

4. Culinary Herbs and Spices

Culinary herbs and spices included in the specialty crop definition are those in Exhibit 4.1. The following sections share both an overall summary of Missouri's fresh-cut herb production and industry. Additionally, when data are available for specific culinary herbs and spices, data for those products are included. The bold names in the table indicate that a discussion specific to those herbs is included in the report.

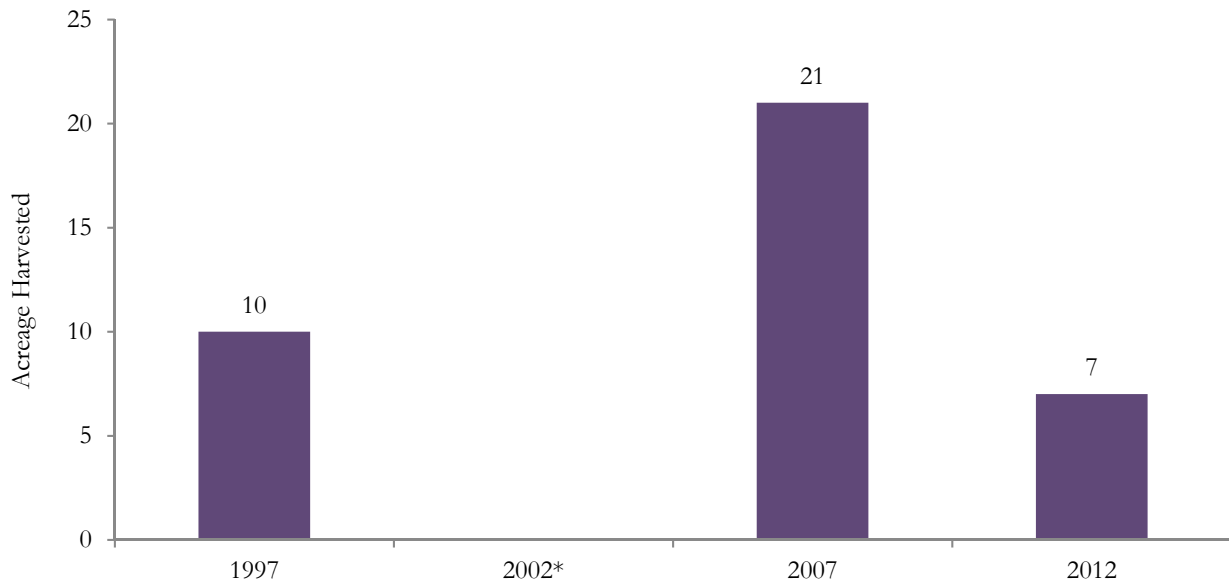
Exhibit 4.1 – Culinary Herbs and Spices Included in Specialty Crop Definition

| | | | |
|-----------------|----------------|--------------------|------------------|
| Ajwain | Allspice | Angelica | Anise |
| Annatto | Artemisia | Asafetida | Basil |
| Bay | Bladder wrack | Bolivian coriander | Borage |
| Calendula | Chamomile | Candle nut | Caper |
| Caraway | Cardamom | Cassia | Catnip |
| Chervil | Chicory | Cicely | Cilantro |
| Cinnamon | Clary | Cloves | Comfrey |
| Common rue | Coriander | Cress | Cumin |
| Curry | Dill | Fennel | Fenugreek |
| File | Fingerroot | French sorrel | Galangal |
| Ginger | Hops | Horehound | Hyssop |
| Lavender | Lemon balm | Lemon thyme | Lovage |
| Mace | Mahlab | Malabathrum | Marjoram |
| Mint | Nutmeg | Oregano | Orris root |
| Paprika | Parsley | Pepper | Rocket (arugula) |
| Rosemary | Rue | Saffron | Sage |
| Savory | Tarragon | Thyme | Turmeric |
| Vanilla | Wasabi | Water cress | |

4.1 Fresh-Cut Herbs

Missouri fresh-cut herb harvested acreage has had volatility during recent years. Exhibit 4.1.1 presents the harvested acreage totals from 1997 to 2012. Note that data were withheld in 2002. Fresh-cut herb harvested acreage peaked at 21 acres in 2007. It later dropped to seven acres in 2012. All fresh-cut herbs harvested in 2007 and 2012 were used for fresh-market purposes (USDA National Agricultural Statistics Service 2017b).

