

SECTION: PEOPLE

# VITAL CAPITAL INDEX FOR DAIRY AGRICULTURE, VERSION 3.0 (DRAFT BETA 3 FOR PEER REVIEW)

---

July 18, 2015

Andrew Whitman

[awhitman@manomet.org](mailto:awhitman@manomet.org)

Manomet, 14 Maine Street, Suite 410, Brunswick ME 04011

This is a confidential draft document for field testing purposes only and should not be shared with anyone outside of Manomet, Agri-Mark, or the review process.

**TABLE OF CONTENTS**

- INTRODUCTION AND PURPOSE ..... 5
  - BACKGROUND ..... 5
  - DESCRIPTION OF MODULES 1, 2, 3, AND 4 ..... 7
- PROSPERITY ..... 9
  - TOPIC #1 - BUSINESS OVERSIGHT AND STRATEGY ..... 9
    - 1.1 AWARENESS INDICATOR ..... 9
    - 1.2 PRACTICE INDICATORS ..... 9
    - 1.3 PERFORMANCE INDICATORS ..... 14
    - 1.4 SUSTAINABILITY INDICATOR ..... 14
  - TOPIC #2 - FARM MANAGEMENT ..... 15
    - 2.1 AWARENESS INDICATOR ..... 15
    - 2.2 PRACTICE INDICATORS ..... 15
    - 2.3 PERFORMANCE INDICATORS ..... 16
    - 2.4 SUSTAINABILITY INDICATORS ..... 18
  - TOPIC #3 - REVIEW OF FARM OPERATIONS ..... 20
    - 3.1 AWARENESS INDICATOR ..... 20
    - 3.2 PRACTICE INDICATORS ..... 20
    - 3.3 PERFORMANCE INDICATORS ..... 21
    - 3.4 SUSTAINABILITY INDICATORS ..... 23
- PEOPLE ..... 24
  - TOPIC #4 - FARM FAMILY WELL-BEING ..... 24
    - 4.1: AWARENESS INDICATOR ..... 24
    - 4.2: PRACTICE INDICATORS ..... 24
    - 4.3 PERFORMANCE INDICATORS ..... 25
    - 4.4 SUSTAINABILITY INDICATOR ..... 26
  - TOPIC #5 – CONSUMER WELL-BEING ..... 28
    - 5.1 AWARENESS INDICATOR ..... 28
    - 5.2 PRACTICE INDICATORS ..... 28
    - 5.3 PERFORMANCE INDICATORS ..... 30
    - 5.4 SUSTAINABILITY INDICATORS ..... 31

TOPIC #6 – EMPLOYEE WELL-BEING .....	32
6.1. AWARENESS INDICATOR .....	32
6.2 PRACTICE INDICATORS.....	32
6.3 PERFORMANCE INDICATORS .....	34
6.4 SUSTAINABILITY INDICATORS.....	36
TOPIC #7 - LOCAL COMMUNITY WELL-BEING.....	38
7.1 AWARENESS INDICATOR.....	38
7.2 PRACTICE INDICATORS.....	38
7.3 PERFORMANCE INDICATORS .....	40
7.4 SUSTAINABILITY INDICATOR.....	41
PLANET .....	42
TOPIC #8 - ANIMAL CARE AND WELL-BEING.....	42
8.1 AWARENESS INDICATOR.....	42
8.2 PRACTICE INDICATORS.....	42
8.3 PERFORMANCE INDICATORS .....	45
8.4 SUSTAINABILITY INDICATOR.....	46
TOPICS #9 - LAND STEWARDSHIP.....	47
9.1 AWARENESS INDICATOR.....	47
9.2 PRACTICE INDICATORS.....	47
9.3: PERFORMANCE INDICATORS .....	51
9.4 SUSTAINABILITY INDICATORS.....	52
TOPIC #10. ECOSYSTEM CONSERVATION .....	54
10.1 AWARENESS INDICATORS.....	54
10.2 PRACTICE INDICATORS.....	54
10.3: PERFORMANCE INDICATORS.....	55
10.4 SUSTAINABILITY INDICATORS .....	57
TOPIC #11 - ENERGY, WASTE, AND GREENHOUSE GAS EMISSIONS .....	58
11.1 AWARENESS INDICATOR .....	58
11.2 PRACTICE INDICATORS .....	58
11.3 PERFORMANCE INDICATORS .....	61
11.4 SUSTAINABILITY INDICATORS .....	62
TOPIC #12 – WATER .....	64
12.1 AWARENESS INDICATOR .....	64

12.2 PRACTICE INDICATORS .....	64
12.3 PERFORMANCE INDICATORS .....	66
12.4 SUSTAINABILITY INDICATORS .....	66
REFERENCES .....	68

CONFIDENTIAL

## INTRODUCTION AND PURPOSE

Manomet, in collaboration with Agri-Mark/Cabot Creamery Cooperative (Agri-Mark), conceived of the **Vital Capital Index for Dairy Agriculture** (VCI) as a tool to help dairy farmers assess, benchmark, and manage the sustainability performance of their farms. Equally important, the VCI provides results that dairy farmers can use to communicate efforts of continuous improvement with a variety of stakeholders. The VCI is composed of practical, field-tested, science-based indicators developed to address a wide range of sustainability topics. This document is a beta version of VCI 3.0 that is currently under review by selected dairy farmers from the northeastern U.S. Two prior versions of the VCI have been developed and field tested.

Vital Capital refers to the five key capitals that are essential for human well-being and sustainability:

- *Natural Capital* is any stock or flow of energy and material that produces goods and services and is synonymous with ecosystem services (e.g., resources, processes).
- *Human Capital* consists of people's health, knowledge, skills and motivation which are vital to productive work.
- *Social Capital* consists of the institutions that help us maintain and develop human capital
- *Built or Manufactured Capital* is composed of material goods or fixed assets which contribute to infrastructure and the production process.
- *Financial Capital* is the money which plays a key role in our economy, enabling the other capitals to be owned and traded.

---

## BACKGROUND

In 2013, Manomet, in partnership with Agri-Mark, launched version 3.0 of the online Vital Capital Index (VCI) to aid dairy farmers with benchmarking their sustainability and managing twelve key topics of stewardship (Table 1). With support from the Innovation Center for Dairy Agriculture, Manomet developed a beta VCI through discussions with dairy farmers and by reviewing dozens of leading farm sustainability frameworks, and then synthesizing those findings with review from industry experts. Version 3.0 is a confidential tool that begins with 12 questions of “Awareness” on key sustainability topics, and then will drill deeper on a topic-by-topic basis into three additional modules. The VCI’s four modules together are identified as M.A.P.P.S. – for the *Manomet Awareness, Practice, Performance and Sustainability* process. [Please note: VCI Module 1, the Awareness level, is “live”; the other sections are currently in development]. The VCI uses a go-at-your-own-pace approach, including the ability to easily enter and exit the tool. Ultimately, the VCI provides a snapshot of a farm’s sustainability story as well as a roadmap for a farm’s stewardship opportunities. The VCI takes a triple-bottom-line approach by covering economic, social and environmental components of sustainability. It takes dairy farmers about 15 minutes to complete Module 1 of the VCI. This document contains draft indicators for modules 2, 3, and 4 for review. A draft of the complete VCI has already been reviewed in the field on four pilot farms.

Pressing environmental and social issues related to dairy agriculture are occupying more and more of dairy farmers' time. The VCI was designed to help dairy farmers tackle these challenges by addressing a dozen core sustainability topics ranging from farm management to food safety to water stewardship. Farmers can use it as a benchmarking tool to track their continuous improvement. The results can help farmers communicate their sustainability story to supply chains and neighbors alike. Most importantly it allows farmers to be comprehensive and develop sensible strategies for tackling these challenges while enhancing the viability and stewardship of their operations.

