

# Proposed Rules

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This section of the **FEDERAL REGISTER** contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

### DEPARTMENT OF AGRICULTURE

#### Agricultural Marketing Service

##### 7 CFR Part 205

[Document Number AMS-NOP-11-0009; NOP-21-04PR]

RIN 0581-AD89

#### National Organic Program; Origin of Livestock; Reopening of Comment Period

**AGENCY:** Agricultural Marketing Service, USDA.

**ACTION:** Proposed rule; reopening of comment period.

**SUMMARY:** The U.S. Department of Agriculture (USDA) Agricultural Marketing Service (AMS) is reopening the comment period on our April 28, 2015, proposed rule to amend the origin of livestock requirements for dairy animals under the USDA organic regulations. We are reopening the proposed rule's comment period for 60 days to give all interested parties an opportunity to comment on whether AMS should prohibit the movement of transitioned cows in organic dairy production as part of the final rule. Comments previously submitted need not be resubmitted, as they are already incorporated into the public record and will be fully considered in any future final rule.

**DATES:** For the proposed rule published on April 28, 2015 (80 FR 23455), send comments on or before July 12, 2021.

**ADDRESSES:** You may send comments on the proposed rule to the Federal eRulemaking Portal at <https://www.regulations.gov/>. You can access the proposed rule and instructions for submitting public comments by searching for document number, AMS-NOP-11-0009. Comments may also be sent to Jennifer Tucker, Deputy Administrator, National Organic Program, USDA-AMS-NOP, 1400 Independence Ave. SW, Room 2642-S, Ag Stop 0268, Washington, DC 20250-0268.

**Instructions:** All comments received must include the docket number AMS-NOP-11-0009; NOP-21-04PR, and/or Regulatory Information Number (RIN) 0581-AD89 for this rulemaking. You should clearly indicate the topic and section number of this proposed rule to which your comment refers, state your position(s), offer any recommended language change(s), and include relevant information and data to support your position(s) (e.g., scientific, environmental, manufacturing, industry, or industry impact information, etc.). All comments and relevant background documents posted to <https://www.regulations.gov> will include any personal information provided.

**FOR FURTHER INFORMATION CONTACT:** Jennifer Tucker, Deputy Administrator, National Organic Program, USDA-AMS-NOP, 1400 Independence Ave. SW, Room 2642-S, Stop 0268, Washington, DC 20250-0268. (202) 260-8077

**SUPPLEMENTARY INFORMATION:** On April 28, 2015, AMS ("we") published in the **Federal Register** (80 FR 23455) a proposed rule to clarify requirements for organic dairy farms under the USDA organic regulations. The proposed rule would add requirements about transitioning dairy animals to organic production. Please refer to the proposed rule for information about AMS' proposed changes, rationale, and analysis.

AMS received over 1,500 public comments on the proposed rule. On October 1, 2019, we reopened the comment period and received approximately 750 comments. These comments may be viewed at <https://www.regulations.gov> under docket number AMS-NOP-11-0009. We are again reopening the comment period to solicit views on two additional issues on the movement of the transitioned animals and on the updated economic analysis of the proposed rule.

#### I. Movement of Transitioned Animals and Regulatory Framework

Origin of livestock in organic regulations refers to the requirements for continuous organic management of animals that produce organic meat or dairy products. In the 2015 proposed rule, AMS sought comment on a proposal to amend those requirements for dairy animals. The purpose of the

proposed rule is to ensure that the origin of livestock provisions for organic dairy animals are consistently applied by all certifying agents. The proposed rule would require that organic milk and milk products must be from animals that have been under continuous organic management from the last third of gestation onward, with a limited exception for newly certified organic dairy producers. Those producers have the opportunity to transition non-organic livestock that has been under continuous organic management for twelve months into organic production. Once transitioned, the proposed rule would not distinguish between transitioned livestock and those that were under continuous organic management from the last third of gestation onward. AMS received numerous comments that advocated for different approaches that were not part of the proposed rule. AMS is issuing this notice to request public input on those different approaches and to provide an updated economic analysis.

First, in the 2015 proposed rule, we declined to limit the movement of transitioned cows because we "believe that some movement or inter-farm sales of transitioned animals is reasonable and expected." 80 FR 23463. Several commenters disagreed with this approach, and recommended that we limit the movement of transitioned animals to prevent organic producers or operations from continually transitioning animals and/or continually sourcing off-farm transitioned animals. Based on these comments, we are reopening the comment period to solicit views on whether the final rule should prohibit organic dairy operations from acquiring transitioned animals to expand or replace animals to produce organic milk.

Second, we are also seeking comment on whether the final rule should use the term "operation" to describe the regulated entity. While the proposed rule used "producer," several commenters noted that the term "producer" can be interpreted in different ways, and inconsistent interpretations may lead to inconsistent application of the organic regulations. Some certifier commenters stated that it would be simpler to verify an operation's eligibility (as opposed to a producer's eligibility) to transition animals. Additionally, the use of

“operations” would align the proposal with the rest of the USDA organic regulations and the existing framework for certification and oversight.

If these provisions are implemented, existing certified dairy operations that purchase animals, individually or as an entire herd, would not be allowed to purchase any transitioned animals for organic milk production beginning on the compliance date. They would be able to purchase and sell only livestock that had been under continuous organic management from the last third of gestation. New operations would have only one opportunity to transition in non-organic animals into the operations. Those transitioned animals could then be sold to other operations, but only as non-organic. Once sold, those animals would not be eligible to produce organic milk.

In addition to comments on the provisions above, AMS is interested in comments on the following topics and options:

1. Implementation timeframe. AMS had proposed that all requirements be implemented upon the effective date of a final rule, with an exception for any transition that was already approved by a certifying agent. AMS requests comments about whether an implementation timeframe is necessary for organic dairies to comply. If one is needed, AMS requests comments on how long this implementation period should be and why.

2. Accuracy of the estimates in the Regulatory Impact Analysis (RIA)/Regulatory Flexibility Analysis. The cost estimates presented in this notice are based on USDA and industry data. AMS requests feedback on the assumptions related to costs and benefits, with supporting information (data and sources) where available.

3. Exceptions to the one-time allowance requirement. AMS has not proposed exceptions to the one-time transition requirement, but the current regulations permit temporary variances in some scenarios (§ 205.290) and allow for re-transition following Federal or State emergency treatments (§ 205.672). AMS seeks comments on whether the rule should include any additional exceptions to the one-time transition requirement for scenarios where the current regulations would not apply, and if so, what scenario(s) would warrant an exception.

## II. Regulatory Impact Analysis/Regulatory Flexibility Analysis

Because the Regulatory Impact Analysis and the Regulatory Flexibility Analysis for the proposed rule were completed in 2015, we decided to

update those analyses with more current information. We have updated the analyses to reflect more current information about the dairy market, including the number of certified organic operations and the number of organic dairy animals. This updated information revises the estimated costs of the proposed rule (\$488,000–\$1,462,500) compared to the estimated costs (\$288,000–\$935,000) in our analysis published in 2015. The analysis below also includes updated information on the distribution of dairy farms, dairy farm practices, and the market for dairy products. We also discuss public comments on those prior regulatory analyses.

### *Need for the Rule*

AMS determined that the USDA organic regulations for sourcing dairy animals and managing breeder stock require additional specificity to ensure organic dairy operations meet a consistent standard. Interpretations of these regulations have differed between certifying agents, and the different interpretations have led to widely divergent practices by organic dairy operations for sourcing replacement dairy animals. AMS proposes revising the regulations to ensure the USDA organic regulations are administered and enforced in a clear, uniform, and equitable manner, and to address inconsistencies determined in the 2013 USDA Office of Inspector General (OIG) Audit.<sup>1</sup> Furthermore, AMS expects that increased clarity will support trust in the USDA organic seal by assuring consumers that organic dairy products meet a consistent standard, a stated purpose of the Organic Foods Production Act (OFPA) of 1990 (7 U.S.C. 6501).

In a 2006 final rule related to this issue (June 7, 2006; 71 FR 32803), AMS recognized that the regulations allowed different methods for replacing organic dairy animals depending on how the producer transitioned to organic production. AMS further stated that, given the almost 13,000 comments on the 2006 proposed rule (71 FR 32804), the issue was a significant concern of the organic community, including organic dairy producers, certifying agents, trade organizations, and consumers.

The July 2013 OIG audit also identified a need for this rulemaking, and AMS concurred with this finding. The OIG audit of organic milk

<sup>1</sup> The July 2013 OIG audit report on organic milk operations may be accessed at the following website: <http://www.usda.gov/oig/webdocs/01601-0002-32.pdf>.

operations found that the interpretation and implementation of the origin of livestock requirements differed across producers and certifying agents. As a result, organic milk producers may have faced materially different organic production requirements based on their particular certifier’s interpretation of the National Organic Program’s (NOP) origin of livestock requirements. AMS agrees with OIG’s recommendation that the regulations should be revised to clarify the origin of livestock requirements and ensure consistent application of the requirements by certifying agents.

As described at the beginning of this **SUPPLEMENTARY INFORMATION** section, AMS published in 2015 a proposed rule to revise the origin of livestock regulations. The public comments received on the proposed rule in 2015 and during the reopened comment period in 2019 indicate there remains a need for rulemaking in this area.

Of the comments received by AMS on the 2015 proposed rule, a large number were submitted by producers and consumers of organic dairy products and groups representing producers and consumers. These commenters generally expressed a desire for AMS to establish and enforce clearer rules for organic dairy production. They expressed that organic dairies should raise animals organically from birth and not be allowed to cycle animals in and out of organic production (*i.e.*, by continually transitioning animals).

