

Comments

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National Organic Program; Organic Livestock and Poultry Practices

As a researcher working in production systems and food safety, I urge you to consider the potential negative impact of the proposed rule, particularly the requirements for outdoor access, on poultry health, food safety, and ultimately human health. The proposed rule represents a significant step backward in all of these important areas.

I disagree with the Outdoor Space Standards for layers, the indoor space for pullets and the indoor natural light requirement and mortality as set forth in the Proposed Rule. There are many components of this proposed rule which are written and designed to omit a significant part of the current organic production sector. If implemented, these requirements would have a negative impact on the consumers of organic products, including the amount they spend on and availability of organic food. There is also a statement made within *II: Background* that the organic community believes there are consumer expectations for specific guidelines. I would counter that consumers have been coerced into believing that the ready and affordable supply of organic products can be maintained under these new standards, and that current production practices, with respect to indoor and outside access for poultry, have diluted consumer confidence in the organic label. I would assert that the contrary is true, since organic sales have increased and continue to be in demand. If consumer confidence in organic products were in question, the increase in demand for these products would not be as great. The current standards provide outdoor access and access to a substrate for “natural” of dust bathing and foraging behaviors. Not only do the current regulations meet the FDA Egg Safety Plan intent to reduce Salmonella, they provide greater protection of the food supply than what is proposed by the NOSB (Jones et al., 2012). Enacting a significant section of this rule would not enhance the welfare of organic animals, and in many cases would negatively impacting the health of the birds through increased interaction with wild animals and internal parasites. It has been shown that free-range hens with access to soil experience significant environmental stressors that suppress their humoral immune function (Arbona et al., 2011). This in turn would have a negative impact of food safety and welfare of the hen.

The rule is written in such a way that there is confusion as to the components, which are overarching between §205.239 (now pertaining to mammals) and §205.241 (to address avian species).

II. Background

In the opening paragraph of this section the statement (pp. 21957) “Outdoor access practices, particularly for organic layers, vary;” This is an important concept to keep in mind as regulatory documents are written. It is a well-established concept in college courses teaching animal husbandry that basic management principles will apply in all cases; however, these management principles must be flexible to meet special husbandry needs of the flock or herd. The regulations stated within this proposed rule do not allow for flexibility or judicious husbandry decisions as flocks or herds grow, environmental conditions change, and protection of the animals from adverse conditions, health or predation are needed.

There are also phrases in the proposed rule which are discriminatory towards individuals who work, or may potentially work, within the organic industry, including but not limited to individuals who may be of smaller stature or have specific physical limitations that would not allow them to assist in the disposition of sick, injured or moribund animals.

Definitions §205.2, FR 81 (71) p. 21961

Beak trimming. Beak trimming is a process where the beak is trimmed at a very early age—6-10 days of age—as a preventative method to avert cannibalism in laying hens. The definition as proposed describes removal of the curved portion of the beak, which is incorrect. The portion of the beak that is trimmed is the Premaxilla portion of the Culman (Avian Anatomy: Integument Part 1, Ag. Handbook 362, ARS-USDA). This management practice does not adversely affect the bird and greatly reduces behaviors that lead to cannibalism. The definition needs to state trimming of the correct part of the beak as well as the age at which it is done in order to ensure proper maintenance of this practice.

Caponization. This is not a typical management practice done in the U.S. Poultry Industry. However, when performed by a skilled practitioner, the process is no worse than castration in other animals, including cattle, sheep, and goats. If this practice is not allowed in organically raised avian species, will it also be prohibited in other organically raised species as well? The suggestion would be that the need for this definition is not part of the purview of the NOP.

De-Beaking. Removal of a majority of the Culman as described in this rule is not a practice used in any part of the poultry industry. The use of this practice would result in a violation and revocation of any of many animal welfare certifications that egg producers work under. Therefore, the need for this definition is immaterial (Animal Welfare in Agriculture, edited by Pond, Brazer and Rollin, 2012).

De-snooding. Snoods are present in both male and female turkeys. De-snooding was typically defined as the removal of the snood at 1 day of age, since vascularization or extensive innervation of the skin has not yet occurred. The practice has been discontinued in the turkey industry since optimal body weight and the age at maturity do not coincide. Organic growers may have a greater amount of snood injuries, bleeding and infection in their male turkeys since maturity is reached prior to achieving body weight. Therefore, it is recommended that this definition be vetted further with the turkey industry.