**Table 1. The triple bottom lines and twelve sustainability topics in the Vital Capital Index for Dairy Agriculture, beta v.3.0.**

Triple Bottom Lines	Related Twelve Topics
<b>Prosperity</b>	Business Oversight and Strategy
	Farm Management
	Review of Farm Operations
<b>People</b>	Farm Family Well-being
	Consumer Well-being
	Employee Well-being
	Local Community Well-being
<b>Planet</b>	Animal Care and Well-being
	Land Stewardship
	Ecosystem Conservation
	Energy, Waste, and Greenhouse Gas Emissions
	Water

---

## DESCRIPTION OF MODULES 1, 2, 3, AND 4

The VCI has four modules that provide the platform upon which farmers can take a business-based approach to sustainability (Figure 1). The underlying indicators were field-tested and are practical and science-based.

### MODULE 1: AWARENESS

A farmer can use Module 1 to identify their awareness and engagement on key sustainability topics. In Module 1, each indicator question has four possible responses. The user selects the one response that best describes the degree with which a key sustainability practice has been applied on their farm. The four possible responses are scored between 0 and 0.8 points per topic, with a total maximum of 10 points across the entire module (including 0.4 points for participating). A higher score indicates that a user has a high level of awareness of these key farm sustainability topics.

### MODULE 2: PRACTICE

Module 2 is composed of indicators to identify the various sustainability practices a dairy farmer might apply to their farm. Each indicator is a question regarding use of a list of related practices. Each practice has a weighed score based on the extent to which it might improve outcomes relevant to a specific topic. For each topic in Module 2, the scores of all responses to an indicator question are summed up. Total scores for each topic can range from 0 to 10 depending on which practices have been identified. A farmer can use Module 2 to benchmark practices and self-assess which additional ones might be considered in order to enhance their operations. A high score simply indicates that a user identified many sustainability practices in place on their dairy.

### MODULE 3: PERFORMANCE

Module 3 is composed of two types of performance indicators: (1) *Key Management Indicators* which describe the performance or level of the management around a specific topic, and (2) *Key Performance Indicators* describing the performance regarding a specific topic. *Key Management Indicators* score from 0 to 10. A “0” indicates no management practices are in place with regard to the topic; a “10” indicates strong management practices are in place to manage dairy farm risks. The *Key Management Indicators* are intended to capture key, holistic synergies among practices that can enhance the sustainability of a dairy. High scores indicate that a strong system is in place for managing a specific topic.

*Key Performance Indicators* have their own units and will include benchmarks from other sources in the future. Many of the *Key Performance Indicators* are widely in use in dairy agriculture already. Although the levels of both types of indicators are directional, what is sustainable is undefined as this could vary among dairy farms. A farmer can use Module 3 to assess and track continuous improvement on their farm performance over time.

### MODULE 4: SUSTAINABILITY

Using a context-based approach<sup>1</sup>, Module 4 allows farmers to see if they are sustainable for key topics. These indicators measure farm or business performance in terms of impacts on vital capitals, relative to current

---

<sup>1</sup> McElroy and van Engelen 2012.

standards or norms (legal or broad-based social) in order to ensure stakeholder well-being<sup>2</sup>. We include context-based metrics for sub-topics wherein farmers may have obligations or responsibilities to themselves and/or other stakeholders (e.g., suppliers, employees, neighbors, consumers, et al.), typically following legal requirements and based on our interpretation of strongly prevailing social norms. For some topics, we determined that farmers do not currently have legal requirements or clear responsibilities and so did not include a context-based metric.

Figure 1: The four modules of the Vital Capital Index for Dairy Agriculture, beta v.3.0. Each of the 12 topics have indicators in each module.



<sup>2</sup> McElroy and van Engelen 2012.  
© Manomet 2015



# PEOPLE

## TOPIC #4 - FARM FAMILY WELL-BEING

Making a comfortable living, meeting basic needs, and seeing life improvement is essential for making a farm sustainable. Quality of life includes economic standard of living, as well as job satisfaction; personal health; time for family, friends, and leisure; and achieving life goals. Good planning for succession can also contribute to the well-being of your family, providing retirement for the older generation while providing a clear path forward for the next generation of farmers.

### 4.1: AWARENESS INDICATOR

For farmers, making a comfortable living is essential for making a farm sustainable. This allows farmers and their families to have a reasonable economic standard of living and provide for their families.

4.1.1 In the last five years or as long as you have owned your farm (whichever is shorter), are you able to make a comfortable living for you and your family each year (0.8 pt)?

- a. Hardly or Not at All (0 pt)
- b. Somewhat (0.2 pt)
- c. Mostly (0.5 pt)
- d. Yes (0.8 pt)

### 4.2: PRACTICE INDICATORS

Farmer and farm family well-being require a routine of practices to ensure good work/life balance and farm sustainability.

4.2.1 Business Practices and Work/Life Balance: Which of the following practices do you apply to achieve your business goals and help achieve life-work balance (8 pts)?

- a. Plan for owner's draw that provides sufficient income to meet your needs and minimize taxes (4 pt)
- b. Hire employees or contractors to compliment your strengths and weakness and achieve work/life balance (0.8 pt)
- c. Spend quality leisure time each day with yourself, spouse, family, and/or friends (0.8 pt)
- d. Take vacation to get away from the farm for at least two nights each year by yourself or with your spouse or partner, and/or family (0.8 pt)
- e. Minimize key health, safety, and lifestyle risk impacts associated with farming on you and your family (0.8 pt)
- f. Home maintenance for the house that provides a home for you and your family (0.8 pt)

4.2.2 Vacation: Which of the following practices do you apply for making vacation time away from the farm possible (1 pt)?

- a. Network of replacement for milkers (0.2 pt)
- b. Saving money (0.2 pt)
- c. Annual cycle of drying cows off (0.2 pt)
- d. Other (0.2 pt) (list): \_\_\_\_\_

e. Other (0.2 pt) (list): \_\_\_\_\_

4.2.3 Preparing the next generation: It is hard work to share your knowledge of dairy farming and help the next generation be prepared to take over the farm. However, this is an essential step for succession. Which of the following practices have you applied to make it possible for the next generation in your extended family to continue dairy farming (1 pt)?

Succession planning (0.7 pt)<sup>14</sup>

- a. Have obtained input from the next generation about succession planning and my estate (0.2 pt)
- b. Have a written successional plan and a will or legal trust (0.2 pt)
- c. Have explained succession plans and inheritance clearly to next generation (0.2 pt)
- d. Shared your social and business network with the next generation (0.1 pt)

Provided on-farm and off-farm training opportunities to the next generation on (0.3 pt):

- e. Farm business management (0.1 pt)
- f. Cropping, pasture, and forage management (0.1 pt)
- g. Milk room and herd management (0.1 pt)

---

## 4.3 PERFORMANCE INDICATORS

### KEY MANAGEMENT INDICATOR

4.3.1 Personal and Farm family well-being and health: Which of the following best described the level of management for personal and farm family well-being and health on your farm (select only one) (10 pts)?