NOP’s experience is that because organic products cannot be readily distinguished from nonorganic products based on sight inspection, buyers rely on process verification methods to ensure that organic claims are true. Within the economics literature, organic food products are “credence goods,” or goods with characteristics that are valuable but are difficult to verify, both before and after purchase.<sup>2,3,4</sup> Foods certified under USDA’s NOP, including milk, have a common standard that specifies production practices, such as dairy herd pasture requirements, permitted feeds, and permitted use of antibiotics and hormones, that cannot

<sup>2</sup> Caswell, Julie A. and Eliza M. Mojdziszka. 1996. “Using Informational Labeling to Influence the Market for Quality in Food Products.” *American Journal of Agricultural Economics*. Vol. 78, No. 5: 1248–1253.

<sup>3</sup> Zorn, Alexander, Christian Lippert, and Stephan Dabbert. 2009. “Economic Concepts of Organic Certification.” Deliverable 5 of the EU FP7 CERTCOST Project: Economic Analysis of Certification Systems in Organic Food and Farming.

<sup>4</sup> Michael Darby and Edi Karni, “Free Competition and the Optimal Amount of Fraud” *Journal of Law and Economics* 16(1973):1:67–88.

be independently verified by consumers.

When producing goods with credence characteristics, producers face a moral hazard problem stemming from their incentive to forego taking costly actions or investments associated with the label claim if handlers or consumers have no way of verifying the production process (*i.e.*, asymmetric information). In providing guidance to Federal agencies undertaking rulemaking, OMB Circular A-4 cites asymmetric information as a source of market failure and as a potential justification for regulation. Lassoued and Hobbs (2015) further emphasize the role of trust in the institutions and brands that verify credence good attributes as being essential for developing the consumer confidence that drives brand loyalty.<sup>5</sup>

AMS developed the 2015 proposed rule in the context of maintaining trust in the NOP label, as it pertains specifically to organic dairy farms and to organic farms and organic handlers/processors generally. AMS anticipates that rulemaking on this topic will support both producer and consumer confidence in the organic label by reducing major inconsistencies in production practices across organic dairies.

#### Baseline

A final rule would specify the conditions under which operations can transition non-organic animals to organic for the purpose of milk production. Current dairy production and husbandry practices provide important context for the baseline and cost analysis. For a general description of replacement animal production, see “Overview of Organic Dairy Production” in the 2015 proposed rule (80 FR 23468).

The baseline presented below focuses on production practices of bovine dairy

farms maintaining cows and heifers and does not include quantitative estimates for non-bovine dairy farms that maintain sheep and goats. AMS does not expect the rule would have a substantial economic impact on those specific sub-sectors for the following reasons: Goat does and sheep ewes are able to produce milk earlier than cows, so the potential cost-savings for non-bovine dairy farms to continually source transitioned animals (vs. animals under organic management from the last third of gestation) is small compared to that for bovine dairy farms. For this reason, the practice of continually adding transitioned animals to organic non-bovine herds is likely less prevalent than with organic bovine herds. These operations also make up a relatively small portion of the organic dairy industry. The Organic Integrity Database<sup>6</sup> of certified organic operations includes 56 dairy goat operations and 5 dairy sheep operations.

AMS used multiple data sources to describe the baseline and build quantitative estimates. The first source is the Agricultural Resource Management Survey (ARMS), which is maintained by USDA’s Economic Research Service (ERS) and includes questions about dairy farm cattle purchases, restocking rates, and organic status.<sup>7</sup> In 2016, ERS conducted a supplemental ARMS that focused on organic dairy operations. AMS worked with ERS to analyze recent ARMS data and develop an estimation of organic dairy production practices and costs for this rule.

Other sources of data are the National Agricultural Statistics Service’s (NASS) 2016 Certified Organic Production Survey and 2017 Census of Agriculture,<sup>8</sup> which include State-level data on production, herd sizes, output, and sales for organic and non-organic

crops and livestock. Additionally, we used the Organic Trade Association’s (OTA) 2019 Organic Industry Survey, conducted by the Nutrition Business Journal, to summarize market information and trends within the organic industry.<sup>9</sup> Also, AMS requested an organic dairy farm special tabulation from the National Animal Health Monitoring System (NAHMS) Dairy 2014 report collected by USDA’s Animal and Plant Health Inspection Service.<sup>10</sup>

A final source of data is the NOP list of all certified operations included in the Organic Integrity Database. In January of each calendar year, every USDA-accredited certifying agent is required to submit an annual list of the operations it certifies to NOP (7 CFR 205.501(a)(15)(ii)). NOP consolidates this information into a public, searchable online database.<sup>11</sup> AMS used information from this database to cross-check NASS data on the number of organic dairy operations.

#### The Organic Dairy Market—Sales and Number of Operations

According to the OTA Industry Survey, U.S. organic food, fiber, and agricultural product sales were over \$55.0 billion in 2019, up 5 percent from 2019.<sup>12</sup> Organic dairy and eggs is the third largest sector in organic retail food sales (13 percent), after fruits and vegetables (36 percent) and beverages (14 percent). Sales of organic dairy products, including milk, cream, yogurt, cheese, butter, cottage cheese, sour cream, and ice cream, reached almost \$5.8 billion in 2019. Table 1 shows the organic dairy market characteristics by subcategory. In 2019, organic dairy saw total sales growth of 2 percent, with the fluid milk growing 3 percent, yogurt growing 1 percent and cheese falling 1 percent.

TABLE 1—ORGANIC DAIRY MARKET—RETAIL SALES BY SUBCATEGORY

Subcategory	2019 Sales (\$ M)	2019 Growth	Percent of organic dairy sales <sup>a</sup>	Avg. markup <sup>b</sup> (%)	Organic markup <sup>c</sup> (\$ M)
Milk/Cream .....	\$3,394	2.9	58.8	51	\$1,146
Yogurt <sup>d</sup> .....	1,260	0.5	21.8	10	115
Cheese <sup>e</sup> .....	572	-1.4	9.9	75	245
Butter/Cottage Cheese/Sour Cream <sup>d</sup> .....	425	0.3	7.4	76	184

<sup>5</sup> Lassoued, R. and J.E. Hobbs (2015) “Consumer Confidence in Credence Attributes: The Role of Brand Trust” *Food Policy* 52:99–107.

<sup>6</sup> Certifying agents are required to send information on certified operations to AMS annually. Current and historical data may be accessed through the Organic Integrity Database at the following link: <https://organic.ams.usda.gov/Integrity/>. Accessed 11/21/2019.

<sup>7</sup> The ERS ARMS survey information may be found at the following link:

<http://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices.aspx>.

<sup>8</sup> The USDA NASS surveys may be found at the following link: [https://www.nass.usda.gov/Surveys/Guide\\_to\\_NASS\\_Surveys/Organic\\_Production/](https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/).

<sup>9</sup> OTA/Nutrition Business Journal, 2019 Organic Industry Survey. Nutrition Business Journal conducted a survey between January 1 and April 25, 2019, to obtain information for their estimates. Over 200 organic firms responded to the survey. Available online at <https://ota.com/resources>.

<sup>10</sup> The 2014 Dairy NAHMS report may be found at the following link: <http://go.usa.gov/xKfEh>.

<sup>11</sup> Certifying agents are required to send information on certified operations yearly. Current and historical data may be accessed through the Organic Integrity Database at the following link: <https://organic.ams.usda.gov/Integrity/>.

<sup>12</sup> Organic Trade Association (OTA)/Nutrition Business Journal, 2020 Organic Industry Survey (pp. 4, 80).

TABLE 1—ORGANIC DAIRY MARKET—RETAIL SALES BY SUBCATEGORY—Continued

Subcategory	2019 Sales (\$ M)	2019 Growth	Percent of organic dairy sales <sup>a</sup>	Avg. markup <sup>b</sup> (%)	Organic markup <sup>c</sup> (\$ M)
Ice Cream .....	118	1.3	2.0	100	118
Total .....	5,769	1.7	100.0	47	1,808

<sup>a</sup> The Organic Trade Association's 2019 Organic Industry Survey (p. 80) included eggs as a subcategory for its summary on organic dairy sales, but we have excluded the data on eggs from this table.

<sup>b</sup> USDA's AMS weekly reported prices in the 2020 weekly dairy retail report based on the first weekly report in January, April, July, and October. These reports are available at: <https://www.ams.usda.gov/market-news/dairy>. Average prices of product categories are averages across the four periods weighted by store counts. Markups are calculated as the: ((Organic Price – Conventional Price)/Conventional Price).

<sup>c</sup> The dollar value of the organic markup for each category is: (Organic Sales × Markup)/(1+Markup).

<sup>d</sup> The yogurt and butter, sour cream and cottage cheese markups are respectively the average of the markups of four yogurt products and butter, sour cream and cottage cheese products, weighted by counts of stores advertising organic products. Cheese markups are for natural varieties in 8 oz. blocks.

*Table 1* also includes markups in the prices of dairy products marketed as organic versus conventional (or “nonorganic”) products. For dairy products, the average organic markup was 47 percent and totaled \$1.8 billion in value.<sup>13</sup> In market equilibrium, this markup reflects both the higher costs of organic production and the value consumers place on organically labeled products and their various underlying attributes. While AMS does not have estimates of the specific values of each attribute, the agency assumes that adjustments to the organic production standards that would reduce production costs must be simultaneously weighed against those adjustments’ potential to affect markups.

The 2016 NASS Organic Production Survey estimated that U.S. had approximately 2,559 certified and exempt organic dairy farms that milked a peak of 279,021 cows in 2016.<sup>14</sup> These organic dairy farms had milk sales of nearly \$1.4 billion in 2016. Despite the more recent sales declines, total organic milk production in the United States increased to 4.0 billion pounds in 2016, representing an 18.5 percent increase in production from 2015 and 44.5 percent increase since 2011. In that same time frame, the number of certified organic farms grew 1 percent over 2015 (2,531 farms in 2015) and grew 41 percent compared to 2011 (1,812 farms in 2011).