Dubbing. Dubbing is a physical manipulation used for research to mitigate comb injuries. The official definition does not include the removal of the wattles. Dubbing should be done at 1 day of age prior to the vascularization of the comb as to prevent the incidence of bleeding. The practice is not currently used in the layer industry, though there are cases where it is used to mitigate the comb catching on housing structures (Animal Welfare in Agriculture, Edited by Pond, Brazer and Rollin, 2012). With the push for outdoor access in regions where cold weather is a certainty, dubbing may be needed to stop frostbite and other comb injuries that could occur when birds are outdoors.

Indoors. This definition should be “The flat space or platform areas which are under a solid roof and contained within a solid wall.” *Pasture housing.* Mobile housing is impractical for large scale organic production and does not adequately protect the birds from adverse environmental conditions. The use of portable structures increases the management and labor cost of organic egg production which escalate the cost of the product paid by consumers (Anderson, 2014). The proposed rule statement on indoor space related to porches indicates that porches have to be controlled in the same manner as the

controls to what is being proposed as outdoors and if the access to a porch is temperature dependent it cannot be counted as indoor space. This is contradictory to the supposition that porches are not outdoor space.

Part of the Indoor space is associated with inclement weather and disease where hens can be confined if necessary. This definition includes porches, however, they are prohibited from the space calculation if they are to be closed due to inclement weather or threat of disease. This would indicate that the porch is actually outdoor space and should be included in outdoor space calculations. Also, what does AMS define as a necessary situation that would lead to confinement of the birds within the indoor space? Since perceived threats are not to be considered for confinement, then the Warnings and mandates by USDA-APHIS and Many State Veterinarians would have to be ignored by Organic producers. This would place their flocks at greater disease risk and those in surrounding vicinity.

Outdoors. The proposed definition for outdoors is “Any area in the open air with at least 50 percent soil, outside a building or shelter where there are no solid walls or solid roof attached to the indoor living space structure.” This definition excludes covered porches and other structures attached to the indoor living space are excluded from this definition. It is prejudicial to leave out covered porches from the outdoor access calculation for space as they provide access to open air and are typically covered by a substrate of soil or litter. Porches and similar outdoor space provide an area for displays of instinctive behavior, enhancing hen welfare even in rain conditions. Hens use space in the same manner regardless of the means by which it is covered, i.e. attached to the main structure or a separate roofed area. The access to soil does not specifically promote particular behaviors of dust bathing and foraging in poultry to a greater extent than poultry provided a litter substrate. With uncovered soil the hens would be exposed to mud and other high moisture materials promoting mold, fungus and bacterial growth. Soil would also expose the hens to harmful bacteria, protozoa, oocysts, nematodes and worm intermediate hosts (internal parasites) that compromise the health of the laying hen (Arbona et al., 2011) and that could become both an animal health and food safety issue. Covered porches do follow all the requirements of FDA’s Egg Safety Rule for reducing Salmonella in laying hens.

The proposed rule also states “fencing or overhead netting that does not block sunlight or rain would be permitted to prevent predators and other wild birds from entering the outdoor area.” Netting and fencing are structures that provide protection from wild animals and allow for paddock rotation. However, netting does not prevent feces from falling onto the soil. Hens allowed soil access strip the soil of all vegetative cover, increasing soil contamination of bacteria, oocysts and worm infestations, thereby compromising the health of the birds. Another concern is that as populations increase in a production facility, the ability to net a paddock becomes an impossibility.

Therefore, having access to a clean substrate in a covered porch or similar outdoor area would be preferred over access to a potentially wet material where there is no control over bacterial contaminants, protozoa, or intermediary hosts of internal parasites. Access to the soil does not improve the soil as a natural resource in a static organic poultry facility. An added concern related to Outdoor Access is the fact that there is a great deal of waste which would be included in rainwater runoff. The Manure entering surface water such as drainage collection ditches could end up in streams

and lakes. This would be of greater concern in extensive pasture systems. Unfortunately there is little if any research showing the negative influence of paddock runoff on surface water contamination in range systems. The suggestion for defining outdoor would be “Any area in the open air with access to an organic substrate to promote natural behaviors, outside a building or shelter where there are no solid walls on at least one side where air is free flowing and shade/cover is provided by plants or roof structures>

Outdoors.