- Risks and potential impacts to personal and family health and life are regularly reviewed. Appropriate measures to prevent and mitigate adverse impacts (e.g., personal time, safety actions, vacation, family time) to personal and family life are implemented. The farmer and his/her family also takes proactive action to improve personal and family life for the farm family (e.g., planning for family time, events and activities, attending social events) (10 pts).
- Risks and potential impacts to personal and family health and life are regularly reviewed. Appropriate measures to prevent and mitigate adverse impacts (e.g., personal time, safety actions, vacation, family time) to personal and family life are implemented (8 pts).
- Risks and potential impacts to personal and family health and life are regularly reviewed. No actual negative impacts to personal and family life are identified, but only minimum measures are implemented to prevent adverse impacts to personal and family life (6 pts).
- Neither risks nor potential impacts to personal and family health and life are regularly reviewed. Only minimum measures necessary to mitigate adverse impacts to personal and family life are implemented in times of personal and/or family crisis (2 pts).
- Neither risks nor potential impacts to personal and family health and life are regularly reviewed. No measures to mitigate adverse impacts to personal and family life are implemented in times or personal and/or family crisis (0 pt).

### KEY PERFORMANCE INDICATORS

Your sense of personal well-being can be improved through meaningful family, work, community, and spiritual life (Indicators 4.3.2 to 4.3.6).

---

<sup>14</sup> 4.3.5b is the same as Farm Indicator 3.5: Successional Transfer (Innovation Center for U.S. Dairy 2014)

- 4.3.2 Family: I am able to balance how much I work with spending meaningful time with myself, my spouse and/or family.
- a. disagree (0 pt)
  - b. you neither agree nor disagree (0.75 pt)
  - c. agree (1.5 pt)
  - d. strongly agree (2 pt)
- 4.3.3 Work Satisfaction: Dairy farming provides me with an opportunity to work towards my full potential and a work environment that I appreciate.
- a. disagree (0 pt)
  - b. you neither agree nor disagree (0.75 pt)
  - c. agree (1.5 pt)
  - d. strongly agree (2 pt)
- 4.3.4 Meaningful Work: Through dairy farming I am able to make a meaningful contribution to my family, community, and the well-being of others.
- a. disagree (0 pt)
  - b. you neither agree nor disagree (0.75 pt)
  - c. agree (2 pt)
  - d. strongly agree (2 pt)
- 4.3.5 Community Participation: I am able to meaningfully participate in my community and I like where I live.
- a. disagree (0 pt)
  - b. you neither agree nor disagree (0.75 pt)
  - c. agree (1.5 pt)
  - d. strongly agree (2 pt)
- 4.3.6 Meaningful and/or Spiritual Life: I am able to participate in meaningful or spiritual events and/or in my community and/or have adequate time for personal reflection.
- a. disagree (0 pt)
  - b. you neither agree nor disagree (0.75 pt)
  - c. agree (1.5 pt)
  - d. strongly agree (2 pt)
- 4.3.7 Preparing the next generation Score: [(Sum of points from Indicators 4.2.3) X 100]. Although this is a performance score, farmers recognize that the score will vary with the age of a farmer. Young farmers may only have a legal will or trust document and score low whereas farmers nearing retirement may have completely prepared for succession and score high.

---

#### 4.4 SUSTAINABILITY INDICATOR

Farmers have an obligation to maintain the well-being of themselves and their families. The well-being of the farm family is essential to the sustainability of the farm operations.

- 4.4.1 Farmer well-being: Your well-being is essential for living a meaningful life and being able to support and encourage your family and friends. Your well-being score is one measure of your well-being. A farm

operation is considered sustainable when the Well-being Scores are  $\geq 1$  (agree or better) for questions 4.3.1 to 4.3.5.<sup>15</sup>

CONFIDENTIAL

---

<sup>15</sup> Judge et al. 2010.  
© Manomet 2015

## TOPIC #5 – CONSUMER WELL-BEING

Milk processors, retailers, and consumers want assurance that the food they receive is safe and wholesome. To provide safe milk, dairy farmers adhere to strict food safety regulations, maintaining clean and safe facilities. This includes maintaining a safe environment, cow health, and sanitary milking.

### 5.1 AWARENESS INDICATOR

Safe, nutritious milk is one of the greatest benefits provided by dairy farmers. Farms that follow milk quality and sanitation requirements have access to premium markets, are more productive, and enhance the dairy industry's reputation. When farmer fail to do so, he or she risks undermining the reputation of the industry and his/her market for dairy products.

5.1.1 Do you currently meet or exceed state and federal requirements concerning milk quality and farm sanitation on your dairy operation (0.8 pt)?

- a. Hardly or Not at All (0 pt)
- b. Somewhat (0.2 pt)
- c. Mostly (0.5 pt)
- d. Yes (0.8 pt)

### 5.2 PRACTICE INDICATORS<sup>16</sup>

Assuring food safety at the beginning of dairy supply chain is key to the dairy farmers, the industry, and its millions of consumers. Farms that routinely apply milk quality and sanitation practices produce quality milk, providing access to premium markets and enhancing their reputation. Key considerations include employee training, cow health management and milk sanitation.

5.2.1 Food Safety and Employees: To achieve milk quality and sanitation goals, employees/family workers must understand and be trained on proper procedures. Which of the following food safety and employee BMPs do you use in supervising employees/family workers involved with handling milk (2.1 pts)?

- a. Train new employees/family workers how to implement your milk sanitation practices (e.g., milking and cleaning procedures) (1 pt)
- b. Implement regular employee/family training of proper drug use to ensure the marketing of unadulterated milk and meat and avoid costly potential contamination.
- c. Provide instructions to employees in their primary language OR I don't have employees (0.5 pt)
- d. Regularly review your food safety and milk sanitation practices with employees/family workers (0.4 pt)
- e. Store and limit employee access to all medicines, pesticides, herbicides and other potentially hazardous materials to minimize the risk of milk contamination (0.2 pt)

<sup>16</sup> 6.2.1 and 6.2.2 align with NMPF (2014) and Standards MP.v and MP.w in the Assured Food Standard (2014).

6.2.3, 6.2.4, 6.2.5 align with Dairy Farmers of Canada (2010).

5.2.2 Drug Residue Prevention: It takes a coordinated effort between you, your employees/family workers, and your veterinarian to prevent drug residues in your farm products<sup>17</sup>. Cows with drug residues in their milk must not be shipped for human use to ensure safe food. Which of the following residue prevention BMPs do you always apply (3 pts)?

- a. Establish a valid veterinary/client/patient relationship (VCPR) and regularly consult with a veterinarian to understand prohibitions and withdrawal times for drugs (0.6 pt)<sup>18</sup>
- b. Use only prescription (Rx) drugs or FDA-approved over-the-counter (OTC) drugs with veterinarian's guidance (0.6 pt)
- c. Administer all drugs properly (including withdrawal times) and identify all treated animals (1 pt)
- d. Maintain and use proper treatment records (treatment date, animal identification, dosage, route of administration, withdrawal time for milk/meat, person who administered the drug, drug used, and length of therapy) on all treated animals (0.4 pt)
- e. Use drug residue screening tests on dry-cow-treated cows that freshen early and newly purchased animals (0.4 pt)

#### COW HEALTH (2.7 PTS)

---

5.2.3 Milking procedures: Milking is a key point on a farm where a farmer can prevent milk from contamination that can enter the human food chain. Have you established and implemented standard procedures for managing the following (1.6 pt)?

- a. Preparing cows for milking, including udder care (0.2 pt)
- b. Milking cows (0.2 pt)
- c. Cows after milking, including udder after care (0.2 pt)
- d. Tracking treated lactating cows (including marking treated cows) and other measures to minimize the risk of shipping abnormal milk or milk from treated cows (0.5 pt)
- e. Milking staff are aware of relevant procedures that prevent contaminated milk from entering the milk storage tank (0.5 pt).