In comparison, the Organic Integrity Database<sup>15</sup> identified approximately 3,516 organic livestock operations certified for production in January of 2020 that included “dairy, milk, cow, cattle” in their description of

operations.<sup>16</sup> Of these operations, 49 operations were identified as operations milking “goats” or “sheep” (and not bovine animals). An additional 286 were breeders, replacement heifer operations, or cull cattle handlers, all of which did not indicate that they produced milk. In all, the 3,181 farms in this database are likely to produce organic milk and be affected by the rule through their organic replacement heifer purchases.

AMS decided to use the 2016 NASS data for our analysis for the following reasons. Primarily, the Organic Integrity Database does not track the number of organic dairy cattle maintained by certified operations. Absent information indicating a higher population of dairy cattle (compared to NASS data), an upward adjustment of farm numbers alone, without an adjustment of animal numbers, has little effect on our analysis. Secondly, the NASS survey of organic production records the number of organic dairy cows even if it does not necessarily classify the farm owning them as a dairy farm. This could undercount the number of operations, but not the number of organic dairy animals. Lastly, the Organic Integrity Database may overcount the number of operations that are actively engaged in dairy farming because mixed use farms may obtain additional certifications if they intend to handle organic dairy cattle but are not actively engaged in it.<sup>17</sup>

#### Organic Dairy Farms—Characteristics and Distribution

Organic dairy farms are, on average, smaller than conventional dairy farms. NASS' Certified Organic Surveys Agriculture show that the number of

milk cows owned by organic dairy farms averaged 116 head in 2011, 106 head in 2015, and 109 head in 2016. In contrast, NASS' Census of Agriculture showed the number of milk cows for conventional dairy farms averaged 144 head in 2012 and 175 head in 2017.

Organic dairy farms also have lower yields, on average, than conventional dairy farms. The 2016 Survey of Organic Agriculture showed that each organic cow produces about 14,461 pounds of milk annually, or 48 pounds per day over a 300-day lactation period. NASS production data for 2018 shows that across all operations (conventional and organic) average production is 23,149 pounds of milk per animal annually, or 77 pounds per day over the same 300-day period. Despite higher production costs and lower yields, organic dairy farms can be economically viable through the price markups they receive over conventional milk and milk products. Table 1 shows that the average markup for organic milk products averaged 47 percent at the retail level.

Based on the 2016 NASS Survey of Organic Production Data, Table 2 shows that the highest concentration of organic dairy farms is in the Northeast and Upper Midwest regions,<sup>18</sup> but that large organic dairy farms in California and Texas represent a large share of output. The five States with the largest number of certified organic dairy farms (Wisconsin, Pennsylvania, New York, Ohio, and Indiana) accounted for 65.7 percent of the total farms. However, those States represented less than 30 percent of national organic milk production.

By contrast, the West and South Central regions accounted for the highest milk production per farm. The two highest organic milk producing States (California and Texas)

<sup>13</sup> National Retail Report—Conventional vs Organic—<https://usda.library.cornell.edu/concern/publications/000000043?locale=en>.

<sup>14</sup> USDA NASS. 2017. Census of Agriculture—2016 Certified Organic Survey. Available online at: [https://www.nass.usda.gov/Surveys/Guide\\_to\\_NASS\\_Surveys/Organic\\_Production/](https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/).

<sup>15</sup> The Organic Integrity Database is available online at: <https://organic.ams.usda.gov/Integrity/>.

<sup>16</sup> Data was filtered for operations certified for livestock scope with certified livestock or handling products that include terms “milk” or “dairy.”

<sup>17</sup> For instance, these operations may become certified for dairy so that they can manage organic dairy animals under favorable market conditions.

<sup>18</sup> USDA's Certified Organic Production Survey available online at: [https://www.nass.usda.gov/Surveys/Guide\\_to\\_NASS\\_Surveys/Organic\\_Production/](https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/).

represented only 4.3 percent of total certified organic dairy farms, while producing 31.6 percent of the total organic milk nationally. The survey also showed significant regional differences

in the number of milk cows on dairy farms. The Northeast and North Central regions average 58 head per farm; the Southeast 112 head; the West 405 head, and the South Central 1,667 head per

farm. ARMS and NAHMS data showed similar patterns of size difference across regions.

TABLE 2—TOP STATES WITH ORGANIC DAIRY FARMS COMPARED TO PRODUCTION  
[2016]

	Number of organic dairy farms	Percent of U.S. organic dairy farms	Milk production (pounds)	Percent of U.S. milk production
United States .....	2,559	100	4,034,989,854	100
California .....	104	4.1	795,750,804	19.7
Texas .....	6	0.2	481,392,352	11.9
Wisconsin .....	453	17.9	370,627,696	9.2
Oregon .....	46	1.8	342,534,830	8.5
New York .....	471	18.6	327,387,420	8.1
Pennsylvania .....	300	11.9	196,641,598	4.9
Vermont .....	172	6.8	171,463,088	4.2
Washington .....	41	1.6	128,685,429	3.2
Minnesota .....	108	4.3	127,828,496	3.2
Ohio .....	212	8.4	119,264,078	3.0
Idaho .....	20	0.8	118,291,465	2.9
Indiana .....	225	8.9	113,879,386	2.8
Michigan .....	70	2.8	65,950,978	1.6
Iowa .....	74	2.9	46,847,454	1.2
Maine .....	63	2.5	44,456,548	1.1

#### The Organic Dairy Market—

##### Replacement Animals

##### Cull and Mortality Rates

Operations source replacement animals from on- and off-farm sources to replace animals that are sold, die, or are intentionally removed (“culled”). The APHIS NAHMS surveys<sup>19</sup> in 2007 and 2014 provide data on how many animals are culled (removed) from U.S. dairies annually and the reasons for their removal. Most dairy cows were removed for udder problems or reproductive problems, followed by lameness and poor production.<sup>20</sup> In the 2007 APHIS NAHMS survey of dairies, the national rate of permanently removing a dairy animal from a farm (excluding cows that died) was 23.6 percent<sup>21</sup> while the 2014 survey found a rate of 28.4 percent.<sup>22</sup> The 2014 NAHMS survey found that 21 percent of adult organic cows were removed from the organic herd. These figures include animals that are sold as replacement females to other dairies. The 2014 survey found a lower percentage of cows were permanently removed on

small and medium operations (26.0 and 26.3 percent, respectively) than on large operations (29.7 percent).

The same surveys provide information about the deaths of animals on dairies. Overall, annual mortality rates were 7.8 percent for un-weaned heifers, 1.8 percent for weaned heifers, and 5.7 percent for cows (2007 survey). In 2014, NAHMS identified that about 5 percent of adult organic dairy cows die on the farm (compared to 21 percent of adult organic cows that were removed for other reasons). These numbers were roughly consistent with the 2007 report.

Between culling and mortality, a dairy farm would need to raise or purchase females that represent about 30 percent (23.6 percent culled plus 5.7 percent deaths) of the farm’s herd size to maintain its size. As a lactating dairy herd (cattle) typically calves about 50 percent female offspring each year, the overall dairy herd should have enough replacement females to replace culled animals and animals that die. This conclusion considers downward adjustments for mortality (using 2007 NAHMS rates noted above of 7.8 percent and 1.8 percent) and additional reduction for culling.<sup>23</sup> The additional

(excess) replacement female animals should allow organic dairy operations to expand the number of animals in their herds should they wish to expand. This scenario has not considered that producers may choose to breed with sexed semen which will increase the number of female offspring available to the dairy farm.

##### Sourcing Organic Replacement Animals

Most organic dairy farms replace culled and deaths with replacement heifers that are born and raised on the farm. The 2014 NAHMS data reports that 96.5 percent of organic replacement heifers are born and raised on the organic operation. An additional 2.6 percent of the replacement heifers are born on the operation and are subsequently raised off the operation before returning to the operation. The remaining 0.9 percent of replacement females are born off the operation and are presumably purchased from other operations.

The 2016 ARMS data also provides information about how dairies source replacement animals. Overall, ARMS data indicates that in 2016, the average organic dairy farm milked 102.7 cows and added 43.0 replacement animals of all types. Of those replacements, 93.8 percent (40.35 head) were born on the farm (and owned continuously by it)

second year, this number could be reduced another 1.8 percent (mortality rate for weaned heifers) to 40.7 animals. Assuming a further 10 percent reduction due to culled, the original 50-animal group may be reduced to 36.6 animals by the end of year two.

<sup>19</sup> USDA APHIS. NAHMS Dairy, 2007, Part I: Reference of Dairy Cattle Health and Management Practices in the United States, 2007. This survey included both nonorganic and organic dairy animals. Available online at: <http://go.usa.gov/xKfEh>.

<sup>20</sup> USDA APHIS. NAHMS Dairy 2007, 84.

<sup>21</sup> USDA APHIS. NAHMS Dairy 2007, 87.

<sup>22</sup> USDA APHIS. NAHMS Dairy 2014, Report I: Dairy Cattle Management Practices in the United States, 2014. Available online at: <http://go.usa.gov/xKfEh>, 218.

<sup>23</sup> As an example, a 100-cow lactating dairy herd would produce about 50 heifers annually (*i.e.*, 50 percent of births). Considering this heifer group as a single group, a 7.8 percent mortality rate would reduce the herd to about 46.1 animals by the end of year one (assuming a 7.8 percent mortality rate over the entire year). Additionally, we assume a 10 percent cull rate could further reduce this to 41.5 animals at the end of year one. By the end of the

and 85.1 percent (36.62 head) were both born and raised on the farm. Based on 2,559 total dairy farms with a mid-point herd size of 267,523 reported in the Census of Agriculture, ARMS data indicates that 110,037 total heifers and milk cows (41.1 percent of the herd) were added to operations in 2016.<sup>24</sup> Purchased animals from off-farm sources included 4,325 milk cows (3.9 percent), 1,953 large heifers weighing more than 500 pounds (0.73 percent), and 559 small heifers weighing less than 500 pounds (0.2 percent).

