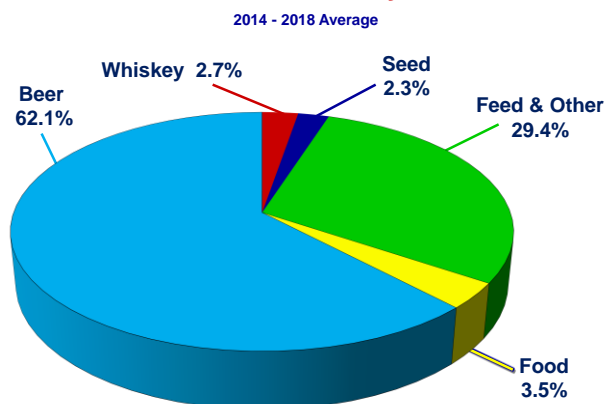


**ECONOMIC SIGNIFICANCE OF BARLEY**

One of the strengths of the U.S. economy is its crop production and agricultural based industries. Crop and value-added product exports reduce the unfavorable trade balance and generate new employment, grower income, and federal revenue. Maintenance of U.S. strength in agriculture requires continuing efforts to improve crop productivity and quality. U.S. agricultural production that can supply both domestic demands and can compete in world markets will only be accomplished by strong investments in agricultural research programs. Innovative and competitive research will keep the U.S. at the forefront of the development and implementation of new agricultural technologies.

**Domestic Use of Barley in the US**



Barley is a significant U.S. crop. Barley production is approximately 215 million bushels with an estimated value of \$1.2 billion as a raw agricultural commodity (2012 Census).

Barley producers stimulate the rural economy through the purchase of fertilizer, seed, chemicals, fuel, labor, other supplies and farm equipment. These variable cash expenses averaged \$549 million annually (2013-2017).

The impact of barley on the U.S. economy is even more significant if the value-added products

resulting from its utilization as an animal feed, in malt beverages, and in food products are considered. The economy also benefits from exports which annually average \$57 million for barley and its milled products, \$226 million for malt and malt extracts, \$609 million for beer, and \$1.06 billion for whiskey (2013-2017).

**BARLEY BALANCE SHEET**

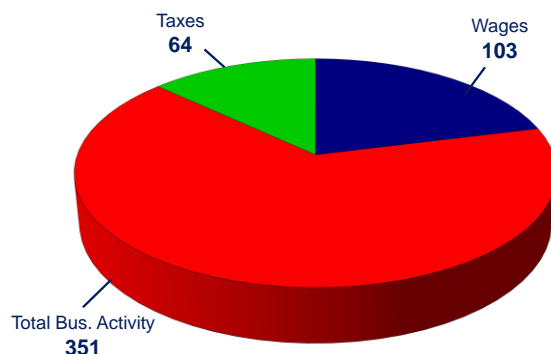
ANNUAL FEDERAL RESEARCH INVESTMENT*	ANNUAL RETURN ON INVESTMENT
\$ 13.978 USDA-Agricultural Research Service (ARS)	\$ 1.2 Raw agricultural commodity
0.758 Other Grants (NIFA-AFRI, NSF)	350.8 Brewing industry business
NA USDA-NIFA Formula Grants (Hatch Act, Smith-Lever)	3.7 Federal excise tax revenue
<b>\$14.736 Million</b>	25.9 Federal income tax
	2.4 Value-added use as feed
	NA Value-added use as food
	<b>\$384.0 Billion</b>

\*FY2018 Funding Levels  
NA: Not Available

**ECONOMIC CONTRIBUTION OF THE BREWING INDUSTRY**

Barley is a critical and primary raw material for beer. **Without malting barley, there would be no beer.** The economic value of the U.S. brewing industry is substantial.