5.2.4 Managing Cow Health: Which of the following cow health BMPs do you apply on your farm (1.1 pt)?

- a. Consult annually with a veterinarian to clearly understand legal prohibitions and withdrawal times for drugs (including those used off label) and other animal treatments (0.8 pt)
- b. A system, such as hospital pens, to separate cattle needing special treatment (0.3 pt)

#### FACILITY AND EQUIPMENT SANITATION (2.2 PTS)

---

Good sanitation helps reduce disease, the need for antibacterial agents and the risk of contamination from chemicals and livestock medications.

5.2.5 Facility and Equipment Sanitation: Which of the following sanitation BMPs do you follow in your milking system (2 pts)?

- a. Use approved cleaning products for cleaning milking equipment and the milk room (0.5 pt)<sup>19</sup>
- b. Record and check bulk tank temperature after every milking (0.5 pt)
- c. Inspect the cleanliness of milking equipment (e.g. receiver jar and bulk tank) at least monthly (0.4 pt)
- d. Have established and implemented a standard procedure for cleaning the milking system (0.2 pt)

---

<sup>17</sup> Economou and Gousia 2015.

<sup>18</sup> Farm Indicator 1.2: Veterinary Care (Innovation Center for U.S. Dairy 2014)

<sup>19</sup> Standard MP.b (Assured Food Standard 2014)

- e. Annually test the water used for cleaning the milking system for the microorganisms (0.2 pt)
- f. Have removed all mercury thermometers and vacuum columns from the milk house (0.2 pt)
- g. The dairy and milk storage access points are kept secure when unattended (0.2 pt)<sup>20</sup>
- h. Apply vermin control to milk room, milking parlor, and feed storage to prevent contamination by mice, birds, and/or insects (0.2 pt)<sup>21</sup>

---

## 5.3 PERFORMANCE INDICATORS

### KEY MANAGEMENT INDICATOR

8.3.1 **Food safety and milk sanitation:** Which of the following best described the level of food safety and milk sanitation management on your dairy?<sup>22</sup>

- Risks and potential impacts to food safety and milk sanitation are regularly monitored including somatic cell counts. Appropriate measures to prevent and mitigate adverse impacts are implemented. The dairy also takes proactive action to improve food safety and milk sanitation (5 pt).
- Risks and potential impacts to food safety and milk sanitation are regularly monitored including somatic cell counts. Appropriate measures to prevent and mitigate adverse impacts are implemented (4 pts).
- Risks and potential impacts to food safety and milk sanitation are regularly monitored including somatic cell counts. No actual damage is identified, but only minimum measures necessary to prevent adverse impacts to food safety and milk sanitation are implemented (3 pts).
- Neither risks nor potential impacts to food safety and milk sanitation are regularly monitored. Somatic cell counts are periodically monitored. Only minimum measures necessary to mitigate adverse impacts to food safety and milk sanitation are implemented in response to actual damage (1 pt).
- Neither risks nor potential impacts to food safety and milk sanitation are regularly monitored. There is not enough time to review somatic cell counts. No measures to mitigate adverse impacts to food safety and milk sanitation are implemented (0 pt).

### KEY PERFORMANCE INDICATORS

8.3.2 **Food production:** One of the greatest benefit to society of most dairy farmers is the milk produced as a food for human consumption. Dairy products have a high nutrient density and contain elements vital to human nutrition. A simple measure of this is annual milk production and annual milk production per cow. Annual milk production per cow provides a measure of milk production efficiency.

**a. Annual Milk Production:** Annual Milk Production is the total milk produced (CWT).<sup>23</sup>

**b. Average Annual Milk Production per Cow:** Annual Milk production per cow (CWT/cow) is the total milk produced (CWT) divided by the average number of lactating cows in the herd.

8.3.3 **Milk Sanitation:** Milk sanitation is essential for ensuring that the human food chain is safe and for milk to contribute to human nutrition. Poor milk sanitation undermines the farmer's ability to sell milk and generate revenue, the reputation of milk as a safe food product, and the reputation of the dairy industry as good stewards of consumer safety. While sanitation inspections and milk testing may seem onerous, they help ensure markets for your milk and the reputation of the dairy industry and milk as a safe and healthy food.

---

<sup>20</sup> Standard MP.e, MP.i, MP.i1, MP.l, MP.n, MP.o (Assured Food Standard 2014)

<sup>21</sup> Standards VC.a Key and VC.a1 (assure, d Food Standards 2014)

<sup>22</sup> Based in part on the NMPF (2014), Dairy Stewardship Alliance (2005), and Fontes et al. (2014)

<sup>23</sup> Utz Indicator I.A.3 (yields)



**a. Passing Sanitation Inspections:** Percent of state inspections passed in the last five years due to major violations. Auto-populated by co-op.

**b. Milk Quality:** Percent of loads of milk accepted in the last 12 months. Auto-populated by co-op.

8.3.4 **Safe Dairy Products:** All food products can pose risk to human health. If you are conducting direct sales of dairy products, you should communicate their safe use, including required labels for sale of raw milk products.

**a. Safe Dairy Products:** If you are conducting direct sales of dairy products, do you communicating safe use of your products (Yes/No)?

---

## 5.4 SUSTAINABILITY INDICATORS

Dairy farmers are obligated to provide sanitary and safe milk to their customer and consumers.

5.4.1 **Milk Sanitation:** Milk sanitation is essential for ensuring that the human food chain is safe and for milk to contribute to human nutrition. Poor milk sanitation undermines the farmer's ability to sell milk and generate revenue, the reputation of milk as a safe food product, and the reputation of the dairy industry as good stewards of consumer safety. While sanitation inspections and milk testing may seem onerous, they help ensure markets for your milk and the reputation of the dairy industry and milk as a safe and healthy food.

**a. Passing Sanitation Inspections:** Percent of state inspections passed in last five years due to major violations (if <100% **AND** corrective action not taken then not sustainable). Auto-populated by co-op.

**b. Milk Quality:** Percent of loads of milk accepted in the last 12 months (if <100% **AND** corrective action(s) not undertaken then not sustainable). Auto-populated by co-op.

5.4.2 **Safe Dairy Products:** All food products can pose risk to human health. If you are conducting direct sales of dairy products, you should communicate their safe use, including required labels for sale of dairy products.

**a. Safe Dairy Products:** If you are conducting direct sales of dairy products, do you communicate safe use of your products ("d" is considered sustainable) (10 pts)?

- I never conduct direct sales of dairy products (skip this section).
  - a. Never (0 pt)
  - b. Less than mostly (2 pt)
  - c. Mostly (8 pt)
  - d. Always (10 pt)



Employee and worker supervision is a key contributor to farm profitability<sup>24</sup>. Workers can cost one-fifth of a worker's salary to replace<sup>25</sup>. Quality leadership can help create a safe workplace and reduced injuries and may offer a competitive advantage<sup>26</sup>. Engaged employees care about their jobs, work more efficiently, improve productivity and make fewer mistakes<sup>27</sup>. This can improve profitability at the dairy.

### 6.1. AWARENESS INDICATOR

Productive employees/family workers are key to any business. It is important to discuss and learn about safe practices to foster a culture of safety. Accident prevention also saves farmers time and money.

6.1.1 Do you, employee(s), and/or a consultant review work safety and/or safety training with farm workers on about a monthly basis (0.8 pt)?

- a. Hardly or Not at All (0 pt)
- b. Somewhat (0.2 pt)
- c. Mostly (0.5 pt)
- d. Yes (0.8 pt)

### 6.2 PRACTICE INDICATORS

Key practices for supervising employees include having good organization, and addressing employee relations, working conditions, and compensation and benefits<sup>28</sup>.