Stocking Density. It is proposed that stocking density will be calculated on the given size of the outdoor land to which the birds are provided outdoor access. The use of a paddock rotation program should not result in a producer being penalized for stocking density. Paddock rotation is a common practice in all animal grazing operations and was first proposed and utilized in poultry in 1943 by Dearstyne and Kime. They developed a paddock rotation program to enhance the forage availability to flocks of chickens. By not allowing the entire paddock area to be counted as outdoor space, the rule requires producers to have 2 times as much paddock space as needed. This discourages the use of a paddock rotation program and promotes the stripping of forage cover from the soil, surface run-off and surface water pollution. Forage cover recovery is essential for maintaining healthy forage access for the birds.

Soil. The definition of soil provided by AMS is indicative of the reasoning used when hens were moved to intensive systems. Access to fungi and bacteria was, and continues to be, one of the largest food safety concerns surrounding poultry on a range setting. Also, the definition states that “contact with soil must be done in a manner that maintains and improves natural resources.” As stated above, the use of a paddock rotation program maintains healthy forage and assists with prevention of complete stripping of forage by the birds as well as reduces surface run-off and surface water pollution. If producers will be required to provide access to soil as defined by AMS, then the definition of stocking density will need to be rewritten. This will need to accommodate the whole paddock as outdoor space calculated for stocking density, not just the paddock that the birds will be in at a given time.

Toe Clipping. Toe clipping, also known as toe conditioning, is used in the turkey industry on meat birds to eliminate skin cuts on the back, breast and legs. This practice reduces nervousness and prevents the formation of scratches and other toe-nail related injuries that can affect the health and welfare of the flock. Toe conditioning is performed in the hatchery using infrared (IR) technology to eliminate the toe-nail growth point. By not allowing the continuation of this minor morphological modification, there will be a disproportionate increase in injury to all birds within a flock.

Pullet. The AMS definition of “pullet” as a female chicken being raised for egg production is the only definition for a pullet (Merriam-Webster Dictionary). AMS is erroneous in defining birds grown for meat as pullets these are termed “broiler chick” prior to 21 days of age and “broiler” from 21 days until processed. A young turkey female is called a ‘Jenny’ or commercially a “replacement breeder hen”

Livestock Health Care Practice Standard

§205.238(a) AMS is indicating that a producer must establish and maintain preventive livestock healthcare practices, including:

§205.238(a)(3) Establishment of appropriate housing, pasture (paddock) conditions, and sanitation practices to minimize the occurrence and spread of diseases and parasites; Porches, as currently configured and allowed as outdoor access, are the only outdoor space which meets the above mentioned criteria. Porches minimize the need to treat the birds for internal parasites and can be disinfected between flocks to break disease cycles if outbreaks occur. They can also be closed for a period of time if there is a serious disease threat by airborne pathogens such as avian influenza (AI) or laryngotracheitis (LT). Soil in pastures cannot be sanitized and increase the probability of infection by parasites and other diseases from animal to animal as well as flock to flock.

§205.238(d). AMS must explain why the banning of porches as outdoor space, which accomplishes the goals of this new section are no longer being allowed in exchange for parasite control plans that include pasture monitoring or (Paddock rotation plans, which are not permitted in a given paddock space allowance) fecal monitoring and emergency interventions if parasite infestations are high.

§205.238(e)(2). AMS should reconsider the banning of Burdizzo devices for emergency euthanasia if other methods are not available. If the Burdizzo Clamp is placed and used properly by a competent technician it is as effective as other emergency euthanasia devices (Chamberlain, 1943). These procedures are approved by IACUCs for euthanasia of larger or older animals where the Animal Care Technician may not have the Physical stature to perform Cervical Dislocation or the bird may be too old or large as in the case of broiler breeders or turkeys (FASS 2010).

Avian Living Conditions §205.241 (FR 81(71):21970)

§205.241(a). Many of the statements made in this new aspect is contradicted throughout the subsequent sections based on the mandates which the producer is required to meet herein and what a producer is required to do in subsequent sections.

§205.241(b)(1). AMS needs to realize that the term used extensively “Natural Behaviors” have not been part of the birds behavioral repertoire since domestication approximately 4000 years ago (Craig, 1981). What we are actually observing are instinctive behaviors (Aldrovandi, 1600) which the birds display when provided an opportunity and space to display the behavior. There are a number of reasons these species were selected for domestication by homosapiens; 1. Ground dwelling; 2. Organized social structure; 3. Promiscuous mating behavior; 4. Precocial development; 5. Ability to imprint on humans; 6. Very adaptable to changes in husbandry (Craig, 1981). The last component is of great importance since this is tantamount to the argument for extensive outdoor access. These animals adapt and utilize the environment as they see fit to use (Zeltner and Hirt, 2003). If producers have to train an animal to do something which is against what it deems to be in it best interest then we have violated the single most important component of premise of these proposed rules and that is a display of behaviors which the animal deems important to display.