**Economic Contribution of Brewing**  
Billions of Dollars



**BARLEY: ECONOMIC SIGNIFICANCE BY STATE**

State	Brewing Industry <sup>2</sup>							
	Annual <sup>1</sup> Production	Crop <sup>1</sup> Value	Employment	Total Bus. Activity	Taxes <sup>3</sup>	Brewers <sup>4</sup>	Whiskey Distillers <sup>5</sup>	Malt Plants <sup>4</sup>
	(million bu)	(million \$)		(million \$)	(million \$)			
Alabama	0.0	0.1	22,055	2,826	615	41	7	1
Alaska	0.2	1.0	5,692	830	199	41	5	
Arizona	5.0	27.0	47,356	6,483	1,094	116	7	1
Arkansas			10,836	1,500	280	39	4	
California	5.3	29.2	267,576	48,175	9,965	811	54	6
Colorado	6.6	42.0	68,705	15,311	2,184	393	48	7
Connecticut			20,468	2,855	596	84	6	3
Delaware	2.8	11.7	5,999	996	142	25	3	1
District of Columbia			9,680	1,159	194	11	11	
Florida			160,706	21,687	3,949	283	18	
Georgia	0.0	0.2	53,487	8,479	1,400	79	12	1
Hawaii			13,756	1,900	366	21		
Idaho	51.1	306.1	11,987	1,713	250	64	8	5
Illinois	0.1	---	89,692	13,943	2,356	228	21	4
Indiana	0.0	0.5	36,609	4,825	740	176	20	2
Iowa	0.1	0.6	29,233	3,764	587	87	9	1
Kansas	0.3	2.0	15,582	2,091	302	43	5	2
Kentucky	0.5	2.5	17,191	2,118	413	61	35	1
Louisiana			33,995	4,500	772	37	4	
Maine	0.9	3.7	16,993	2,328	433	113	7	3
Maryland	3.3	13.2	31,351	4,338	883	95	18	4
Massachusetts	---	---	58,645	9,040	1,615	153	12	3
Michigan	0.4	1.8	66,403	9,290	1,492	354	27	14
Minnesota	6.1	38.4	53,971	7,894	1,466	169	19	6
Mississippi			11,553	1,516	319	15	3	
Missouri	0.1	0.3	57,656	12,457	2,030	114	22	3
Montana	37.5	211.8	10,152	1,351	158	89	15	5
Nebraska	0.1	0.4	16,476	2,263	331	49	4	2
Nevada	0.2	0.7	49,210	7,115	1,212	41	7	3
New Hampshire	0.0	---	13,588	2,206	377	79	8	
New Jersey	0.1	0.5	43,901	6,525	1,150	108	6	1
New Mexico	---	---	13,076	1,690	272	84	10	
New York	0.3	1.6	130,762	23,588	5,350	386	73	12
North Carolina	1.0	3.5	58,949	8,842	1,651	290	17	3
North Dakota	60.2	367.7	7,271	939	139	17	2	1
Ohio	0.2	1.1	81,341	13,269	2,503	289	25	9
Oklahoma	0.2	0.8	17,842	3,031	559	35	4	1
Oregon	3.9	20.4	44,910	7,424	975	287	30	7
Pennsylvania	3.8	15.7	72,698	11,406	1,812	326	37	5
Rhode Island			7,756	1,000	169	24	2	
South Carolina	0.0	---	27,914	3,322	692	72	21	
South Dakota	0.8	3.8	8,462	1,044	149	28	3	
Tennessee	0.1	---	29,277	3,991	830	95	23	2
Texas	0.2	1.0	165,249	26,729	4,573	279	36	3
Utah	2.0	7.7	12,690	1,587	271	36	5	1
Vermont	0.0	---	8,566	1,137	203	227	7	2
Virginia	2.9	10.9	55,314	9,346	2,050	66	24	4
Washington	12.1	61.7	53,619	8,679	1,556	390	59	4
West Virginia	0.1	0.5	7,196	1,009	161	24	10	
Wisconsin	0.9	3.4	69,163	10,505	1,611	188	15	6
Wyoming	5.5	33.7	5,354	806	110	29	3	2
Total U.S.	215.1	1,228.2	2,227,913	350,820	63,541	7,191	823	141

<sup>1</sup> 2012 Census production and crop values. (Source: USDA/NASS). (---) Data not available for some minor states.

<sup>2</sup> Source: Economic Impact, 2016 Prepared for the Beer Institute by John Dunham and Associates.

<sup>3</sup> Taxes paid and generated - business, consumption & personal.

<sup>4</sup> Various published and unpublished sources. Malting companies include those under construction.