#### EMPLOYEE MANAGEMENT (3 PTS)

6.2.1. Farm Organization: Good organization can create a well-defined workplace wherein employees and family workers understand their responsibilities and performance. This contributes to their satisfaction, engagement, and productivity. Which of the following information do you keep regarding employees and their supervision (1 pt)?

- a. Only me and 1 family members run my farm (skip this question)(1 pt)
- OR**
- b. An organizational chart that identifies who oversees each employees/family worker (0.17 pt)
  - c. A list of employees/family workers and their job titles (0.15 pt)
  - d. A list of key job titles and 1 to 5 key skills and responsibilities (0.17 pt)
  - e. Description of compensation and benefits package for each job title (0.17 pt)
  - f. A performance review system that is understood by employees (0.17 pt)

<sup>24</sup> Oliver and Erickson 2008

<sup>25</sup> Development Dimensions International (2015) and Center for American Progress (2015).

<sup>26</sup> Hagevoort et al. 2013.

<sup>27</sup> Society for Human Resource Management 2012.

<sup>28</sup> Rosenberg et al. 2002.

- g. A Code of Conduct (a document that establishes behavioral expectations for the organization and employees) (0.17 pt)

6.2.2. Employee relations: A good supervisor shows strong leadership, holds positive standards, and is personally interested in his/her employees. Recognition and achievement are also key factors for employees/family worker satisfaction, lower accident rates, greater productivity, and lower turnover. Which of the following employee relations BMPs are applied on your farm (2 pts)<sup>29</sup>?

- a. Communicate management goals, objectives, decisions, and work assignments to employees/family workers (0.4 pts)
- b. Coach and develop employees/family workers to maximize their potential (0.3 pts)
- c. Provide constructive feedback to employees/family workers and encourage their feedback (0.3 pts)
- d. Build relationships with employees/family workers (0.2 pts)
- e. Provide for employee/family worker recognition and accountability for behaviors and performance (0.3 pts)
- f. Foster skills of employees/family workers through training and/or coaching (0.2 pts)
- g. Serve as a role model to employees/family workers (0.3 pts)

---

#### WORKING CONDITIONS (4 PTS)<sup>30</sup>

Safe working conditions can help avoid down time and short-staffing due to injuries and reduce worker compensation insurance rates. Providing sanitary conditions adds to the comfort of employees/family workers. Poor working conditions can lead to employee dissatisfaction and undermine employee productivity.

6.2.3. Employees/Family Worker Safety: Creating a culture of safety can minimize injuries and help establish efficient and productive routines. Which of the following worker safety BMPs do you provide apply on your farm (2 pts)?<sup>31</sup>

- a. Post safety documentation and/or signage on equipment in the languages of workers (0.3 pt)
- b. Identify safety risks and provide safety and first aid training for yourself and employees/family workers for managing farm machinery, chemicals, electricity, animal medications, fertilizers, fuels, lubricants, fire, and waste (0.5 pt)<sup>32</sup>
- c. Provide safety equipment where necessary, including first aid supplies (0.4 pt)
- d. Review written safety documentation of safety procedures and training **AND** review and distribute to employees/family workers (0.4 pt)
- e. Maintain a list potentially dangerous/toxic chemicals and their material safety data sheet (MSDS) (0.4 pt)

6.2.4. Sanitation Facilities: Sanitation facilities contribute to employees'/family workers' comfort and health. Which of the following sanitation facilities do you provide? (1.5 pt)

- a. Bathroom (0.4 pt)
- b. Washroom with supplies (0.4 pt)
- c. Shower/bath (0.4 pt)
- d. Laundry (0.3 pt)

---

<sup>29</sup> Follows Rosenberg et al. 2002.

<sup>30</sup> Aligns with requirements in Section 8.3 Social and Human Capital in Unilever Sustainable Agriculture Code.

<sup>31</sup> Follows WWF (2015) - C. Worker's Rights Indicator 26

<sup>32</sup> Follows WWF (2015) - C. Worker's Rights Indicator 25

---

## EMPLOYEE COMPENSATION AND BENEFITS (3 PTS)

Well-compensated employees/family workers feel valued while below-average employee compensation can contribute to dissatisfaction, lower productivity, and turnover.

6.2.5. Wages: What do you typically pay employees? (1.5 pts)

- a. State-law minimum wage, no benefits (0.2 pt)
- b. At or slightly above state-law minimum wage, scheduled increases, with limited benefits (0.8 pt)
- c. Benefits package valued at >150% of state-law minimum wage and scheduled increases (1.5 pt)

6.2.6. Health care: Do you make a health care plan available to employees/family workers? (0.8 pt)

- a. No (0 pt)
- b. Yes, but with no employer contribution (0.2 pt)
- c. Yes, with employer contribution (0.8 pt)?

6.2.7. Additional benefits: What benefits do employees/family workers receive (0.7 pt)?

- a. Housing with adequate privacy (0.17 pt)
- b. Paid vacation (0.05 pt)
- c. Overtime pay (0.05 pt)
- d. 401k [or comparable retirement benefit] (0.05 pt)
- e. Daily meals (0.17 pt)
- f. Pasture for the employees' livestock (0.03 pt)
- g. Use of farm vehicles and tools (0.03 pt)
- h. Garden space (0.03 pt)
- i. On-farm-produced products (0.03 pt)
- j. Disability Coverage (0.03 pt)
- k. Life Insurance (0.03 pt)
- l. Auto allowance
- m. Travel allowance
- n. Maternity/Paternity Leave (0.03 pt)

---

## 6.3 PERFORMANCE INDICATORS

### KEY MANAGEMENT INDICATORS

6.3.1 Health and safety training: Which of the following best described the health and safety training management for family workers and employees on your farm (select one) (10 pts)?<sup>33</sup>

- a. Health and safety training is provided and duties and lines of responsibility for health and safety are defined. Family workers and/or employees are involved in the design, development and review of health and safety programs. The level of incidents is measured and reduction targets are set.
- b. Health and safety training is provided and duties and lines of responsibility for health and safety are defined. In addition, family workers and/or employees are involved in the design, development and review of health and safety programs.
- c. Health and safety training is provided and duties and lines of responsibility for health and safety are defined.
- d. No health and safety training is provided, or no duties and lines of responsibility for health and safety are defined.

---

<sup>33</sup> Based on Fontes 2014.

- e. No health and safety training is provided and no duties and lines of responsibility for health and safety are defined.

6.3.2 **Employee relations:** A good supervisor shows strong leadership, holds positive standards, and is personally interested in his/her employees. Recognition and achievement are also key factors for employees/family worker satisfaction, lower accident rates, greater productivity, and lower turnover. Which of the following best described the management of family workers and employee relations on your farm (select one) (10 pts)?

- a. Manager(s) regularly reviews goals, objectives, decisions, and work assignments with family workers and employees. They often provide constructive feedback and provide accountability for behaviors and performance to help family workers and employees to develop new skills through training or with coaching and achieve their potential.
- b. Manager(s) regularly reviews goals, objectives, decisions, and work assignments with family workers and employees. They periodically provide constructive feedback and provide accountability for behaviors and performance and to help family workers and employees to develop new skills through training or with coaching and achieve their potential.
- c. Manager(s) occasionally goals, objectives, decisions, and work assignments with family workers and employees. They sporadically provide feedback and provide accountability for behaviors and performance but rarely help family workers and employees develop new skills through training or with coaching and achieve their potential.
- d. Manager(s) rarely review goals, objectives, decisions, and work assignments with family workers and employees. On an ad hoc basis, they provide feedback and provide accountability for behaviors and performance but rarely help family workers and employees develop new skills through training or with coaching and achieve their potential.
- e. Manager(s) rarely review goals and objectives with family workers and employees or provide constructive feedback or training opportunities.

