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Right to Farm Program
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<FARM NAME>

MICHIGAN GAAMP

PLAN FOR MANURE MANAGEMENT AND CARE OF A FLOCK OF 20-30 LAYER HENS

As of this submission for approval, the flock is 15 French Black Copper Marans pullets and 20 Araucana, Ameraucana, Olive Egger, Light Sussex, and Welsummer chicks. As of this writing, it is unknown how many are roosters as they were straight run. After culling the flock of roosters, there will be hens left. The litter plan is based upon a final flock of 20. Every system and procedure is chosen to maintain the good health and disease prevention of the hens, consider their natural instincts, comfort, and protection from predators, loud noises, the elements, parasites and to insure their contentment. When the hens naturally reduce their egg production, they will be allowed to rest and molting will be induced by varying their feed. This plan significantly exceeds the minimum standards set forth in Michigan Dept of Agriculture and Rural Development, *Generally Accepted Agricultural and Management Practices for the Care of Farm Animals*, January 2013, at page 51 – 54, as well Michigan Dept of Agriculture and Rural Development, *Generally Accepted Agricultural and Management Practices for the Care of Farm Animals*, January 2013, at page 51 – 54.

Since Michigan Dept of Agriculture and Rural Development, *Generally Accepted Agricultural and Management Practices for Site Selection and Odor Control for New and Expanding Livestock Production Facilities*, January 2013, at page 4, only define standards for facilities containing 5,000 Laying hens or broilers (50 units) see, page 4, those standards are not discussed.

CHICKEN HOUSE



Exhibit A Coop Outside



Exhibit B Coop Inside



Exhibit C Automatic Water & Food

The chicken house is a 7'6" w x 7'2" d x 8'6 3/4" h resin molded shed. Each peak on the front and back has ventilation See, Exhibit A, Coop Outside. With a 395 cu foot capacity, less 24 cu feet of raised shelving units for feed and nests (1.2' w x 4'h x 2.5' w), 370 cu feet remains. Each of the 30 pullets has 12.3 cu feet and after culling will have 18.5 cu feet. Since the shelves are raised, each pullet chicken or chick has 1.8 ft sq and will have 2.7 ft sq after culling, compared to the standard of 67 to 86 sq inch. Twenty four (24) linear feet (288 inches) of roost yields 10.8 inches per pullet and 14.4 inches after culling. See, Exhibit B, Coop Inside. Bedding is now light pine chips and leaves. Because the House has 6 windows, there will be ample daylight. In addition, a light will go on automatically about 1 hour before dusk until 1 hour after dark to induce the hens to return to their home.

The House has or will have many automatic features. In addition to current automatic feed and water, heat will go on automatically at 35 degrees and off at 45 degrees. See, Exhibit C, Automatic Water and Food. Rain Water is available when temperature is above freezing. An automatic door will be installed to allow the hens to pasture from dawn to dusk as they choose. There are no cages and they are allowed to pasture daily. Their beaks will not be trimmed nor their combs partially removed. Birds that cause fighting or the suggestion of feather picking or cannibalism will be removed as soon as possible. It is not anticipated that chicks will be raised.

NUTRITION and FEED

Feed materials are kept on raised shelves in the chicken house, and, like water, is always available 24/7. In addition, grit and oyster shells are available in separate containers. Feeder space is through an automatic feeder I made that allows about 2" of automatic feeder space augmented with a large dog bowl for additional food or grit. See, Exhibit D. The homemade automatic water source is a continuously replenishing nipple system with 6 nipples, 1 per 3.3-5 birds, compared to the GAAMP recommended 1 nipple per 20 birds. See, Exhibit C. Additionally, fresh rain water is collected in dishes outside when it rains. See, Exhibit A.

CLEANING, SAFETY, AND HYGIENE OF ENVIRONMENT

The interior will be cleaned at least weekly. Each bird will be inspected frequently for health issues. diatomaceous earth (DE) will be added to their food at least monthly as an internal parasite preventative. A sand, ash and DE "bath" is provided inside the house and a dirt and ash one outside the house to assist the birds in bathing and caring for themselves to prevent parasites. See, Exhibits B & C.

A veterinarian will be consulted whenever a bird is seriously ill or needs euthanasia. Either the vet will dispose of the carcass, or, if appropriate, Sunday dinner.