<sup>5</sup> Sku's Recent Eats "The Complete List of American Whiskey Distilleries & Brands"

MAJOR & REGIONAL BREWERS IN THE UNITED STATES<sup>1</sup>

STATE	COMPANY	CITY
Alaska	Alaskan Brewing Co.	Juneau
Arizona	Four Peaks Brewing Co. SanTan Brewing Co.	Tempe Chandler
California	21 <sup>ST</sup> Amendment Brewery AleSmith Brewing Co. Anchor Brewing Co. Anderson Valley Brewing Co. AB InBev AB InBev Ballast Point Brewing Co. Bear Republic Brewing Co. BJ's Chicago Pizza & Brewery Calicraft Brewing Co. Coronado Brewing Co. Drakes Brewing Fieldwork Brewing Figuroa Mountain Brewing Firestone Walker Brewing Co. Fort Point Beer Co. Golden Road Brewery Gordon Biersch Brewing Co. Green Flash Brewing Co. Hangar 24 Craft Brewery Hermitage Brewing Co. Karl Strauss Breweries Knee Deep Brewing Co. Lagunitas Brewing Co. Lost Coast Brewery and Café Mendocino Brewing Co. MillerCoors, LLC Modern Times Beer Mother Earth Brew Co. North Coast Brewing Co. Pizza Port Russian River Brewing Co. Saint Archer Brewing Co. Sierra Nevada Brewing Co. Stone Brewing Co. Trumer Brauerei	San Francisco San Diego San Francisco Boonville Fairfield Los Angeles San Diego Healdsburg Huntington Beach Walnut Creek Coronado San Leandro Berkeley Buellton, California Paso Robles San Francisco Los Angeles San Jose San Diego Redlands San Jose San Diego Auburn Petaling Eureka Ukiah Irwindale San Diego Vista Fort Bragg Carlsbad Santa Rosa San Diego Chico San Marcos Berkeley
Colorado	AB InBev Avery Brewing Co. Blue Moon Brewing Co. Boulder Beer Co. Breckenridge Brewery CraftWorks Brewery & Restaurant Crazy Mountain Brewing Co. Dry Dock Brewing Co. Great Divide Brewing Co. Left Hand Brewing Co. MillerCoors, LLC New Belgium Brewing Co. Odell Brewing Co.	Fort Collins Boulder Denver Boulder Littleton Broomfield Edwards Aurora Denver Longmont Golden Fort Collins Fort Collins

Colorado (cont.)	CANarchy	Longmont
	SKA Brewing	Durango
	Sleeping Giant Brewing Co.	Denver
	Upslope Brewing Co.	Boulder
Connecticut	Stony Creek Brewery	Branford
	Two Roads Brewing Co.	Stratford
Delaware	Dogfish Head Craft Brewery	Milton
District of Columbia	DC Brau Brewing	Washington
Florida	AB InBev	Jacksonville
	CANarchy	Tampa
	D.G. Yuengling & Son	Tampa
	Florida Beer Co.	Cape Canaveral
	Funky Buddha Brewery	Oakland Park
Georgia	AB InBev	Cartersville
	Creature Comforts Brewing Co.	Athens
	MillerCoors, LLC	Albany
	Sweetwater Brewing Co.	Atlanta
	Terrapin Beer Co.	Athens
Hawaii	Maui Brewing Co.	Lahaina
Illinois	Goose Island Beer Co.	Chicago
	Half Acre Beer Co.	Chicago
	Revolution Brewing	Chicago
	Two Brothers Brewing Co.	Warrenville
Indiana	Sun King Brewing	Indianapolis
	Three Floyds Brewing Co.	Munster
	Upland Brewing Co.	Bloomington
Kansas	Tallgrass Brewing Co.	Manhattan
Kentucky	Lexington Brewing & Distilling Co.	Lexington
Louisiana	Abita Brewing Co.	Abita Springs
Maine	Allagash Brewing Co.	Portland
	Baxter Brewing Co.	Lewiston
	Shipyards Brewing Co.	Portland
Maryland	DuClaw Brewing Co.	Baltimore
	Evolution Craft Brewing Co.	Salisbury
	Flying Dog Brewing Co.	Frederick
	Heavy Seas Beer	Baltimore
Massachusetts	Berkshire Brewing Co.	South Deerfield
	Boston Beer Co.	Boston
	Cisco Brewers	Nantucket
	Harpoon Brewery	Boston
	Ipswich Ale Brewery	Ipswich
	Jack's Abby Brewing	Framingham
	Lord Hobo Brewing Co.	Woburn
	Night Shift Brewing	Everett
	Notch Brewing	Salem
	Tree House Brewing Co.	Charlton,
	Trillium Brewing Co.	Boston
	Wachusett Brewing Co.	Westminster
	Wormtown Brewery	Worcester
	Michigan	Atwater Brewing Co.
Bell's Brewery, Inc.		Galesburg
CANarchy		Comstock