#### KEY PERFORMANCE INDICATORS:

---

6.3.3 **Employment:** Farms contribute to the economy of rural communities by providing employment and employee benefits.

**a. Number of Employees:** How many full time employees and family workers did your farm employ in the last year? How many part-time employees and family workers did your business employ in the last year?<sup>34</sup>

**b. Number of Contractors:** How many full-time equivalent contractors (people or entities who provide services not under the direct control of the dairy farm<sup>35</sup>) did your farm business hire in the last year?

**c. Farm Employee Benefits:** How many of indirect and non-monetary benefits were received by employees (tallied from 7.2.12) in the past five years?<sup>36</sup>

**d. Wage of lowest paid farm worker:** What was the wage (including non-monetary benefits) of the lowest paid farm worker (e.g., field, calf feeding, milk room) (\$/hour)?

6.3.4 **Safety:** DART (Days Away from work, job Restrictions, and/or job Transfers) rate is a measure of workplace injuries severe enough to warrant days away from work, job restrictions, and/or job transfers.

---

<sup>34</sup> Farm Indicator 2.1: Employment Opportunities (Innovation Center for U.S. Dairy 2014) and Similar to Indicator 3.3 Stakeholder group: 'local communities' - Employment, Handbook for Social Impacts Assessment (Fontes et al. 2014).

<sup>35</sup> IRS 2015

<sup>36</sup> Farm Indicator 2.2: Farm Employee Benefits (Innovation Center for U.S. Dairy 2014)

c. DART: (Total number of injuries and illnesses with Days Away From Work + total number of injuries and illnesses resulting in days with Restricted Work/ Total number of hours worked by all employees, including management, temporary, and leased workers) X 200,000

6.3.5 Employee Retention: Retaining good employees can reduce costs of employee supervision and minimize costs of employee recruitment. Employee retention is the measure of your ability to retain employee, in percentage of our total number of employees/family workers. Associate departures are considered, including both voluntary and non-voluntary departures.

d. Employee Retention Rate: What percentage of employees remained on staff in the last year?<sup>37</sup>

6.3.6 Employee Training: On the job training helps employees/family workers develop job skills and builds up personal knowledge in local communities. Safety training is time spent teaching employees practices and procedures are intended to reduce risk of personal injury.

a. Job Training: How many hours a year are spent training you, family workers, or employees on your farm for new tasks or technologies (e.g., use of new equipment, techniques, practices, skills)?<sup>38</sup>

b. Safety Training: What percent of family workers or employees (including yourself) on your farm have participated in health and safety training programs in the last year?<sup>39</sup>

---

## 6.4 SUSTAINABILITY INDICATORS

6.4.1 Good wage: A good wage is one that is sufficient to support an employee and his/her family and avoid the need for government subsidies to support your employees.

a. **Good wage**: Does your wages (including indirect, non-monetary benefits) for your lowest paid farm worker (e.g., field work, calf feedings, milk room) meet or exceed a good wage levels for your state?<sup>40</sup> Use either the MIT Livable Wage Calculator<sup>41</sup> or 150% of state minimum wage to determine the threshold for a good wage. You should make sure that you include indirect, non-monetary benefits in your calculation.

6.4.2 Employee safety: Safety is essential in order to maintain a skilled labor force. A three year running average DART should be less than or equal to 1 indicating that safety is constant or improving and that workman's compensation insurance costs are not increasing rapidly.

---

<sup>37</sup> Similar to Farm Indicator 2.3: Employee Turnover (Innovation Center for U.S. Dairy 2014) and to Indicator 3.1 Workers – Job satisfaction and engagement (turnover rate), Handbook for Social Impacts Assessment (Fontes et al. 2014).

Formula used: [(Number of associates at the beginning of the reporting period + External Hires during the reporting period) – total departures] / [Number of associates at the beginning of the reporting period + External Hires during the reporting period] x 100

To calculate the employee retention rate, start with the total number of employees on staff at the end of a period -- monthly, quarterly or annually. For example, if you have 200 employees at the end of a quarter, and 25 of those employees left the business during the same quarter, subtract 25 from 200. Divide the result by the total number of employees, and multiply the answer by 100 to get the retention rate. In the example, the employee retention rate is 87.5 percent.

<sup>38</sup> Same as Indicator 3.1 Workers – Training and education, Fontes et al. 2014.

<sup>39</sup> Part of Farm Indicator 2.4: Employee Safety Training (Innovation Center for U.S. Dairy 2014) and is similar to Indicator 3.1 Workers - Health and safety Indicator and Workers – Training and Education, Handbook for Social Impacts Assessment (Fontes et al. 2014). 2 All workers are trained periodically/annually, 1 >75% workers are trained occasionally, 0 Between 50% and 75% of workers are trained occasionally, -1 <50% of workers are trained occasionally, -2 Workers do not receive training

<sup>40</sup> Similar to Indicator 3.1 Workers – Wages (Living Wage), Fontes et al. 2014.

<sup>41</sup>

[http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CB8QFjAA&url=http%3A%2F%2Flivingwage.mit.edu%2F&ei=6GCFVYS1FYHb-QGq1\\_4Ag&usq=AFQjCNFY6XqEYTzSvBOXJ5br6sifJt\\_tqw&bvm=bv.96952980,d.cWw](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CB8QFjAA&url=http%3A%2F%2Flivingwage.mit.edu%2F&ei=6GCFVYS1FYHb-QGq1_4Ag&usq=AFQjCNFY6XqEYTzSvBOXJ5br6sifJt_tqw&bvm=bv.96952980,d.cWw)

a. **DART Average:** (current year DART) / (3 year average DART)<sup>42</sup>

6.4.3. Legal obligations: Complying with legal obligation toward employees is required in order to do the right thing and avoid the burden of fines and law suits.

**a. Compliance with labor laws:** When a farm has had no regulatory actions in the last year OR is compliant with corrective action plans then the dairy is considered sustainable. Which of the following best describes the compliance of your dairy farm with local, state, and federal regulations concerning regarding child labor, involuntary labor, discrimination, and wages/compensation<sup>43</sup> ("b" or better is sustainable)(10 pts)?

- a. Mostly doesn't not meet regulatory compliance
- b. Mostly compliant with OR mostly compliant and undergoing corrective action response (1 pt)
- c. Always compliant with OR currently compliant with and have fulfilled corrective action plans for compliance failures (5 pts)
- d. Always compliant with and Mostly Exceed (7 pts)
- e. Always compliant with and Far Exceed (10 pts)

CONFIDENTIAL

---

<sup>42</sup> Farm Indicator 2.5: Days of Restricted Work Activity or Job Transfer (Innovation Center for U.S. Dairy 2014). National Council on Compensation Insurance: score >1 means paying higher premiums, =<1 paying less than average premiums and is sustainable.

<sup>43</sup> Follows WWF (2015) - C. Worker's Rights Indicators 22, 23, and 28.



## TOPIC #7 - LOCAL COMMUNITY WELL-BEING

Having good relationships with neighbors and your local community can foster community support for your farm<sup>44</sup>. Local support for agriculture can be enhanced through community outreach and when an operation visually reminds a community of its agricultural heritage. Managing your safety risks can help you maintain your reputation and avoid farm-related injuries and costly lawsuits.

### 7.1 AWARENESS INDICATOR

7.1.1 Do you educate the public about agriculture (for example, provide field tours, talk to neighbors, etc.) or volunteer in your local community (for example, with charitable organizations or in an elected position, etc.) each year (0.8 pt)?