Exhibit 4.1.1 – Missouri Fresh-Cut Herbs Acreage Harvested, 1997 to 2012



* Harvested acreage weren't reported in 2002 to avoid disclosing data for individual operations.
Source: USDA, National Agricultural Statistics Service (2017b)

In 2012, 24 operations in Missouri harvested fresh-cut herb acreage, and all of the operations intended to serve the fresh market. Exhibit 4.1.2 tracks the number of Missouri operations harvesting fresh-cut herb acreage from 1997 to 2012. Note that the operation count was highest during 2007 — 42 operations with area harvested. At the time, all of those operations harvested fresh-cut herbs for the fresh market (USDA National Agricultural Statistics Service 2017b).

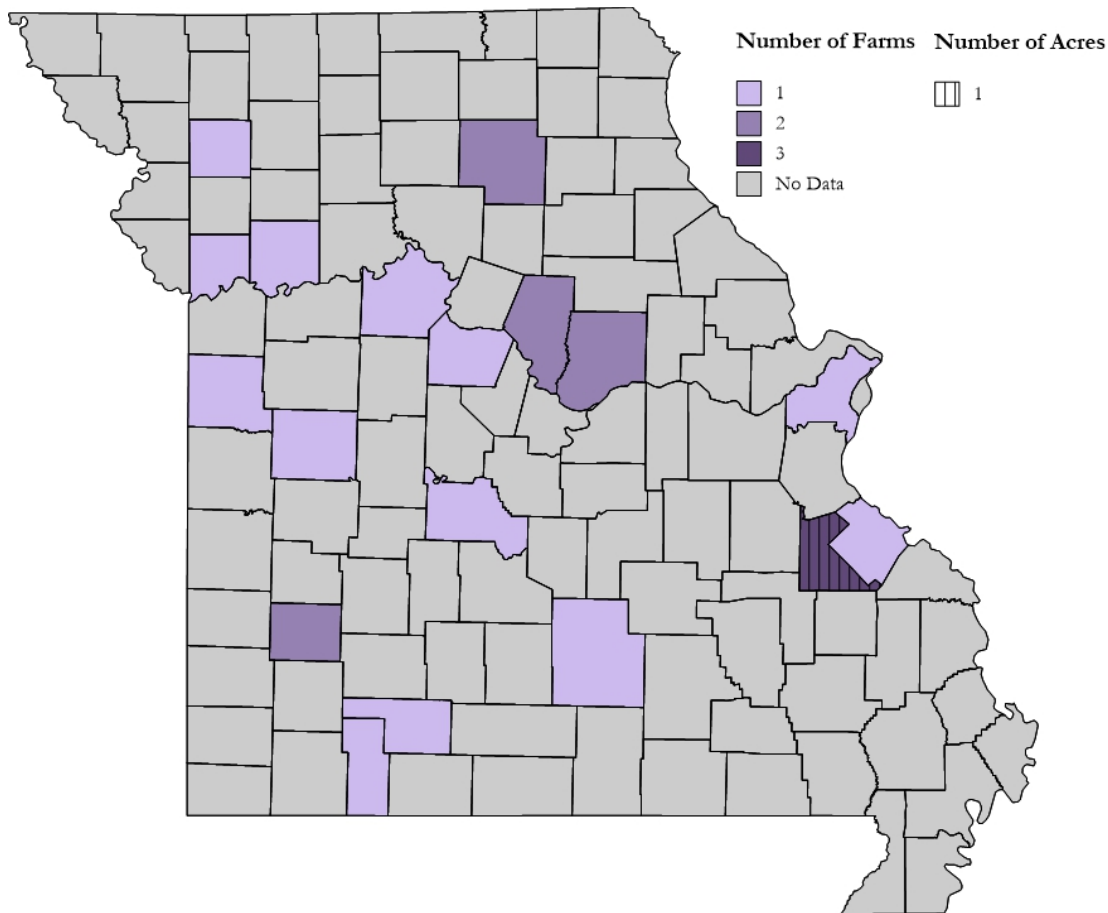
Exhibit 4.1.2 – Missouri Operations with Fresh-Cut Herb Acreage Harvested, 1997 to 2012



Source: USDA, National Agricultural Statistics Service (2017b)

By operation count, top Missouri counties for harvesting fresh-cut herb area in 2012 were St. Francois County, three farms; Boone County, two farms; Callaway County, two farms; Dade County, two farms; and Macon County, two farms. See Exhibit 4.1.3. With respect to acreage data, only St. Francois County had fresh-cut herb harvested acreage data published for 2012; it harvested one acre. Other counties with fresh-cut herb operations had the harvested acreage data withheld (USDA National Agricultural Statistics Service 2017b).