Michigan (cont.)	Founders Brewing Co. New Holland Brewing Co. Shorts Brewing Co.	Grand Rapids Holland Bellaire
Minnesota	August Schell Brewing Co. Bent Paddle Brewing Co. Fulton Beer Granite City Food & Brewery Summit Brewing Co. Surly Brewing Co. Third Street Brewhouse	New Ulm Duluth Minneapolis Maple Grove St. Paul Minneapolis Cold Spring
Missouri	4 Hands Brewing Co. AB InBev Boulevard Brewing Co. Schlafly Beer Urban Chestnut Brewing Co.	St. Louis St. Louis Kansas City Maplewood St. Louis
Montana	Big Sky Brewing Co. Kettlehouse Brewing Co.	Missoula Missoula
New Hampshire	AB InBev Redhook Ale Brewery, Inc. Smuttynose Brewing Co.	Merrimack Portsmouth Portsmouth
New Jersey	AB InBev Flying Fish Brewing Co.	Newark Somerdale
New Mexico	Marble Brewery Santa Fe Brewing Co.	Albuquerque Santa Fe
New York	AB InBev Blue Point Brewing Co. Brewery Ommegang Brooklyn Brewery Captain Lawrence Brewing Co. Genesee Brewing Co. Ithaca Beer Co. The Matt Brewing Co. Montauk Brewing Co. Sixpoint Brewery Southern Tier Brewing Co. Olde Saratoga Brewing Co.	Baldwinsville Patchogue Cooperstown Brooklyn Elmsford Rochester Ithaca Utica Montauk Brooklyn Lakewood Saratoga Springs
North Carolina	Aviator Brewing Co. CANarchy Catawba Brewing Foothills Brewing Co. Highland Brewing Co. LoneRider Brewing Co. Natty Green's Brewing Co. New Belgium Brewing Co. NoDa Brewing Co. Olde Mecklenburg Brewery Red Oak Brewing Co. Sierra Nevada Brewing Co. Wicked Weed Brewing	Fuquay Varina Brevard Morganton Winston Salem Ashville Raleigh Greensboro Asheville Charlotte Charlotte Whitsett Mills River Ashville
Ohio	AB InBev Boston Beer Co. Christian Moerlein Brewing Co. Fat Head's Brewery & Tap House	Columbus Cincinnati Cincinnati Middleburg Heights

Ohio (cont.)	Great Lakes Brewing Co. MadTree Brewing MillerCoors, LLC Platform Beer Co. Rhinegeist Brewing Thirsty Dog Brewing Co.	Cleveland Cincinnati Trenton Cleveland Cincinnati Akron
Oklahoma	Choc Beer Co.	Krebs
Oregon	10 Barrel Brewing Co. Boneyard Beer Co. Breakside Brewery & Taproom Bridgeport Brewing Co. Crux Fermentation Project Deschutes Brewing Co. Fort George Brewery Full Sail Brewing Co. GoodLife Brewing Co. Hop Valley Brewing Co. McMenamins Breweries Ninkasi Brewing Co. Pelican Brewing Co. pFriem Family Brewers Pyramid Breweries Rogue Ales Widmer Brothers Brewing Co.	Bend Bend Portland Portland Bend Bend Astoria Hood River Bend Springfield Portland Eugene Pacific City Hood River Portland Newport Portland
Pennsylvania	Boston Beer Co. City Brewing Co. D.G. Yuengling Son, Inc. The Lion Brewery, Inc. Neshaminy Creek Brewing Co. Sly Fox Brewing Co. Straub Brewery, Inc. Susquehanna Brewing Co. Tröegs Brewing Co. Victory Brewing Co. Weyerbacher Brewing Co. Yards Brewing Co.	Breinigsville Latrobe Pottsville Wilkes-Barre Croydon Pottstown St. Mary's Pittston Harrisburg Downingtown Easton Philadelphia
Rhode Island	Narragansett Brewing Co.	Providence
South Carolina	Palmetto Brewing Co. Westbrook Brewing Co.	Charleston Mt. Pleasant
Tennessee	City Brewing Co. Wiseacre Brewing Co. Yazoo Brewing Co.	Memphis Memphis Nashville
Texas	AB InBev Austin Beerworks BJ's Chicago Pizza & Brewery Community Beer Co. Deep Ellum Brewing Co. Independence Brewing Co. Karbach Brewing Co. Live Oak Brewing Co. MillerCoors, LLC Rahr and Sons Brewing Co. Real Ale Brewing Co. Revolver Brewing	Houston Austin Temple Dallas Dallas Austin, Houston Del Valle Fort Worth Fort Worth Blanco Granbury