Of the organic farms responding to the 2016 ARMS, 8.7 percent reported purchasing dairy cows and 10.9 percent reported buying replacement heifers. Farms that purchased milk cows purchased an average of 19 cows per farm and those that purchased heifers bought an average of 7 head. Most organic dairies also reported selling cull cows (animals that are no longer productive for milk production and are sold for beef), milk cows, and replacement heifers. Organic dairy farms sold an average of 1.6 milk cows and 1.3 replacement heifers with sales of replacement heifers exceeding purchases. Alternatively, the 2014 NAHMS data similarly show that the average organic dairy farm added 39 replacements that were born on the operation and added to the milking herd and purchased 7 replacements that were added to the milking herd.

Exact data on how many replacement heifers bought were transitioned heifers and how many were managed organically from the last third of gestation are not available. For this reason, this RIA calculates costs for two conjectured values for the share of purchased replacements that are transitioned heifers. Furthermore, AMS does not have aggregated data on what approach producers currently use when purchasing replacement heifers. Therefore, we do not have data on how many producers are bringing heifers into organic production as nonorganic animals and transitioning them into organic (or purchasing animals transitioned on other organic operations) versus sourcing and managing animals as organic from the last third of gestation. Excluding small heifers, the percentage of replacement heifers that are transitioned to organic production is, at most, 1.7 percent.<sup>25</sup> AMS also notes that the OIG report

provided survey data indicating the proportion of sampled producers that may be practicing continuous transitioning. OIG found that out of a sample of six of the top ten certifying agents that certify the most organic dairy operations in the U.S., three allowed continuous transitioning.

#### *Regulatory Impact Analysis*

##### Comments Received on Costs and Benefits

AMS specifically sought input from the public about the estimated costs and benefits presented in the 2015 proposed rule. We received 29 comments in 2015 and 82 comments in 2019 that addressed our estimated costs and benefits. We summarize and respond to these comments below.

##### Availability of Replacement Animals

In 2015, some comments noted that organic heifer supplies were tight and that the heifers for sale were not of consistently high quality. This led commenters to believe the proposed rule could curtail growth of existing or new operations, restrict milk supply, and raise consumer prices. Some comments urged AMS to seek a consistent standard for all operations while considering that operations may need to grow to meet consumer demand.

A comment in 2015 calculated that a dairy could be expected to raise only enough of its own heifers to grow at an annual rate of 5 percent, after accounting for morbidity and culling. This commenter questioned AMS' conclusion there would be an "ample supply" of organic heifers under the rule. The commenter estimated that the industry would take time to catch up with the demand for organic (from last third of gestation) heifers.

Other comments in 2015 argued that there was an adequate supply of organic (last third of gestation) heifers available or that operations would raise and sell them if the price was higher and reflected the cost of raising them. In 2019, commenters claimed there is a surplus of organic (last third of gestation) heifers available to meet market needs and that there is an ample supply of animals even if morbidity/mortality rates are high or heifer selection is aggressive. No comments in 2019 claimed that organic heifer supplies were constrained.

*AMS response:* Based on our analysis of the comments received, AMS continues to believe that sufficient numbers of organic heifers (organically managed from last third of gestation) would be available after rule implementation to maintain and/or

grow existing organic dairies. To mitigate potential and unforeseen impacts, AMS proposes establishing a compliance date for this rule to allow animals in the middle of an approved transition to complete the transition and produce organic milk. AMS received many comments that supported this approach during the 2019 comment period.

##### Price of Replacement Animals

A commenter in 2019 disagreed with AMS' estimate of a \$1,300 cost difference between transitioned animals and last-third-of-gestation organic animals. The commenter believed AMS' estimate was too high. The commenter further explained that its "discussions with dairy auction sales barns that previously sold organic cattle do not align with that value" and the most common response it received from extension agents in the Northeast was that "demand and verified sales have all but dried up for organic springing heifers."

AMS received many comments in 2019 related to the cost difference for raising heifers organically vs. nonorganically during the first 12 months of life. One commenter found a \$469 average cost difference (organic being more costly) per animal. Most comments noted a cost difference from \$600 to \$1,000 per calf, and some comments noted a difference as high as \$1,300 per calf. Commenters tended to use the difference in production costs to describe the financial disadvantage and the harm to operations that source only last-third-of-gestation organic animals in comparison to operations that continually transition heifers to organic production.

Commenters in 2015 and 2019 generally agreed that implementation of the proposed rule would result in greater demand for organic heifers and would likely increase the price of organic replacement animals. Many commenters viewed this scenario favorably, as it would benefit organic producers who sell last-third-of-gestation organic animals (as opposed to heifer-raising operations selling transitioned animals).

*AMS response:* AMS continues to present the costs of the rule as a range based on different potential scenarios (see Table 4). We agree with comments that the price of organic heifers may increase, and we have estimated costs under two scenarios where the price of heifers increases by \$500 and where the price does not increase. We estimate that the price of an organic (last third of gestation) heifer is \$2,000 and up to \$2,500 if increased demand drives

<sup>24</sup> The 2017 ARMS survey indicates that the average organic herd size is 102.7 head while the 2016 Census of Organic Production indicates it is 104.5 (= 267,523 head/2,559 farms).

<sup>25</sup> This percentage represents 0.75 purchased (large) heifers divided by 43.0 replacements (2016 AMRS data).

prices upward. This represents at least a \$1,000 premium for organic (last third of gestation) animals over transitioned animals. The estimated difference seems to agree with comments that production costs for these animals are \$600 to \$1,300 higher. We recognize that this price estimate may be high and thus the result might be considered an upper bound of the estimated costs.

#### Effect on Consumer Milk Price

A commenter in 2015 estimated the rule would increase the cost of producing organic milk by 3.7 to 6.0 cents per half gallon (0.87 percent to 1.42 percent, respectively) and that the increase would be passed to consumers and negatively affect consumer demand. However, AMS also received comments in 2015 from organic milk consumers that supported the proposed rule even recognizing the price of milk could increase. Another comment in 2015 noted that if supply of organic milk were to become very restricted under the new requirements, retail prices could increase to a point where consumer demand would flatten or even decrease.

In 2019, stakeholders were more concerned with how consumer milk prices negatively affect organic dairy producers than how they affect consumers. Comments frequently discussed the idea that there is an oversupply of organic milk currently “flooding the market” that are driving consumer prices down.

*AMS response:* Table 1 figures indicate that the retail markup of organic milk products over conventional milk products is 47 percent. The AMS organic dairy report for February 8th to 12th, 2021, indicated that the 2020 average (farm-level) organic milk pay price was \$31.55 per hundredweight while the USDA World Agricultural Demand and Supply Estimates for April 2021 indicate that the 2020 (farm-level) all milk price was \$18.32 per hundredweight. Together these values indicate that the farm-level organic markup is 72 percent. The ERS farm share of the retail price for the milk and dairy basket in 2018 was 28 percent. Collectively, this implies that the farm share of the retail price for organic milk is 32 percent.

Table 4 shows that the total costs of this proposal to the organic milk producers net of transfers would be \$1,462,500 under our 50 percent transitioning scenario and \$731,000 under our 25 percent transitioning scenario discussed further below. The Census of Organic Agriculture indicates that farm-level organic milk revenue

was \$57.8 million in 2016.<sup>26</sup> Based on these figures, AMS estimates that a final rule would increase producer costs by 1.3 to 2.5 percent and retail costs by 0.4 to 0.8 percent. Price effects will depend on the specific products being considered. AMS first-of-the-quarter price reports indicate that a half gallon of organic milk has an average retail price of \$3.98. Based on our calculations, a final rule might raise this price by 2 to 3 cents. AMS does not believe that price effects of this magnitude are likely to limit industry growth or noticeably affect demand.

#### Number of Transitioning Animals

One commenter in 2015 estimated there were 60,000 conventional animals transitioning to organic production on new dairy farms and established dairy farms. The commenter predicted this could lead to an oversupply of milk and decrease in milk price (income for the dairy farm). Another commenter in 2019 believed that “tens of thousands” of animals had transitioned since 2015.

*AMS response:* AMS recognizes that we do not have precise data on how many animals are transitioned on an annual basis by certified organic operations. Our experience indicates that most organic dairy farms do not continually transition animals. However, because of the lack of precise numbers available, we estimate that transitioned animals comprise 25 percent (low end) to 50 percent (high end) of all purchased replacement animals. AMS did not receive concrete data from comments to support alternative figures.

#### Changes in Dairy Market Since 2015

In 2019, many comments noted that the organic dairy industry had changed considerably since AMS published the proposed rule in 2015. Primarily, commenters noted a decline in consumer demand for organic milk and increased availability of organic milk and organic dairy cows. Some comments noted that fewer operations are transitioning to organic production due to limited opportunities to secure a contract with a milk handler or because the price premium for organic production is no longer an incentive to transition. Some 2019 comments noted that the cost of the rule would be less than AMS estimated in 2015 due to increased availability of organic (from last third of gestation) replacement

animals and a corresponding drop in prices for these animals.

*AMS response:* AMS recognizes that the organic dairy market in 2015 differed from the current organic dairy market. Our calculation of costs for this proposal is higher than those calculated in 2015 because the cost calculation is based, in part, on the number of organic dairy operations and total organic herd size. These numbers have both increased since 2015, so the estimated cost is higher.

#### Costs and Benefits (General)

A commenter in 2019 disagreed with AMS' cost analysis in the proposed rule. It stated that the cost analysis “fails to capture the cost inequities of not implementing the proposed rule,” and specifically points to its “failure to distinguish production costs between organic and transitioned heifers.” Without this information, the commenter argues “neither the agency nor stakeholders can understand the true cost, and true harm, of implementing or not implementing the proposed rule.” Furthermore, the commenter calculated the harm to operations that source only last-third-of-gestation organic animals using the difference in production costs for transitioned animals and last-third-of-gestation organic animals. The commenter estimated that 25 percent or 50 percent of all culled organic dairy animals are replaced with transitioned animals and calculated competitive harm of \$9.29 million to \$18.58 million annually (\$469 multiplied by 25 percent to 50 percent of all culled animals using a cull rate of 28.4 percent).