*Exhibit 4.1.3 – Missouri Harvested Fresh-Cut Herb Acreage and Operations by County, 2012**



* Counties that are shaded but lack a pattern overlay are those that have farms reported but acreage data withheld.
Source: USDA, National Agricultural Statistics Service (2017b)

To an extent, Missouri operations have elected to raise fresh-cut herbs under protection. Exhibit 4.1.4 summarizes the state of Missouri's fresh-cut herb production under protection. The number of operations producing fresh-cut herbs under protection increased from two operations in 2009 to 10 operations in 2014. Note that comparisons for the other measures aren't possible because data for them were withheld in 2009. In 2014, however, Missouri operations dedicated 10,940 square feet under protection to fresh-cut herb production, and those operations produced 150 hundredweight of fresh-cut herbs. The dollar value of their sales exceeded \$46,000 (USDA National Agricultural Statistics Service 2017b).

Exhibit 4.1.4 – Missouri Fresh-Cut Herb Production Under Protection, 2009 and 2014

| | 2009 | 2014 |
|------------------------------------|------|----------|
| Operations with area in production | 2 | 10 |
| Square footage in production* | (D) | 10,940 |
| Production in cwt.* | (D) | 150 |
| Dollar sales* | (D) | \$46,343 |

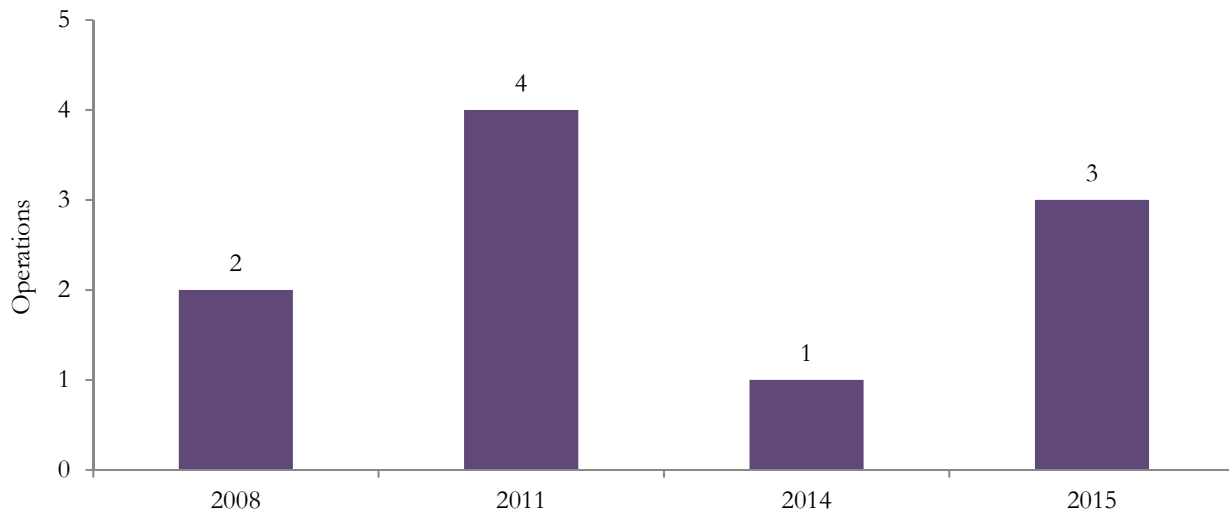
* In 2009, data for square footage, production and dollar sales were withheld.

Source: USDA, National Agricultural Statistics Service (2017b)

A portion of Missouri's fresh-cut herb industry has transitioned to organic production. Note that data for organic fresh-cut herbs were collected in years that were different from the U.S. Census of Agriculture years, and the organic data are reported independently here. Exhibit 4.1.5 shares the number of Missouri operations harvesting USDA certified organic herbs from 2008 to 2015. As illustrated, the operation count fluctuated somewhat during the observed period. The number of operations harvesting USDA certified organic fresh-cut herb acreage was highest at four operations in 2011 and lowest at one operation in 2014. Three operations harvested certified organic fresh-cut herb acreage in 2015 (USDA National Agricultural Statistics Service 2017b).