Texas (cont.)	Saint Arnold Brewing Co. Spoetzl Brewery, Inc.	Houston Shiner
Utah	CANarchy Epic Brewing Co. Uinta Brewing Co.	Salt Lake City Salt Lake City Salt Lake City
Vermont	The Alchemist Fiddlehead Brewing Co. Harpoon Brewery Long Trail Brewing Co. Magic Hat Brewing Co.	Stowe Shelburne Windsor Bridgewater Corners South Burlington
Virginia	AB InBev Devils Backbone Brewing Co. MillerCoors, LLC Port City Brewing Co. Starr Hill Brewing Co. Stone Brewing	Williamsburg Lexington Elkton Alexandria Crozet Richmond
Washington	Bale Breaker Brewing Co. Elysian Brewing Co. Fremont Brewing Co. Georgetown Brewing Co. Iron Horse Brewery Mac and Jack's Brewery Pyramid Breweries RAM Restaurant & Brewery Redhook Ale Brewery Silver City Brewery	Yakima Seattle Seattle Seattle Ellensburg Redmond Seattle Lakewood Woodinville Silverdale
Wisconsin	Ale Asylum Capitol Brewing Co. Central Waters Brewery City Brewing Co. Jacob Leinenkugel Brewing Co. Lakefront Brewery Inc. MillerCoors, LLC Milwaukee Premium Brewing Co. Minhas Craft Brewery New Glarus Brewing Co. Rhineland Brewing Co. Sprecher Brewing Co. Stevens Point Brewery Wisconsin Brewing Co.	Madison Middleton Amherst La Crosse Chippewa Falls Milwaukee Milwaukee Milwaukee Monroe New Glarus Rhineland Glendale Stevens Point Verona
Wyoming	Melvin Brewing Co.	Alpine

<sup>1</sup> Breweries with production of 15,000 barrels or more in 2017.

MALTING PLANTS IN THE UNITED STATES<sup>1</sup>

<b>STATE</b>	<b>COMPANY</b>	<b>CITY</b>
Alabama	Old South Malt House	Birmingham
Arizona	Sinagua Malt	Camp Verde
California	Adams Grain Co.	Arbuckle
	Admiral Maltings	Alameda
	California Malting Co.	Santa Ynez
	Eckert Malting & Brewing Co.	Chico
	Grizzly Malt	Santa Rosa
	Watermark Farms	West Sacramento
Colorado	Colorado Malting Company	Alamosa
	Grouse Malting & Roasting Co.	Wellington
	Leopold Bros. Distilling	Denver
	MillerCoors, LLC	Golden
	Proximity Malt	Monte Vista
	Root Shoot Malting	Loveland
	Troubador Maltings LLC	Ft. Collins
Connecticut	Rooster Malt Co.	Newtown
	Thrall Family Malt	Windsor
	Yankee Malting	Willington
Delaware	Proximity Malt	Laurel
Georgia	Lone Pine Malting	Snellville
Idaho	AB InBev	Idaho Falls
	Great Western Malting Co.	Pocatello
	Hillside Ranch Malt	Hailey
	InteGrow Malt	Idaho Falls
	Mountain Malt	Idaho Falls
Illinois	Duffin Station Malthouse	Sugar Grove
	Heartland Malting	Normal
	Mammoth Malt	Thawville
	Meyers Malting	Roscoe
Indiana	Academy Malt Co.	Indianapolis
	Sugar Creek Malt Co.	Lebanon
Iowa	Black Gold Malt Farm	Cascade
Kansas	Amber Waves Malt	Garden Plains
	Kansas Craft Malt	Quinter
Kentucky	South Fork Malthouse	Cynthiana
Maine	Blue Ox Malthouse	Lisbon Falls
	Maine Craft Distilling	Portland
	Maine Malt House	Mapleton
Maryland	Amber Fields Malting & Brewing	Keymar
	Chesapeake Malting	Havre de Grace
	Dark Cloud Malthouse	Cooksville
	Mullinix Malting	Gleneg
Massachusetts	Stone Path Malt	Wareham
	Turner Hill Malting	Edgemont
	Valley Malt	Hadley
Michigan	Arrowhead Malt House LLC	Spring Arbor
	Artisan Malts LLC	Sault Ste. Marie
	Emergent Malt	Zeeland
	Empire Malting Co.	Empire
	Fedora Malthouse	DeWitt
	Great Lakes Malting Co.	Traverse City
	Koops' Malt Haus	Mount Pleasant