*AMS response:* The commenter estimates that the competitive harm from the current enforcement practice of allowing transitioned animals is \$9.29 million (under the 25 percent scenario) and \$18.58 million (under the 50 percent scenario). These estimates are based on the commenter's finding that a conventional heifer costs \$462 less to raise and that organic farms require 79,242 replacement heifers annually based on a 28.4 percent cull rate on the 279,021 (head) total U.S. organic herd.

AMS agrees with the commenter's general concern that organic dairy farms need to replace a substantial share of cows each year and that the uneven application of rules regarding transition of heifers creates artificial cost disparities. AMS uses the price difference for purchased replacement heifers (transitioned vs. organic from last third of gestation) as its estimate of the per animal increase in costs for dairy farms that have used transitioned animals. AMS recognizes that this does

<sup>26</sup> Given the recency of the data and the relatively low inflation rate throughout, we do not adjust for inflation in our estimates. We note that ARMS data and the Census of Agriculture Data both reflect 2016 data indicating no need to adjust for inflation in calculating markups.

not account for increased costs to operations that might maintain ownership of offspring that are born on-farm, subsequently removed from organic production, and then transitioned back into organic production. We understand that most certifiers do not interpret the current regulations to allow this practice. For this reason, AMS believes that applying the cost differential to replacement heifers that are both purchased and unpurchased (*i.e.*, owned) would likely overstate the cost of the rule. However, AMS seeks data from industry regarding the extent to which unpurchased heifers are transitioned to inform our cost calculations.

As described in our consideration of regulatory alternatives, AMS expects that purchases of replacement heifers that are transitioned animals would increase if AMS allowed this practice (Alternative A). Additionally, dairy operations utilizing heifer-raising operations while retaining ownership may switch to operations that use conventional practices and then transition the animals. Table 3 shows that only 11 percent of operations purchase replacement heifers. The uneven application of the current rule suggests that a smaller share of producers is benefiting from the cost advantage of transitioned heifers, at a level higher than that suggested by the average number of head purchased.

#### Costs of Proposed Rule

The proposed rule would likely increase production costs on organic livestock and dairy operations that currently continually transition nonorganic animals and/or operations that source transitioned dairy animals as replacements. Additionally, any dairy that purchases organic heifers may pay higher prices for organic animals due to increased demand, but organic operations selling replacement heifers would benefit from any higher prices.

We assume that farms that exclusively raise their own organic replacement heifers and manage those animals organically from birth would not incur additional costs under the proposed rule. Similarly, dairy farms that send organic heifer calves to other certified organic operations to have the animals continuously managed as organic (for some period of time before returning to the farm) would not incur additional costs. Finally, nonorganic dairy operations converting to organic

production for the first time would not incur new costs during the 12-month transition period; they may transition animals on a one-time basis under the proposed rule.

#### Estimated Costs for Dairies

The proposed rule creates two costs for organic dairy farms. First, dairy farms that regularly transition heifers or regularly purchase transitioned replacement heifers after their initial transition to organic would be required either to purchase higher-cost organic (from last third of gestation) replacement heifers or to raise their own replacement by raising organic calves to maturity. This analysis assumes that transitioned animals are currently sold at a discount compared to organic (from the last third of gestation) replacement animals.

Second, by raising the demand for organic replacement heifers, the proposed rule may raise the price of organic replacement heifers if operations currently selling organic (transitioned) replacement heifers cannot comply with the proposed requirements and operations that sell organic (last third of gestation) replacement heifers cannot easily increase offerings. While this price increase is likely to be small, it would raise costs to any organic dairy farm that is a net buyer of organic replacement heifers, regardless of whether it continually transitions animals or purchases transitioned replacement heifers. This same price effect, however, would create an offsetting benefit to any dairy farm that is a net seller of organic replacement heifers.

AMS estimates the costs of the proposed rule below by estimating the total number of replacement animals purchased by U.S. organic dairy cattle operations annually. We then estimate the percentage of all purchased animals that does not meet the requirements of the proposed rule (*i.e.*, the percentage of animals bought by organic operations that are not organic from the last third of gestation). Due to the unavailability of precise data, we estimated a range of possibilities (25 percent to 50 percent of all purchased animals). To calculate costs, we then multiply the number of animals by the price difference between organic (from the last third of gestation) and nonorganic heifers (we use nonorganic heifer prices as a substitute for transitioned animals in the absence of that data). Finally, we considered a

possible increase for the price of organic animals to calculate the maximum expected costs. Below we discuss the data and calculations in detail.

The ARMS survey includes farm-level data on purchases and sales of heifers weighing more than 500 pounds, a category that explicitly includes sales of springers.<sup>27</sup> While the ARMS survey does not identify whether purchased heifers have been organic from birth or have transitioned to organic status, it does identify whether the farms themselves are certified or transitioning to organic status. Since all cattle sold by organic dairies are themselves organic and all cattle sold by non-organic dairies are conventional, this analysis assumes that the difference in the large heifer sales prices for organic or transitioning farms and other farms reflects the difference in costs for those animals. This analysis estimates costs under the alternative assumptions that either 25 or 50 percent of all purchased heifers are transitioned heifers.

We used 2016 ARMS data to estimate the number of replacement animals purchased by organic operations. Table 3 provides the average numbers and prices of large heifers bought and sold by organic or transitioning farms, divided into four different size categories, along with figures for all organic or transitioning farms and all other non-organic farms. Compared with their non-organic counterparts, organic and transitioning dairy farms are smaller in herd size, less likely to purchase large heifers as replacements, and more likely to sell large heifers. On average, organic dairies purchase replacement large heifers at a rate of 0.73 percent of their total herd size (or 0.75 head) and sold large replacement heifers at a rate of 1.2 percent of their total herd size (or 1.27 head).

However, only 10.9 percent of dairy farms purchased large heifers so that the average farm purchasing heifers bought 6.9 head. Based on an average mid-point herd size of 267,523 milk cows,<sup>28</sup> all organic dairies purchase 1,953 large heifers annually. Rounding the large heifer purchase figure to 1,950, these

<sup>27</sup> A springer is a heifer (*i.e.*, a female cow that has not previously calved) that is 7 to 9 months pregnant and will begin producing milk within 0 to 2 months.

<sup>28</sup> The mid-point herd size is the average of the Jan 1 and Dec 31 herd size for 2016. NASS Organic Production Survey. It is slightly less than peak herd size of 279,021.

figures imply that 488 purchased heifers are transitioned (rather than managed organically from the last third of

gestation) under our 25 percent assumption, and 975 are transitioned

heifers under our 50 percent assumption.

TABLE 3—HEIFER PURCHASE AND SALES PRICE AND RELATED STATISTICS BY DAIRY FARM SIZE AND ORGANIC STATUS [ARMS]

	1–49	49–99	100–199	200+	All
<b>Organic and Organic Transitioning Farms</b>					
Number of Farms in ARMS Survey .....	144	114	42	32	.....
Largest Number of Cows Milked .....	33	68	132	499	103
L. Heifers Sold (Head) .....	0.31	0.84	0.60	8.02	1.27
Sold L. Heifers (\$/Head) .....	\$1,350	\$1,993	\$2,111	\$1,918	\$1,887
% of Farms Purchasing L. Heifers .....	8%	16%	10%	7%	11%
Purch. L. Heifers as a % of Herd .....	1.5%	1.0%	1.3%	0.2%	0.7%
<b>Other Farms</b>					
L. Heifers Sold (Head) .....	1.14	1.37	1.73	9.68	5.5
Sold L. Heifers (\$/Head) .....	\$600	\$1,161	\$1,304	\$989	\$1,012
% of Farms Purchasing L. Heifers .....	3.3%	7.2%	4.8%	12.1%	3.3%
Purch. L. Heifers as a % of Herd .....	0.2%	1.0%	0.8%	3.2%	2.9%

We also used the 2016 ARMS data to estimate the price difference between organic replacement animals and nonorganic replacement animals. Table 3 shows the price at which organic and transitioning dairies sold large replacement heifers. Because the price of transitioned heifers compared to last-third-of-gestation organic heifers is not available, our analysis uses the cost of non-organic large heifers as a substitute. This is likely to exaggerate the cost differential. The large heifer selling price of \$1,887 at organic and transitioning dairy farms was \$865 more than the selling price of \$1,012 at non-organic farms. Across individual farm size categories, however, this difference in prices between organic and non-organic selling prices varied across size categories, ranging from \$750 (farms with 0–49 cows) to \$937 (200+ cows). Based on the data, our analysis assumes that before the imposition of any of the proposed changes, a transitioned heifer costs \$1,000 and an organic heifer costs \$2,000 so that the difference in price between the two animal types is slightly higher than the largest difference observed in the data.

Related data and public comments support these assumptions on price relationships. The approximately \$1,000 price of non-organic bred heifers (our substitute for the price of a transitioned animal) is supported by livestock auction market prices at five sites<sup>29</sup>

collected by AMS in November of 2019. These data show that bred heifers in the third trimester (*i.e.*, springers) of supreme and approved quality sold for \$1,045.

Additionally, the assumptions are supported by public comments that indicate it costs between \$600 and \$1,300 more to raise an organic calf than a nonorganic calf.

The increased demand for 975 additional organic (from last third of gestation) replacement heifers under the 50 percent transitioning assumption (or 488 additional organic replacement heifers under the 25 percent transitioning assumption) is not expected to lead to a large increase in their price because many of the key inputs to producing those organic replacement heifers can be readily expanded. These inputs include organic heifer calves, additional organic feed, and additional organic pasture land. Because heifer calves are often sold for meat rather than milk production, the number of these animals that might be re-directed into milk production is far less than their total availability, a situation providing a strong check on price increases for that input. Moreover, the additional organic pasture and additional feed required for 975 additional organic replacements are relatively small compared to the existing requirements for the 103,000 heifers currently retained by organic farms for their own replacements.

