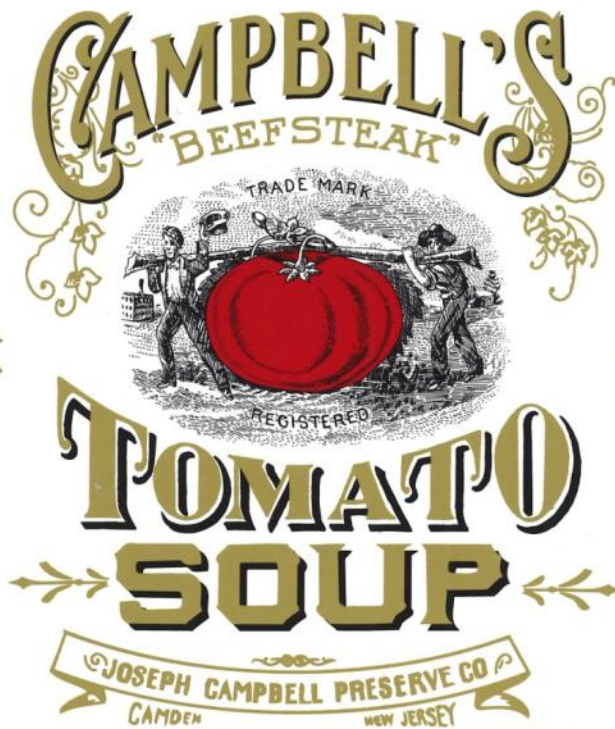


Conservation Action Project - Ohio

- **Nitrogen Reduction**

- 86.36 tons of nitrogen prevented from entering the Maumee River and Lake Erie Watershed





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