Michigan (cont.)	Macon Creek Malt Mitten State Malt Motorcity Malt House LLC Mushroom Head Malts Superior Malt U.P. Malt Company Valley View Farm LLC	Saline Okemos Macomb Saranac Escanaba Marquette East Jordan
Minnesota	Able Seedhouse & Brewery AB InBev Malteurop North America Maltwerks Rahr Malting Company Vertical Malt	Minneapolis Moorhead Winona Detroit Lakes Shakopee Fisher
Missouri	Gateway Custom Malt Kinsman Malt Sparrow Malting	Montgomery City Kansas City Ozark
Montana	Big Sky Malts Farm Power Malt Gallatin Valley Malt Malteurop North America Montana Craft Malt	Bozeman Power Bozeman Great Falls Butte
Nebraska	Nebraska Malt Missouri Valley Malt	Lincoln Bellevue
Nevada	Bently Heritage Estate Distillery Frey Ranch Estate Distillery Rebel Malt	Reno Fallon Reno
New Jersey	Rabbit Hill Farms	Shiloh
New York	1886 Maltings Argyle Craft Malt & Hops Black Dirt Malt Convergence Craft Farmhouse Malt Hillrock Estate Distillery Hudson Valley Malt Murmuration Malts New York Craft Malt Niagara Malt Pioneer Malting Subversive Malting & Brewing	Fulton Argyle Pine Island Albany Newark Valley Ancram Germantown Bloomfield Batavia Cambria Rochester Catham
North Carolina	Carolina Malt House Epiphany Craft Malt Riverbend Malt House	Cleveland Durham Ashville
North Dakota	Two Track Malting	Bismarck
Ohio	Barley Five Malt House Haus Malts Little Miami Farms Ohio Malting Company Origin Malts Rustic Brew Farm Sweet Acres Malt West Branch Malts Yarian Quality Malts	Columbus Grove Cleveland Spring Valley Wakeman Cortland Marysville New Vienna Brunswick New Waterford
Oklahoma	Native Malt House	Tulsa

Oregon	Christensen Farms Malting Co. Gold Rush Malt LLC High Desert Malt & Grain, Inc. Mecca Grade Estate Malt Mountain Malting Rogue Ales Farmstead Malthouse Tiller Malt	McMinnville Baker City Bend Madras Bend Newport Portland
Pennsylvania	Appalachian Malting C’N’C Malting Company Deer Creek Malthouse Double Eagle Malt Sprague Farm and Brew Works	Portage Butler Glen Mills Philadelphia Venango
Tennessee	Corsair Artisan Distillery Volunteer Mission Malt	Nashville Murfreesboro
Texas	Blacklands Malt Maverick Malt House TexMalt	Leander Vega Fort Worth
Utah	Solstice Malt	Salt Lake City
Vermont	Peterson Quality Malt Slow Hand Malting	Monkton Hinesburg
Virginia	Copper Fox Distillery & Maltings Foster Malt Mount Gilead Malt Murphy & Rude Malting Co.	Sperryville Suffolk Lovettsville Charlottesville
Washington	Great Western Malting Company LINC Foods (Palouse Pint Malt) Mainstem Malt Skagit Valley Malting	Vancouver Spokane Walla Walla Mt Vernon
Wisconsin	Autumn Moon Farm Malteurop North America Briess Malt & Ingredients Company Briess Malt & Ingredients Company Briess Malt & Ingredients Company Cargill Malt	Belleville Milwaukee Chilton Manitowoc Waterloo Sheboygan
Wyoming	Wyoming Malting Co. Wyoming High Desert Malt	Pine Bluffs Powell

<sup>1</sup> Malt plants operating or under construction.