However, this analysis assumes that the increased demand for organic replacement heifers pushes up their

price by \$500, or 25 percent,<sup>30</sup> to \$2,500. In this case, the total cost of purchasing replacement heifers by organic dairy farms would be \$4.875 million per year (1,950 replacements animals purchased from off farm at \$2,500 per head). This would be the new total cost of purchasing organic heifers rather than the additional cost of purchasing organic heifers, which is considerably less.<sup>31</sup>

Table 4 shows the estimated costs to and intra-industry transfers between organic dairy farms purchasing organic heifers under alternative assumptions on price response and replacement heifer purchases that would follow the proposed rule. Industry transfers are costs to a set of dairy farms that are exactly offset by benefits to another dairy farm. In the case of the proposed rule that would affect organic dairy farms, such transfers would occur because farms that are currently net sellers of organic heifers see sales revenue increase from price increases for organic heifers should the rule be enacted, even as net buyers of organic cattle see their costs increase. If the price of organic heifers does not increase, then no transfer would occur.

AMS expects that organic dairy farms will purchase 1,950 replacement heifers per year based on our analysis of ARMS data. If the price of organic dairy heifers were to be unchanged following the rule, our analysis finds that total costs would increase by \$975,000 per year

<sup>29</sup>This includes data collected in the AMS Livestock and Replacement Cattle Reports reported at <https://www.ams.usda.gov/market-news/feeder-and-replacement-cattle-auctions> for the following five auctions: Mid-Georgia Livestock, Jackson, GA; Empire Livestock, Cherry Creek, NY; Mammoth Cave Dairy Auction, Smiths Grove, KY; New

Holland Sales Stables, New Holland, PA; and Toppenish Monthly Dairy Replacement Sale, Toppenish, WA.

<sup>30</sup>A 25 percent price increase resulting from a 50 percent increase in quantity supplied is consistent with an elasticity of supply of 2.

<sup>31</sup>These costs reflect only those for dairy cattle. Costs for purchasing dairy sheep and goats are not included in this analysis.

under the assumption that 50 percent of purchased replacement animals had been transitioned animals, or costs increase by \$488,000 under the assumption that 25 percent of purchased replacement animals had been transitioned animals. In these cases, there are no transfers. If the price of organic dairy heifers rises to \$2,500 and 25 percent of purchased

replacements are transitioned, our analysis finds that total costs are \$732,000 (reflecting 488 new organic replacement heifers purchased for \$1,500 over the conventional price) and transfers are \$731,000 (reflecting 1,462 previously purchased organic heifers purchased at price \$500 higher).

If the price of organic dairy heifers rises 50 percent, and 50 percent of

purchased replacements are transitioned, our analysis finds that total costs would be \$1,462,500 (reflecting 975 new organic replacement heifers purchased for \$1,500 over the conventional price) and transfers would be \$487,500 (reflecting 975 previously purchased organic heifers purchased at price \$500 higher). This information is presented in Table 4 below.

TABLE 4—ESTIMATED COSTS UNDER ALTERNATIVE ASSUMPTIONS FOR PRICE RESPONSE AND THE QUANTITY OF TRANSITIONED ANIMALS PURCHASED BY CERTIFIED ORGANIC OPERATIONS ANNUALLY

Assumptions regarding . . .		Estimated additional costs net of transfers	Estimated transfers
. . . Price response	. . . Transitioning heifers		
The price of organic heifers remains at \$2,000 .....	25 percent of heifers are transitioning .....	\$488,000	\$0
The price of organic heifers remains at \$2,000 .....	50 percent of heifers are transitioning .....	975,000	0
The price of organic heifers rises from \$2,000 to \$2,500.	25 percent of heifers are transitioning .....	732,000	731,000
The price of organic heifers rises from \$2,000 to \$2,500.	50 percent of heifers are transitioning .....	1,462,500	487,500

If some of the sellers of the 975 additional organic heifers required under the 50 percent assumption (or the 488 additional organic heifers required under the 25 percent assumption) have costs to supplying these animals that are less than \$2,500, then industry transfers would exceed the values stated in Table 4. Increased sales are expected to benefit operations that have more flexibility in capacity (e.g., available pasture) to accommodate raising organic replacement heifers for the organic market. Importantly, sales response across individual farms will likely be uneven and depend on site-specific factors such as the farm's ability to access new buyers and increase organic pasture.

Differences in purchase patterns of milk cows and replacement heifers also vary by size in a way that affects the distribution of costs associated with the

proposed rule. Ten percent of operations with fewer than 50 cows reported purchasing *milk cows*, and the average number purchased was 6 head. Five percent of operations with between 50 and 99 cows reported purchasing *milk cows*, and the average number purchased was 14 head. Three percent of operations with between 100 and 199 cows reported purchasing *milk cows*, and the average number purchased was 10 head. No operations with 200 or more cows reported purchasing *milk cows*.

The pattern is different for purchasing *heifers*. Eight percent of operations with fewer than 50 cows reported purchasing *heifers*, and the average number purchased was 7 head. Sixteen (16) percent of operations with between 50 and 99 cows reported purchasing *heifers*, and the average number purchased was 4 head. Ten (10) percent

of operations with between 100 and 199 cows reported purchasing *heifers*, and the average number purchased was 17 head. Seven (7) percent of operations with 200 or more cows reported purchasing *heifers*, and the average number purchased was 12 head. Based on a cost differences of \$1,500 per head between transitioned replacement heifers and organic replacement heifers, and assuming that half of replacement heifers currently purchased are transitioned, the average dairy with fewer than 50 cows would pay an additional \$382–\$510; dairies with between 50 and 99 cows would pay an additional \$499–\$666; dairies with between 100 and 199 cows would pay an additional \$1,316–\$1,755; and dairies with 200 or more cows would pay an additional \$628–\$837. The costs by size of operation are summarized in Table 5.

TABLE 5—COSTS BY SIZE OF OPERATION FOR PURCHASING ORGANIC HEIFERS

	Size of operation			
	Fewer than 50 cows	50–99 Cows	100–199 Cows	200 Or more cows
Share of Operations .....	43%	34%	13%	10%
Percent of operations that purchased replacement heifers .....	8%	16%	10%	7%
Average number of replacement heifers purchased .....	6.68	4.06	17.22	12.33
Number of Farms .....	1,114	879	324	247
Average Cost Per Farm .....	\$382–\$510	\$499–\$666	\$1,316–\$1,755	\$628–\$837
Total cost for purchase of replacement heifers across size class .....	\$425,849–\$567,798	\$438,939–\$585,252	\$426,377–\$568,502	\$155,007–\$206,676
Cost per operation for operations purchasing replacements .....	\$5,009–\$6,678	\$3,048–\$4,063	\$12,919–\$17,225	\$9,247–\$12,330

The costs in Table 5 do not reflect the offsetting effect of transfers. For this reason, the sum of the total costs of replacing heifers across all size categories (\$2.41 million and \$2.89 million) roughly equals the sum costs

(net of transfer) and transfers in Table 4 (\$2.44 million and \$2.92 million) with minor discrepancies reflecting rounding differences.

#### Effects on Heifer-Raising Operations

Organic dairy operations that continually source transitioned heifers would need to change their practices to meet the requirements of the proposed

rule. In some cases, organic dairy operations source their transitioned heifers from off-site heifer-raising operations. Here, we discuss the potential effects of the proposed rule on these operations.

A 2011 USDA NAHMS study on heifer-raising operations<sup>32</sup> found that most heifers sent to heifer-raising operations (80 percent) are returned to their dairy of origin. The study also found that most heifer-raising operations receive weaned calves (rather than wet calves) and send them back as pregnant heifers. In the 2015 proposed rule, AMS specifically requested comments and data on the likely impacts on heifer-raising operations. We did not receive any data on the number of heifer-raising operations that continually transition animals for sale to organic dairies or on the number of animals raised by such operations annually. Aside from fragmentary evidence in the AMS Organic Integrity Database, AMS does not currently have specific data on the locations, numbers, or sizes of organic heifer-raising operations.<sup>33</sup>

In the absence of specific information, we considered that organic dairy operations could be using organic heifer-raising operations to transition animals on a continual basis by taking in nonorganic weaned calves (e.g., 12-month old heifers) and providing organic management for 12 months before returning the pregnant organic heifers to an organic dairy.

Under the proposed rule, heifer-raising operations would not be required to change their *animal production practices*. These operations are certified organic and currently manage animals in compliance with the USDA organic regulations as a requirement of their organic certification. However, the proposed rule would not allow any operations, once certified, to continually source nonorganic animals. Therefore, these operations would be able to accept only weaned calves that had been managed organically from the last third of gestation.

<sup>32</sup> USDA, Animal Plant Health Inspection Service. Dairy Heifer Raiser, 2011 (October 2012). Available online at: [https://www.aphis.usda.gov/aphis/our-focus/animal-health/monitoring-and-surveillance/nahms/nahms\\_dairy\\_studies](https://www.aphis.usda.gov/aphis/our-focus/animal-health/monitoring-and-surveillance/nahms/nahms_dairy_studies).

<sup>33</sup> The Organic Integrity Database includes descriptions of the products for which organic farms are certified as recorded by the certifying agent. It lists 220 operations that recorded dairy cattle but not milk production (*i.e.*, a possible indicator for a heifer-raising operation). These operations were often identified as being involved with “dairy cows,” “breeding operations,” and “replacements.” Unfortunately, the database does not provide sufficient information to use in our analysis of heifer-raising operations.