- a. Hardly or Not at All (0 pt)
- b. Somewhat (0.2 pt)
- c. Mostly (0.5 pt)
- d. Yes (0.8 pt)

### 7.2 PRACTICE INDICATORS<sup>45</sup>

7.2.1. Education and Outreach: Education and outreach can help promote dairy agriculture in your local community and connect people, especially children, to how their food is produced. Which of the following types of community outreach did you participate in in the last calendar year (check all that apply, if “Other”, list)?(2 pts)

- a. None (0 pt)
- b. Volunteering with agricultural conservation organizations (e.g., 4-H, Grange, co-ops) (0.3 pt)
- c. Volunteering for positions in local government (e.g., planning commissions) (0.3 pt)
- d. Provide educational farm tours (0.35 pt)
- e. Direct market agricultural products locally (0.25 pt)
- f. Permit at least some kinds of recreational access (0.25 pt)
- g. Routinely talk to neighbors about your farm (0.25 pt)
- h. Donate money or materials to local charities or non-profit organizations (0.2 pt)<sup>46</sup>
- i. Other: \_\_\_\_\_ (0.1 pt)

7.2.2. Promotion of Agricultural Heritage: Maintaining the appearance of your farm operations can make farming visually attractive and remind local communities of their agricultural heritage and identity. Did you add to the scenic appeal of your farm by employing any of the following practices in the last calendar year (check all that apply, if “Other” list)?(2 pts)

- a. None (0 pt)
- b. Maintain farm buildings >60 years old that are visual reminders of local agricultural heritage (0.2 pt)
- c. Cropping in visible areas (0.2 pt)

<sup>44</sup> Hadley et al. 2002.

<sup>45</sup> 8.2.1, 8.2.2, and 8.2.3 follow Indicator 3.3 Stakeholder group: ‘local communities’ - Community engagement, Handbook for Social Impacts Assessment (Fontes et al. 2014).

<sup>46</sup> Austin Green Business Leaders Program (2015)

- d. Visible farm sign (0.2 pt)
- e. Mowing roadsides (0.2 pt)
- f. Landscaped farm entrance (0.2 pt)
- g. Trash removal (0.2 pt)
- h. Newly sided or painted building (visible from road) in the last 10 years (0.2 pt)
- i. Pasturing along roadsides (0.2 pt)
- j. Other: \_\_\_\_\_ (0.2 pt)
- k. Other: \_\_\_\_\_ (0.2 pt)

7.2.3. Neighborliness: Maintaining good relations with neighbors can help avoid problematic conflicts, educate neighbors, and cultivate local supporters for your farm and dairy agriculture. What practices and strategies do you employ to encourage good relations with neighbors (check all that apply, if “Other”, list) (2 pts)?<sup>47</sup>

- a. None (0 pt)
- b. Practices to reduce the odors associated with manure spreading (0.3 pt)
- c. Practices to minimize the effect of fly populations (0.3 pt)
- d. Notify abutting neighbors when moving/applying manure (0.4 pt)
- f. Provide your abutting neighbor with your contact information and get their contact information (0.5 pt)<sup>48</sup>
- g. Provide small amounts of manure to your abutting neighbors (0.1 pt)
- h. Locate new farm buildings away from property lines (0.4 pt)
- i. Talk to abutting neighbors about your farm (0.6 pt)<sup>49</sup>
- j. Mail a newsletter one or more times a year to abutting and nearby neighbors
- k. Other: \_\_\_\_\_ (0.4 pt)

7.2.4. Community Health and Safety: Most farmers are careful stewards and avoid posing health risks to their local communities. Health risks can include impacts to ground and surface water, farm chemicals, loose livestock, farm equipment on public roads, and diseases that spread to humans. Which of the following practices do you apply to protect the health of local communities (4 pts)?<sup>50</sup>

- a. Farm liability insurance sufficient to adequately compensate for losses and damages (0.5 pt)

Environmental Health

- b. Water quality BMPs including riparian buffers and implementation of nutrient management plans (0.3 pt)
- c. Use of dust and emission’s BMPs to control dust and emissions from livestock operations (0.3 pt)
- d. Pesticide BMPs to avoid pesticide drift **OR** pesticides are not applied near property boundaries (0.3 pt)

Farm Chemicals

- d. Proper disposal of leftover farm chemicals (0.3 pt)
- e. A hazardous chemical spill plan and spill containment kit (0.3 pt)
- f. Contact information for reporting chemicals spills that must be reported to state agencies (0.3 pt)

Loose Livestock

- g. Regularly inspect and maintain fences to ensure animals don’t escape (0.3 pt)

<sup>47</sup> WWF (2015) - B. COMMUNITY RELATIONS, Indicator 12 and 13.

<sup>48</sup> WWF (2015) - B. COMMUNITY RELATIONS, Indicator 11.

<sup>49</sup> WWF (2015) - B. COMMUNITY RELATIONS, Indicator 11.

<sup>50</sup> WWF (2015) - B. COMMUNITY RELATIONS, Indicator 12 and 13.



- h. Contact information for neighbors and getting assistance (0.3 pt)

#### Use of Public Roads

- i. Good lighting and safe motor vehicle (SMV) signage on equipment and vehicles (0.3 pt)
- j. Avoid moving equipment at night (0.3 pt)
- k. Obey all traffic laws and signs and follow other road BMPs (0.4 pt)

---

### 7.3 PERFORMANCE INDICATORS<sup>51</sup>

#### KEY MANAGEMENT INDICATORS

7.3.1 Community health and safety: Which of the following best described the level of community health and safety management on your farm for your local community (select one) (10 pts)?<sup>52</sup>

- a. Risks and impacts on community health and safety are regularly monitored. Appropriate measures to prevent and mitigate adverse impact are implemented. The farm owners also take proactive action to improve community health and safety (10 pts).
- b. Risks and impacts on community health and safety are regularly monitored. Appropriate measures to prevent and mitigate adverse impact are implemented (8 pts).
- c. Risks and impacts on community health and safety are regularly monitored. No actual damage is identified, but either no or only minimum measures necessary to prevent adverse impact are implemented (5 pts).
- d. Neither risks nor impacts on community health and safety are regularly monitored. Only minimum measures necessary to mitigate adverse impact are implemented in response to actual damage (2 pts).
- e. Neither risks nor impacts on community health and safety are regularly monitored. No measures to mitigate actual damage are implemented (0 pts).

7.3.2 Neighbor and community relations: Which of the following best describes the level of management of neighbor and community relations on your farm for your local community (select one) (10 pts)?<sup>53</sup>

- a. Communication channels between the farm owners and the community are formally established and used regularly. Community concerns are addressed voluntarily in a transparent and systematic way. The farm owners also identify opportunities for community support and implements appropriate programs (10 pts).
- b. Communication channels between the farm owners are formally established and used regularly. Community concerns are addressed voluntarily in a transparent and systematic way (8 pts).
- c. Communication channels between the farm owners and the community are formally established but not used regularly. Community queries and grievances are addressed voluntarily on an ad-hoc basis (5 pts).
- d. Communication channels between the farm owners and the community are not formally established. Community concerns are addressed on an ad-hoc basis; community grievances are addressed reactively, i.e. only if demanded by local authorities (2 pts).
- e. Communication channels between the farm owners and the community are not formally established. Community concerns are not addressed (0 pts).

---

#### KEY PERFORMANCE INDICATORS

<sup>51</sup> Jackson-Smith and Gillespie 2005.