In addition to certified organic production, some operations have engaged in producing exempt organic fresh-cut herbs. See the Methodology section for a definition of certified and exempt organic. For example, during 2014, three operations in total reported certified organic and exempt organic fresh-cut herb harvested area. Of those, two were exempt organic producers, and one was a certified organic producer. In contrast, 10 operations reported harvesting certified or exempt organic fresh-cut herbs during 2008. Two operations harvested certified organic fresh-cut herbs, and eight harvested exempt organic fresh-cut herbs (USDA National Agricultural Statistics Service 2017b).

Exhibit 4.1.5 – Missouri Operations with Certified Organic Fresh-Cut Herb Acreage Harvested, 2008 to 2015



Source: USDA, National Agricultural Statistics Service (2017b)

Exhibit 4.1.6 further summarizes the USDA certified organic fresh-cut herb industry in Missouri. It includes data points from both 2011 and 2015. Harvested acreage increased by roughly 200 acres between 2011 and 2015. Total harvested acreage registered 440 acres in 2015. Although harvested

acreage increased between the two years, total production declined by more than half. In pounds, certified organic fresh-cut herb production exceeded 1.44 million pounds in 2011. It dropped to roughly 600,000 pounds in 2015. The reduction may be attributed to the operation count declining from four operations to three operations from 2011 to 2015. As certified organic fresh-cut herb production constricted, the value of sales dropped, too. In 2015, the sales value totaled roughly \$1.6 million relative to \$5.95 million in 2011 (USDA National Agricultural Statistics Service 2017b).

Exhibit 4.1.6 – Summary of Missouri Certified Organic Fresh-Cut Herb Industry, 2011 and 2015

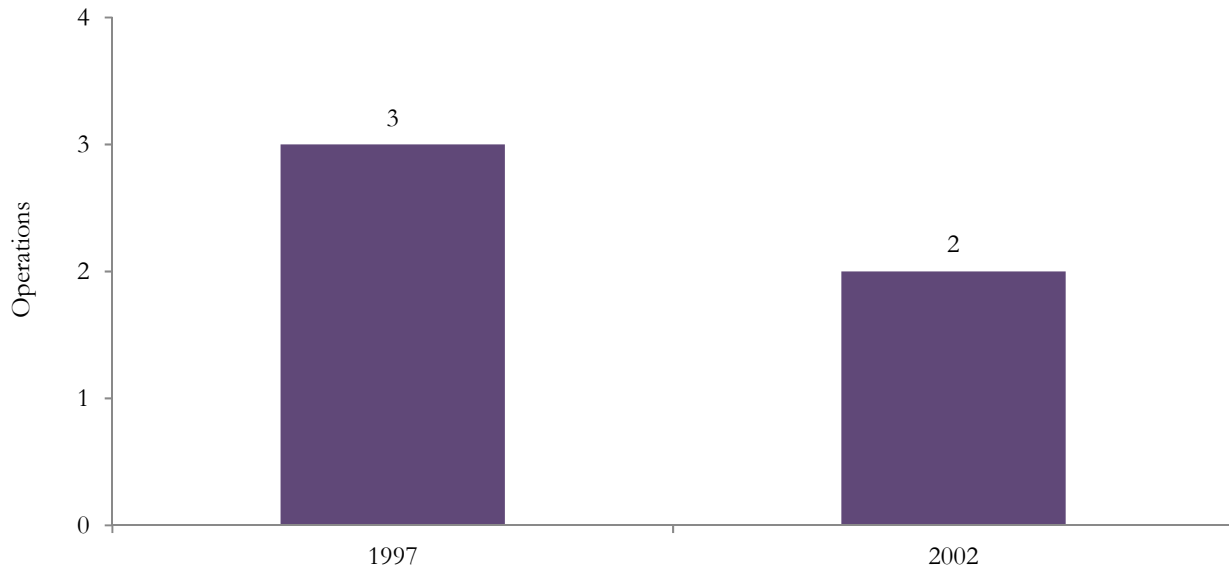
| | Acres Harvested | Operations | Pounds Produced | Dollar Sales |
|------|------------------------|-------------------|------------------------|---------------------|
| 2011 | 238 | 4 | 1,444,875 | \$5,952,179 |
| 2015 | 440 | 3 | 600,100 | \$1,600,300 |

Source: USDA, National Agricultural Statistics Service (2017b)

4.2 Dry Herbs

Historically, Missouri has had a small presence in dry herb production. Exhibit 4.2.1 illustrates that three Missouri operations reported that they harvested dry herb acreage in 1997, and by 2002, the operation count had dropped to two farms. In more recent years, no farms were reported to harvest dry herb acreage in Missouri (USDA National Agricultural Statistics Service 2017b).