Within our analysis, we have assumed that competitive markets for both transitioning and replacement heifers have resulted in prices for these animals that are sufficiently high enough to allow sellers to recover the cost of raising these animals along with a “normal” rate of return on capital investment. The analysis assumes that the 50 percent conjectured increase in price of organic replacement heifers is sufficient to simultaneously ensure that markets clear (*i.e.* quantity supplied equals quantity demanded) at the higher number of transacted animals and offset the increased costs to supplying more animals.

As with other aspects of our analysis regarding supply response, AMS assumes that the ability of individual sellers of replacement heifers to adjust management practices to market conditions will vary with the site-specific characteristics of operations, such as their ability to find new buyers and access to additional organic pasture. Whether heifer-raising operations will increase or decrease sales of organic heifers following the implementation of the rule cannot be determined with the available data.

#### Effects on Consumers

Most dairies report that they source at least some of their replacement cows from their own calves, and only 11 percent of all dairies purchase replacement heifers, with less than 1 percent of all replacements being purchased from off the farm. The majority of producers that do not purchase replacement heifers would not see an increase in costs. To replace purchased transitioned heifers, dairies would have to either raise their own replacements or buy them from an operation that sells organic (from last third of gestation) replacement heifers. Since the current supply of replacement heifers can be increased without large price increases, as detailed above, it is unlikely that the proposed rule would significantly increase milk production or milk costs to the consumer. Some commenters to the 2015 proposed rule suggested that the limits on transitions would increase the price of organic milk for consumers. They noted that with the proposed limits on transitions, organic growth for existing organic dairy farms would be biologically capped at 5 percent. Any additional growth would need to come from new organic dairy farms or nonorganic dairy farms transitioning to organic milk production. These commenters stated that the price of organic milk for consumers could rise if demand

approached the hard limit for dairy cattle growth.

For additional discussion, see our response to comments on “Effect on consumer milk price” above.

#### Benefits of the Proposed Rule

The proposed rule would provide producers and consumers of organic foods with multiple types of benefits. First, the rule would give specificity and clarity to the enforcement of regulations relating to the origin of dairy livestock and the management of breeder stock. Second, the rule would create uniformity in the application of the USDA organic regulations by generally requiring organic management for an animal’s entire life. Together, these may enhance the value of organic premiums that consumers are willing to pay for milk certified under the USDA organic regulations by reducing uncertainty.

The 2016 NASS Certified Organic Production Survey show that U.S. farms and ranches produced and sold \$7.6 billion in certified organic commodities, up 23 percent from 2015. At the retail level, the OTA 2019 U.S. Industry Survey found that retail sales of organic production totaled \$52.5 billion, 6 percent above the previous year. Organic dairy cattle producers who sell organic dairy females may receive a benefit as part of an intra-industry transfer. AMS estimates that on the high side, the price of an organic springer may increase by \$500 over current prices due to increased demand. If this price increase were to occur, dairy producers who are net sellers of replacement springers would benefit through the intra-industry transfer.

AMS does not expect the proposed rule to increase demand for organic milk. However, AMS does expect the proposed rule to help support consumer confidence by preventing organic dairies from continuing to transition non-organic animals into organic milk production. The sustained demand should be valuable for organic milk producers and strengthen the value of the organic brand in the mind of consumers; these outcomes are not benefits in themselves, as that term is defined for purposes of Executive Order 12866 and OMB Circular A-4, but to the extent that they disincentivize the (costly) establishment of credentials that are alternative to USDA organic certification, the associated cost savings qualify as rule-induced benefits.

#### Alternatives Considered

As required by Executive Order 12866, AMS considered alternative regulatory approaches in our development and analysis of the

proposal. AMS considered alternatives that would be both less stringent (less costly) and more stringent (more costly).

The alternatives considered are shown in Table 6 and discussed below.

TABLE 6—ALTERNATIVES CONSIDERED

Alternative	Description
(A) Allow Continual Transition .....	Allow any operation to transition nonorganic dairy animals into organic production over a 12-month period on a continual basis.
(B) Prohibit All Transitions .....	Remove all exceptions for transition of nonorganic animals.

*Alternative A—Allow Continual Transition*

AMS considered amending the regulations to specify that any operation could transition dairy animals into organic production over a 12-month period on a continual basis. Under OFPA, a dairy animal from which milk or milk products will be sold or labeled as organically produced must be raised in accordance with OFPA for not less than the 12-month period immediately prior to the sale of such milk and milk products (7 U.S.C. 6509(e)(2)(A)).

AMS could presumably allow transition of any dairy animal into organic production, without further limitation, if the animal were managed organically for the 12-month period prior to the sale of milk as organic. In effect, this would mean that an operation could continually transition nonorganic dairy animals into organic production on an ongoing basis, as opposed to allowing an operation to transition animals into organic production once. In this scenario, organic dairy farms using heifer-raising operations following organic practices would now use heifer-raising operations that treat the young animals with antibiotics and other medications prohibited in organic livestock production and/or provide nonorganic feed until one year before they were expected to produce milk. Also, in the scenario, all purchased replacements would be transitioned heifers. Relatedly, operations wanting to assure consumers that they had raised organic heifers under organic conditions through their entire lives would have to do so under a separate certification program.

ARMS Data indicated that the average organic dairy operation kept 40.4 heifers (or 39.3 percent of its herd) for breeding and 36.6 heifers (or 35.7 percent of its herd) were kept for breeding and raised on the operation. The difference of these values, 3.6 percent, represents the likely proportion of organic heifers raised on outside heifer-raising operations (as a share of the total herd). If all those animals become transitioned heifers, then an additional 9,711 animals (*i.e.*, 267,523 head \* 3.6 percent) would be

transitioned. AMS assumes that the price difference between organic (last third of gestation) and transitioned heifers accurately reflects the cost difference of \$1,000 in raising heifers for milking under those two comparative production systems. In this case, the benefit of allowing for continuous transitioning of heifers is \$9,711,000.

While the cost difference might suggest that organic farms would acquire an even larger share of heifer replacements through purchases rather than internally through breeding, AMS feels this is unlikely owing to the asymmetric information problems associated with cattle sales. Asymmetric information problems arise because heifer sellers have more information than heifer buyers about the health, breeding, and temperament of their animals. This has the effect of reducing total transactions in the market (Akerlof, 1970).<sup>34</sup><sup>35</sup>

The potential cost associated with the adoption of the continuous transition for all organic dairies could be illustrated by a deleterious effect on markups to products marketed under the organic label; although a markup reduction is not a cost, from the society-wide perspective taken for purposes of Executive Order 12866 and OMB Circular A-4, it may be a sign of an increased incentivize for the (costly) establishment of credentials that are alternative to USDA organic certification. Table 1 shows that milk products marketed under the organic label earned an average markup of 47 percent over conventional products that total \$1.8 billion in total value. A one percent fall in total markups would be associated with a \$18 million reduction in organic premiums at the retail level.

Continual transition could achieve the regulatory objective of establishing a

consistent and uniform standard for all operations. The National Organic Standards Board's recommendations and stakeholder comments support AMS' decision to not select this alternative, as comments indicate that at least some consumers expect organic milk be produced without the use of antibiotics (and other substances prohibited under the USDA organic regulations) and expect organic management of all animals on organic operations.

*Alternative B—Prohibit All Transitions*

A second alternative AMS considered was to remove any allowance for dairy operations to transition animals to organic production, including new and nonorganic dairies seeking to convert to organic production. Under this option, all dairy animals would need to be managed organically from the last third of gestation for milk and dairy products to be sold, labeled, or represented as organic.

The costs of this alternative are threefold. First, producers would bear the increased annual costs of \$1,462,500 described in Table 4 and under the one-time transition scenario where 50 percent of heifers are transitioning. Because conventional organic dairy farms transitioning to organic would also need to purchase heifers and milking cows approximately equal to the size of their current operations, AMS believes that the price increase for organic heifers may significantly exceed a 50 percent price increase.

Second, this alternative would limit the ability of the industry to expand to meet growing demand and thereby create price instability within the market. In periods of stable demand, firm entry into the organic market is modest, reflecting factors such as population and income growth. In these stable periods under current rules, the cost of producing organic milk for established producers reflects both the higher cost of production in terms of feed costs, land requirements, and animal husbandry practices, and the higher cost of replacement heifers. In periods of industry growth (*i.e.*, high

<sup>34</sup> George, Akerlof. (1970) The Market for Lemons: Quality Uncertainty and the Market Mechanism. In: The Quarterly Journal of Economics.

<sup>35</sup> Such information asymmetries create a “lemons problem” where buyers assume that only the lowest quality heifers would be sold by dairy farms while the best are retained for internal on farm use. Dairies, in turn, sell only their lower quality heifers because the sales price is too low to justify bringing higher quality animals to market.

demand), entrants to this industry bear those costs as well, but also face the significant additional costs of converting land for organic feed and pasture over a 3-year period. Under this alternative, in periods of industry growth (*i.e.*, high demand) new entrants to the industry would face the additional cost of acquiring organic heifers and milking cows under periods of tight supply and this alternative could lengthen the time required for new entrants to begin production. While a subset of organic dairies would see higher returns on sales of heifers, incumbent farms seeking to grow would see higher costs of expanding herds through heifer purchases and the additional time required to certify additional land under the organic program. While some incumbent producers may benefit under this alternative in the short-term, the added costs to entry and expansion would likely foster price volatility for organic heifers and wholesale organic milk, as the supply has a limited ability to expand in response to demand fluctuations.

Organic heifers are an input to wholesale organic milk production, and wholesale milk is an input to retail organic milk products such as organic cheese, yogurt, butter, and retail-level milk. Bringing organic milk products to market requires complementary investments in retail marketing outlets and brand development. Bernanke (1983), Caballero and Pindyck (1996), and Carruth et al. (2000) find that increasing input price volatility reduces investment since the value of the option to delay the investment rises with increased uncertainty about the investment's return.<sup>36 37 38</sup> Such volatility could limit long-term growth in organic milk demand if downstream milk processors (for cheese and other milk products) and retailers require an organic milk supply with stable prices to allow for planning of other investments such as equipment, brand promotion, and retail promotion, which in some cases constitutes building retail stores focused solely on the sale of organic products.