<sup>52</sup> Fontes 2014

<sup>53</sup> Fontes 2014

7.3.3 **Education and Outreach:** Introducing people to dairy agriculture on your farm can be an effective method for informing non-farmers about your practices and the importance of dairy agriculture: Approximately how many visitors toured and learned about dairy agriculture on your farm in the last calendar year?<sup>54</sup>

7.3.4 **Neighbor and community relations:** Discussing your practices and operations face-to-face with neighbors is one of the most effective ways to create a good relationship with your neighbors. What percent of abutting neighbors (people living adjacent to your properties) have you had met with face-to-face to discuss farming and/or activities on your farm in the last 1 ½ years?

#### OTHER OUTCOMES

---

7.3.5 **Volunteering:** Many dairy farmers play a vital role in their local communities by volunteering their time to make their communities stronger. Approximately how many hours did you volunteer in the last calendar year for charitable organizations and in local government?<sup>55</sup>

7.3.6 **Local economy:** Using local service providers and suppliers can support the local economy and agricultural economy. A local supplier or local service providers include companies within 200 miles of your farm or within your state whichever is greater. What percentage of dairy farm expenditures for supplies and services were spent on local suppliers and/or local service providers in the last year?

---

#### 7.4 SUSTAINABILITY INDICATOR

7.4.1. Many regulations applied to agriculture were developed to protect public health and safety. These can include local, state, and federal regulations concerning air and water quality, waste management, application of farm chemicals, driving record, and manure management. Farmers have an obligation to adhere to regulations and in doing so build confidence of neighbors in a farms' operations.

**a. Compliance with public health and safety laws:** When a farm has had no regulatory actions in the last year OR is compliant with corrective action plans then the dairy is considered sustainable. Which of the following best describes the compliance of your dairy farm with local, state, and federal regulations concerning air and water quality, waste management, application of farm chemicals, driving record, and manure management ("b" or better is sustainable)?

- a. Mostly doesn't not meet regulatory compliance
- b. Mostly compliant with OR mostly compliant and undergoing corrective action response (1 pt)
- c. Always compliant with OR currently compliant with and have fulfilled corrective action plans for compliance failures (5 pts)
- d. Always compliant with and Mostly Exceed (7 pts)
- e. Always compliant with and Far Exceed (10 pts)

---

<sup>54</sup> Farm Indicator 3.3: Educational Opportunities (Innovation Center for U.S. Dairy 2014).

<sup>55</sup> Farm Indicator 3.1: Community Volunteering/Capacity Building (Innovation Center for U.S. Dairy 2014).

## REFERENCES

Aigner, D., J. Hopkins and R. Johansson. 2003. Beyond compliance: sustainable business practices and the bottom line. *American Journal of Agricultural Economics* 85: 1126-1139.

Assured Food Standards. 2014. Red Tractor Assurance for Farms – Dairy Standards, Version 3.0. Assured Food Standards, Red Tractor Assurance, London, UK.

Austin Green Business Leaders Program. 2015. Green Business Scorecard. City of Austin, Austin, TX.

Carkner, R. 2000. FARM BUSINESS RECORDS: An Introduction This publication is part of the Farming West of the Cascades. Series. Washington State Agricultural Extension Service, Pullman, WA. EB1904.

Center for American Progress. 2015. There Are Significant Business Costs to Replacing Employees. Available at: <http://cdn.americanprogress.org/wp-content/uploads/2012/11/CostofTurnover.pdf>. Updated November 16, 2012. Accessed June 5, 2015.

COSA (The Committee on Sustainability Assessment). 2013. The COSA Measuring Sustainability Report: Coffee and Cocoa in 12 Countries. Philadelphia, PA.

Dairy Farmers of Canada. 2010. Canadian Quality Milk On-farm Food Safety Program: Implementing the Canadian Quality Milk Program - Producer Self-Evaluation Questionnaire Mandatory Records Workbook. Dairy Farmers of Canada, Agriculture and Agri-food Canada, Ottawa.

Development Dimensions International. 2015. Retaining Talent: A Benchmarking Study. Available at: [http://www.ddiworld.com/DDIWorld/media/trend-research/retainingtalentbenchmarkingstudy\\_fullreport\\_ddi.pdf?ext=.pdf](http://www.ddiworld.com/DDIWorld/media/trend-research/retainingtalentbenchmarkingstudy_fullreport_ddi.pdf?ext=.pdf). Updated February 2001. Accessed June 5, 2015.

Economou, V. and P. Gousia. 2015. Agriculture and food animals as a source of antimicrobial-resistant bacteria. *Infection and drug resistance* 8: 49-61.

Fontes, J. (ed.). 2014. Handbook for Social Impacts Assessment, Version 2.0. Roundtable for Product Social Metrics, PRé Sustainability, Amersfoort, The Netherlands.

Hadley, G., S. Harsh, and C. Wolf. 2002. Managerial and financial implications of major dairy farm expansions in Michigan and Wisconsin. *Journal of Dairy Science* 85: 2053-2064.

Hagevoort, G., D. Douphrate, and S. Reynolds. 2013. A Review of Health and Safety Leadership and Managerial Practices on Modern Dairy Farms. *Journal of Agromedicine* 18: 265-273.

Jackson-Smith, D. and G. Gillespie. 2005. Impacts of farm structural change on farmers' social ties. *Society and Natural Resources*. 18:215-240.

Judge, T., R. Piccolo, N. Podsakoff, J. Shaw and B. Rich. 2010. The relationship between pay and job satisfaction: A meta-analysis of the literature. *Journal of Vocational Behavior* 77: 157-167.

King, V., D. Pendlington, C. Walter, and G. Smith. 2010. Unilever Sustainable Agriculture Code, Version 1. Unilever, Rotterdam, The Netherlands.

McElroy, M. and J. van Engelen. 2012. Corporate Sustainability Management. Earthscan, NY.

National Milk Producers Federation. 2013. Animal Care Reference Manual. National Milk Producers Federation, Arlington, VA.

National Milk Producers Federation. 2014. Milk and dairy beef drug residue prevention producer manual of best management practices. National Milk Producers Federation, Washington DC.

Oliver, J. 2008. Measurement and Effects from the Adoption of Skill Sets by Farmers. M.S. Thesis, Department of Agricultural Economics, Purdue University. Perdue IN.

Oliver, J. and B. Erikson. 2008. What are the Skills of Financially Successful Farmers? Top Farmer Crop Workshop Newsletter, December, 2008. Department of Agricultural Economics, Purdue University. Perdue IN

Quétier, F., and S. Lavorel. 2011. Assessing ecological equivalence in biodiversity offset schemes: key issues and solutions. *Biological Conservation* 144: 2991-2999.

Rosenberg, H. et al. 2002. Ag Help Wanted: Guidelines for Managing Agricultural Labor, Western Center for risk Management Education. University of California, Davis, CA.

Seville, D., E. Shipman, and S. Daniels. 2015. Towards a Shared Approach for Smallholder Performance Measurement: Common indicators and metrics. Sustainable Food Lab, Hartland, VT.

Shewhart, W. 1980. Economic Control of Quality of Manufactured Product/50th Anniversary Commemorative Issue. American Society for Quality. ISBN 0-87389-076-0.

Society for Human Resource Management. 2012 Employee Job Satisfaction and Engagement. Available at: <http://www.shrm.org/LegalIssues/StateandLocalResources/> Accessed June 5, 2015.

Veissier, I., K.K. Jensen, R. Botreau, and P. Sandøe. 2011. Highlighting ethical choices underlying the scoring of animal welfare in the Welfare Quality scheme. *Anim. Welfare* 20:89–101.

WWF. 2015. Certification Assessment Tool. Standards and Certification. Market Transformation Initiative, World Wildlife Fund, Gland, Switzerland.