Exhibit 4.2.1 – Missouri Operations with Dry Herb Acreage Harvested, 1997 and 2002



Source: USDA, National Agricultural Statistics Service (2017b)

To a limited extent, Missouri has also had participation in organic dry herb production. In terms of certified organic dry herb production, Missouri had one operation report certified organic acreage harvested in 2011, 2014 and 2015. Other farms have chosen exempt organic production instead of certified organic production. In 2014, two operations in Missouri reported harvesting exempt organic dry herb acreage compared with the one operation that reported harvesting certified organic dry herb acreage (USDA National Agricultural Statistics Service 2017b).

Other data points describing Missouri's organic dry herb industry are relatively scarce. However, production data were released in 2014. At the time, combined certified organic and exempt organic production totaled 21,500 pounds (USDA National Agricultural Statistics Service 2017b).

4.3 Chicory

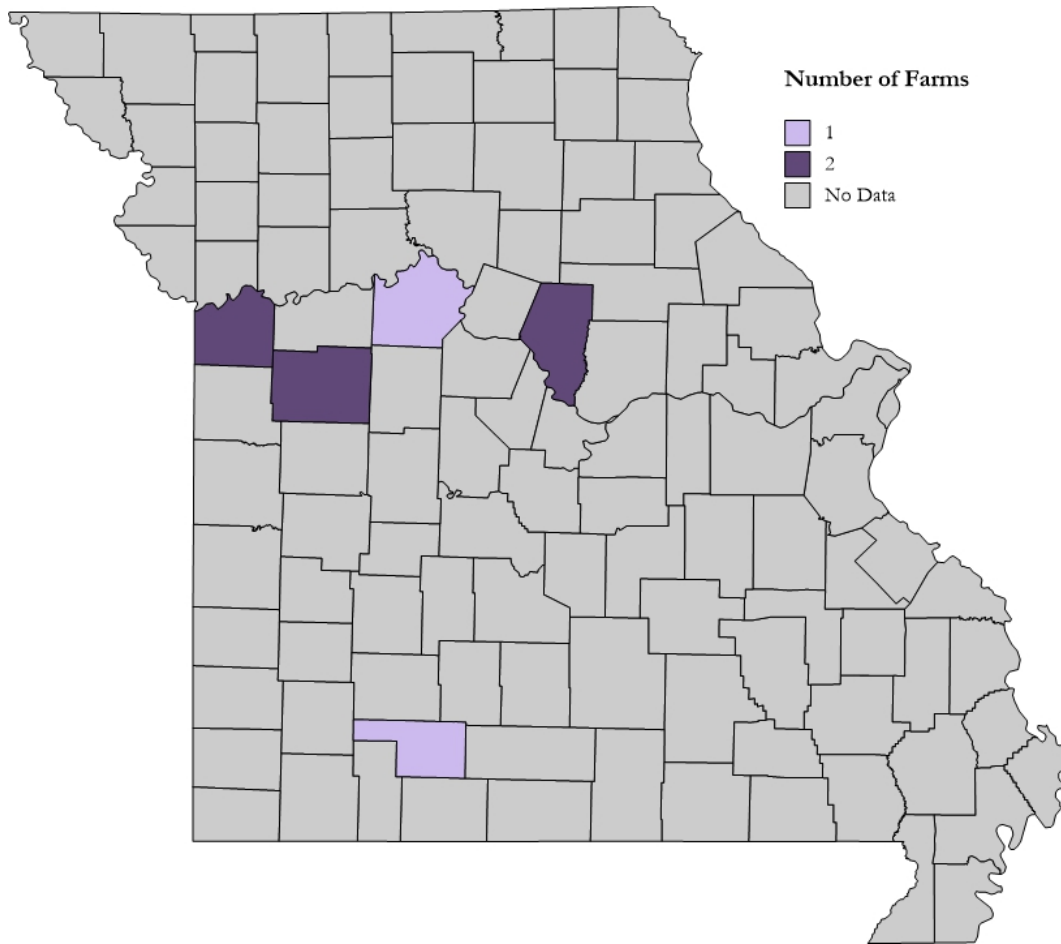
USDA reported that Missouri had a relatively small chicory industry in 2012. At the time, one operation indicated that it had harvested chicory acreage, and that operation harvested product for the fresh market. The operation was located in Iron County, Missouri. Specific acreage data weren't published in order to prevent releasing data for individual operations (USDA National Agricultural Statistics Service 2017b).