This alternative would simplify enforcement of the requirements by applying a single standard, without

exceptions, to all organic dairy operations. It would also align the requirements for dairy animals with the requirements for organic slaughter stock. AMS does not believe this option is necessary for several reasons.

First, AMS believes that certifiers will be able to enforce a rule that allows for a limited and well-defined transition. Second, AMS believes that allowing one-time transitions for organic dairy operations maintains market stability while simultaneously preserving the value of the organic label. Third, AMS notes that other aspects of the USDA organic regulations slow entry into this market and believes that eliminating its historic allowance of dairy animal transitions would unfairly burden downstream organic processors and retailers who have invested in the industry based on the expectation of the continuation of regulations that ensure a stable and responsive market supply. Most comments objected to the presence of different requirements across the industry, depending on how a certifying agent interprets the regulations. Most commenters supported a one-time allowance.

#### Conclusions

AMS is proposing a regulatory option that retains the opportunity for new operations to transition into organic dairy production once. We are reopening the comment period to solicit views on whether the final rule should prohibit certified organic dairy operations from acquiring transitioned animals to expand or replace animals to produce organic milk. We are also seeking comment on whether AMS should use the term "operation" to describe the regulated entity, rather than "producer."

A clear and consistent standard for transition of dairy animals into organic production is needed and anticipated by dairy producers, consumers, trade associations, certifying agents, and USDA's OIG. AMS seeks to provide a foundation for compliance and enforcement in support of fair competition among dairy operations through a well-defined and consistently implemented standard.

#### Regulatory Flexibility Analysis

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601–612) requires agencies to consider the economic impact of each rule on small entities and evaluate alternatives that would accomplish the objectives of the rule without unduly burdening small entities or erecting barriers that would restrict their ability to compete in the market. The purpose is to fit regulatory actions to the scale of

businesses subject to the action. Pursuant to the requirements set forth in RFA, AMS performed an economic impact analysis on small entities. Small entities include producers and agricultural service firms, such as handlers and accredited certifying agents. AMS has determined that the proposed action would impact small entities but that it would not have a significant economic impact on them.

RFA permits agencies to prepare the regulatory flexibility analysis in conjunction with other analyses required by law, such as RIA. AMS notes that several requirements of the regulatory flexibility analysis overlap with those of RIA. For example, RFA requires a description of the reasons why the action by the agency is being considered and an analysis of the proposed rule's costs to small entities. RIA likewise describes the need for the proposed rule, the alternatives considered, and the potential costs and benefits of the proposed rule. In order to avoid duplication, we combine some analyses as allowed in § 605(b) of RFA. As explained below, AMS expects that the entities that could be impacted by the proposed rule would qualify as small businesses. In RIA, the discussion of alternatives and the potential costs and benefits pertains to impacts upon all entities, including small entities. Therefore, the scope of those discussions in RIA is applicable to regulatory flexibility analysis under RFA. RIA should be referred to for more detail.

#### Potentially Affected Small Entities

AMS has considered the economic impact of the proposed action on small entities. Small entities include producers transitioning into organic dairy production, existing organic dairy producers, producers that raise replacement animals for organic dairies, and certifying agents. AMS believes that the cost of implementing the proposed rule will fall primarily on organic dairies that currently purchase transitioned heifers, although any organic dairies that purchase organic heifers would be expected to pay higher prices in the short-term due to increased competition for these animals. Farms that sell their excess organic replacement heifers may see an increase in demand for their heifers, and farms that raise their own organic replacement heifers would not likely be affected by the proposal. AMS believes heifer development operations also could be impacted by this action. However, limited information on the number and size of heifer development operations prevents our estimation of the number

<sup>36</sup> Bernanke, Ben S. (1983) "Irreversibility, Uncertainty and Cyclical Investment", *Quarterly Journal of Economics* (98) 85–106.

<sup>37</sup> Caballero, Ricardo J. and Pindyck, Robert S. "Uncertainty, Investment, and Industry Evolution" *International Economic Review* (1996)37:641–663.

<sup>38</sup> Carruth, A., Dickerson, A., and Henley, A. (2000) "What do We Know About Investment Under Uncertainty?" *Journal of Economic Surveys* (14): 119–154.

of such entities and any increased costs for those entities.

The Small Business Administration (SBA) defines small agricultural service firms, which include certifying agents, as those having annual receipts of less than \$8,000,000 (13 CFR 121.201). There are currently 78 USDA-accredited certifying agents; based on a query of NOP certified organic operations database, there are approximately 47 certifying agents who are currently involved in the certification of organic dairies. Of those 47 certifiers, 14 are State governments, 2 are county governments, and 1 is a large State university. AMS believes that none of these 17 public entities would meet SBA criterion for small agricultural service firms, but that the 29 other private certifying agents would. While certifying agents are small entities that would be affected by the proposed rule, we do not expect that these certifying agents would incur significant costs as a result of this action. Certifying agents already must comply with the current regulations, *e.g.*, maintaining certification records for organic dairy operations.

For the regulatory flexibility analysis, AMS focused on estimating how different size organic dairy operations (small versus large) would be impacted as a result of purchasing all organic dairy replacement animals. As defined

by SBA (13 CFR 121.201), small agricultural producers are those having annual receipts of less than \$1,000,000. AMS used this SBA criterion to identify large organic dairy operations, those with cash receipts of more than \$1,000,000, and small operations, those with cash receipts of \$1,000,000 or less.

Data on the exact shares of organic dairy farms that have sales above and below \$1,000,000 are not available. However, ARMS data indicates that the average sales revenue of dairy farms from sales of organic milk and animals is \$2,855 per milked cow, a figure that indicates that revenues exceed \$1,000,000 for farms with more than 350 head.

Within the 2016 ARMS data, 90 percent of dairy farms (300 of the 332) had fewer than 200 milking animals. Lacking more detailed information, we assume that 92 percent of all organic dairy farms (or 2,354 of 2,559) qualify as small businesses under the SBA standard. We also assume that these farms purchase replacement heifers in the same pattern as the average farm with 200 or fewer head. In this case, small organic dairy farms purchase 0.7 replacement heifers on average, with the 11.3 percent of small farms that purchase replacement heifers buying 6.6 head on average. In contrast, large organic dairy farms purchase 0.8 replacement heifers on average, with the

6.8 percent of large farms that purchase replacement heifers buying 12.3 head on average.

For this cost analysis, we assumed that the difference in cost between transitioned replacement heifers and organic (from last third of gestation) replacement heifers is currently \$1,000 per head, that half of organic replacement heifers currently purchased are transitioned, and that the increased demand for organic replacement heifers raises their price by \$500. Based on our analysis, AMS estimates that, under the proposed rule, small operations would collectively spend an additional \$1,312,317 to \$1,749,756 for heifers. Large operations would collectively pay an additional \$128,649 to \$171,532 for heifers. Of the operations that purchase heifers, the average additional cost per operation in the 50 percent price increase scenario would be \$4,926 to \$6,569 for small operations and \$9,247 to \$12,330 for large operations.<sup>39</sup> AMS notes that this analysis assumed that there is no difference in the cost per head paid by large and small operations for purchases of replacement heifers and that these costs estimates do not include transfers.<sup>40</sup> Table 7 summarizes the cost analysis using SBA criterion for small businesses (*i.e.*, producers with less than \$1,000,000 in cash receipts).

TABLE 7—COST OF ORGANIC REPLACEMENT HEIFERS BY SBA CRITERION FOR SMALL BUSINESSES

	Small operations (<\$1,000,000)	Large operations (> = \$1,000,000)
Total cost (all operations) .....	\$1,312,317–\$1,749,756	\$128,649–\$171,532
Per operation purchasing replacement heifers (25% to 50% transitioned replacements)	\$4,926–\$6,569	\$9,247–\$12,330

To understand the potential costs in context, we used the higher average cost estimate per operation from Table 7 for the purchase of organic replacement heifers (*i.e.*, \$6,569 for small; \$12,330 for large) and compared it to the average gross cash farm income for farms with 200 head or fewer and for farms with more than 200 head using a revenue estimate from ARMS data that farms earn \$2,855 per head. Of farms with 200 head or fewer and \$158,003 in sales on average, the 11.3 percent of farms purchasing replacement heifers will have their costs increase 4.2 percent on average. Of large farms with more than 200 head and \$1,683,366 in revenue, the 12.33 percent purchasing replacement

heifers will see costs increase by 0.7 percent.

It is important to note that these cost figures do not include the potential offsetting effect of transfers, or increased revenue from replacement heifer sales as organic replacement heifer prices increase. This revenue is recorded as a transfer in the benefit-cost analysis.

If implemented, the proposed rule would, as discussed in the benefits portion of RIA, ensure that consumer expectations are met and support the market for these organic products. AMS believes that the long-term economic impact on producers of not implementing the proposal would be greater than the economic impact of a

rule due to the need for greater consistency in applying the origin of livestock standard across the organic dairy sector.

AMS has not identified any relevant Federal rules that are currently in effect that duplicate, overlap, or conflict with the proposed rule. The proposed action would provide additional clarity on the origin of livestock requirements that are specific and limited to the USDA organic regulations.

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transitioning scenarios) roughly equal the Table 4 estimates of costs net of transfers (\$1,463 million and \$1,950 million). Discrepancies are attributed to rounding errors.

<sup>39</sup> Small operations making purchases buy 6.57 heifers and will pay \$1,000 more for half those animals and \$2,000 on the others. Large operations making purchases buy 12.33 heifers and will also

pay \$1,000 more for half those animals and \$2,000 on the others.

<sup>40</sup> As with the Table 5 costs breakout by operation size, total costs in Table 7 (\$1,440 million and \$1,921 million under the 25 and 50 percent