PESTICIDES AND PEST CONTROL.

No commercial pesticides or insecticides or similar will be used unless absolutely necessary. It is contemplated that most of the birds needs can be met with cleanliness, good food, and natural means. The Golden Retriever spends her days outside with the chicks and pullets within 25 feet of where the flock is. She has gotten upset when she felt that a problem occurred and called me. It is important that the wellbeing of these birds be insured using whatever techniques are available. I believe that taking good care of the birds will result in a healthy flock. A healthy flock should beget quality eggs – and, hopefully, enough to produce a financially successful egg business.

MANURE CONTROL

Runoff Management

Since the facilities are covered, runoff is not an issue. Also, for such a small flock, the square footage is sufficient to absorb whatever occurs while they are pasturing. Feed grain, oyster shells, grit, wheat grains and dried mealy worms (treats) is all stored inside and there is no silage or by products for runoff.

Odor Management

So far, there has been no odor other than a slight odor inside the house. The pine chips have solved that and, more frequent cleaning would prevent anything that might be smelled more than 5 feet from the house. Whatever is needed will be done to prevent any odors. When the interior is cleaned, it is placed in a plastic compost container that has a lid.

Manure Storage and Treatment

Based on information from the Michigan Department of Agricultural and Rural Development, GAAMPS, p.33, Table 4, Jan 2013, our Table 1 was devised. Table 1 indicates that a flock of 20 would produce .08 cu ft of manure. Since they are outside in the pasture yard 8-10 hours, most of that is dispersed into the grass and flower beds. Assuming that half is deposited while they feed and sleep in their house, then .04 cu ft of manure is produced, about 69.12 sq inches. This would be a pile about 5" high by 4" by 3.5". The disposal is into a compost system as described below.

TABLE 1 MANURE OUTPUT FOR FLOCK OF 20 HENS

Type + Average size	Number Chickens	Manure cu ft	N16 (lbs)	P205	K20(lbs)
Chickens	20	20	20	20	20
Layers	avg 4 lb	0.02	0.02	0.01	0.01
<i>Per 100 chickens</i>	<i>100</i>	<i>0.40</i>	<i>0.35</i>	<i>0.27</i>	<i>0.16</i>
Dividing by 5,	<u>20</u>	<u>.08</u>	<u>0.07</u>	<u>0.054</u>	<u>0.032</u>

COMPOST PLAN 30:1 Carbon:Nitrogen

Solid Manure + Straw	Weekly clean coop
Red earthworms	
1st layer:	3-4" of chopped brush or other coarse material on top of the soil surface. This material allows air circulation around the base of the heap.
2nd layer:	6-8" of mixed scraps, leaves, grass clippings, etc. Materials should be "sponge damp."
3rd layer:	1" of soil serves as an inoculant by adding microorganisms to the heap.
4th layer:	2-3" of manure to provide the nitrogen needed by microorganisms. Sprinkle lime, wood ash, and/or rock phosphate over the layer of manure to reduce the heap's acidity. Add water if the manure is dry.
5th layer:	Repeat steps 1-4 until the bin is full. Scoop out a "basin" at the top to catch rainwater under summer conditions.
Pests	Rags around edges with ammonia or similar organic means to fend away flies etc.

COMPOST MANAGEMENT

Symptoms	Problem	Solution
The compost has a bad odor.	Not enough air.	Solution Turn it. Add dry material if the pile is too wet.
The center of the pile is dry.	Not enough water.	Moisten and turn the pile.
The compost is damp and warm only in the middle.	Too small.	Collect more material and mix the old ingredients into a new pile. Turn the pile.
The heap is damp and sweet-smelling, but still will not heat up.	Lack of nitrogen.	Mix in a nitrogen source like fresh grass clippings, manure, composted poultry manure, bloodmeal, or urea fertilizer.

CROP USE

Plants	
ROSES	30
Stella D'Oro lillies	75
Hostas	25
Tulips	150
Lilac bush trees (25 ft tall)	40
Vegetables:	
Tomatos	8
Cucumbers	8
Green Peppers	8
Rhubarb	8
Onions	8
Snap beans	8
Broccoli	8

Submitted: Date

NAME

FARM NAME

ADDRESS

PHNE