4.4 Parsley

Data for Missouri parsley production are limited to 2012. At the time, Missouri was reported to have one acre of harvested parsley, and that acreage intended to serve the fresh market. Eight operations were reported to have harvested parsley acreage, and all eight operations served the fresh market (USDA National Agricultural Statistics Service 2017b).

In 2012, parsley production in Missouri took place in just five counties. Exhibit 4.4.1 illustrates the count of parsley operations with harvested acreage by county. Boone County, two farms; Jackson County, two farms; and Johnson County, two farms, had the greatest number of parsley operations with harvested acreage in 2012 (USDA National Agricultural Statistics Service 2014b).

Exhibit 4.4.1 – Missouri Parsley Operations with Harvested Area by County, 2012



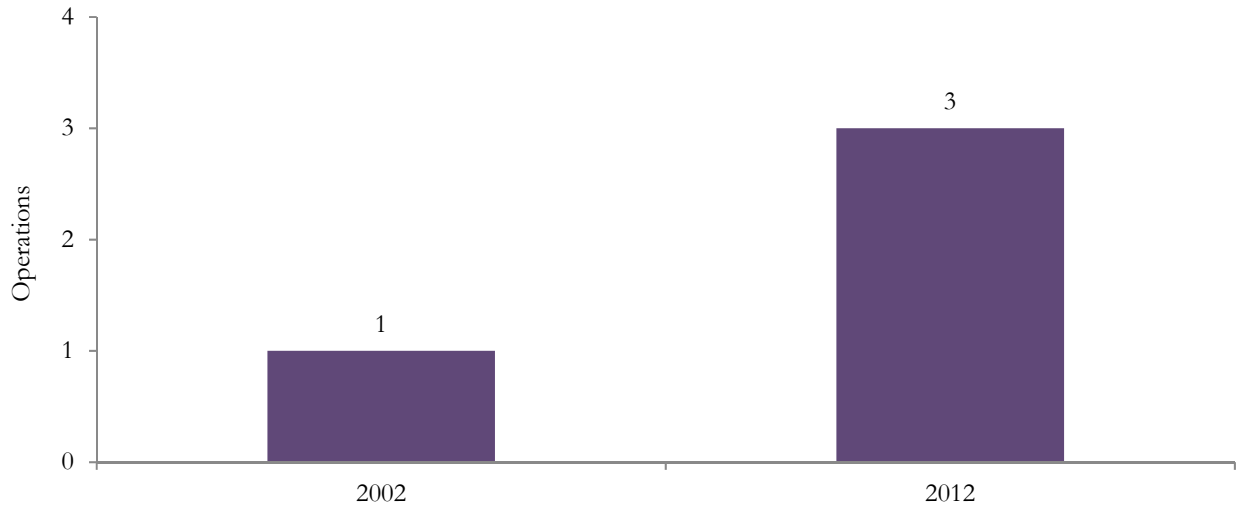
Source: USDA, National Agricultural Statistics Service (2017b)

4.5 Watercress

Like the industries for other herbs, the watercress industry in Missouri has been relatively small. Data for the state were reported in both 2002 and 2012. Harvested watercress area totaled two acres in 2012. The acreage harvested wasn't released in 2002 in order to protect data for individual operations (USDA National Agricultural Statistics Service 2017b).

In terms of operations, Exhibit 4.5.1 illustrates the number of Missouri operations harvesting watercress during 2002 and 2012. The watercress operation count increased from one enterprise in 2002 to three enterprises in 2012 (USDA National Agricultural Statistics Service 2017b).

Exhibit 4.5.1 – Missouri Operations with Watercress Acreage Harvested, 2002 and 2012



Source: USDA, National Agricultural Statistics Service (2017b)

From a county-by-county perspective, Moniteau County was reported to have two operations that harvested watercress in 2012. One operation in Clay County reported harvesting watercress acreage in 2012. These were only two counties with reported operations, and note that harvested watercress acreage data by county were withheld (USDA National Agricultural Statistics Service 2014b).