§205.241(b)(5). AMS should take into account the exit area space in relation to the bird number that would actually use the exits at any point in time within the life of the flock. Even in small flocks of less

than 300 hens only 35% went out doors (Harlander-Matauschek et al., 2006) and it was determined that the pophole area/size did not influence the movement of the hens onto the range or porch. Research by (Zeltner and Hirt, 2003) showed that only 22.5% of the flock would move in and out of the house at any given time. This number decreases to less than 10% as the flock's age. It has also been shown that as the flock size increases the percentage of hens which will venture on to the porch or paddock declines and after a population exceeds 9000 hens 10% or less will ever go out. Hens would not go out often, because they have all the different resources they needed in the poultry house and there would be no need to move further out. It would be wasteful of space/land allocation to require that the range area be calculated based upon the total population of the flock and based on flock usage of the range/porch would not dilute the consumer opinion of organic products or the way in which they are cared for, unless there is an ulterior motive for demanding the additional space which is unrelated to the welfare of the animal. Porches should be considered as outdoor space since they actually facilitate the movement of hens to the outdoors by approximately 5% (Zeltner and Hirt, 2003)

§205.241(b)(3). AMS is being unreasonable in its expectation for the sunlight to enter an organic egg production facility at such a level as to have the ability to read typed print with all supplemental lights turned off. Artificial light has been used in poultry houses since the discovery of lights influence on the reproduction of the hen in the 1920s. In addition, this specific indicator is contradictory to the very first line in this new rule where the producer can extend the day artificially to stimulate production. By narrowing a house to accomplish the conditions of this rule the construction or remodeling costs for facilities with this configuration would be exorbitant.

§205.241(b)(5). AMS failed to consult a structural engineer associated with this requirement since the addition of access openings around the perimeter of the building would compromise the structural integrity of the production house.

§205.241(b)(7) (i)(ii)(iii)(iv) AMS did not take into account the changes in body weight as hens age which would change the hen capacity for a structure. A better means of calculating density and more accurate would be to either allocate hen numbers or select an average weight at a particular age of the hen.

§205.241(b)(11) See comment for *§205.241(b)(1)*

§205.241(c)(1) AMS must realize that a behavior which must be trained is not a natural behavior but rather one that goes against the instinct of the bird which has been reared in a specific environment. Birds as with other species have a preference for the environment in which it is reared. In addition, the social behavior of a flock would preclude movement of a majority of birds moving from an environment which contains all of the essential resources to an environment (outdoors) which does not. Based on previous sections of this rule the introduction of sunlight, dust bathing substrate, and forages grown in soil would be sufficient encouragement/enticement to promote the use of outdoors by the hens without being forced (trained) to go out.

§205.241(c)(6) It has been made public that AMS in the formulation of this rule did not consult with FDA-CEFSA for inclusion of their opinion of this rule and the potential impact on the safety of shell eggs entering the consumer market. Covered porches are access to open air and if they are covered in a substrate of soil or litter they provide an area for displays of instinctive behavior which enhances their welfare, which according to the NOSB is one of their objectives. Also covered porches with litter

substrate afford the bird's continuous access to a dust bathing material even in rain conditions. With soil the hens would be exposed to mud and other high moisture materials which would promote mold, fungus and bacterial growth. It is prejudicial to exclude covered porches from the outdoor access calculation for space which is also in accordance with the FDA Egg Safety Plan. The reality hens use space in the same manner regardless of the means by which it is covered i.e. attached to the main structure or a separate roofed area. Covered porches also provide for the capability of cleaning and sanitizing the environment between flocks whereas paddocks with soil cannot be sanitized thereby imposing a greater risk to consumers nullifying the positive impact the FDA Egg Safety Plan has had on food borne pathogens.

§205.241(c)(8) AMS should understand that soil access is contradictory to §205.241(c) where producers must operate and maintain conditions which promote health and §205.241(d)(3) indicating that the environment should not compromise the disease status, health and safety. This requirement is inconsistent with the consumer perception relating to soil which is available for purchase. Soil as defined in §205.2 is indicative of the reasoning used when hens were moved to intensive systems. The access to fungi and bacteria were one of the reasons poultry was taken off of range settings.

§205.241(d)(3) AMS must realize that they cannot create a regulation that prohibits confinement of animals as a preventative measure for the greater good of the entire poultry industry. This is contrary to USDA-APHIS recommendations and those of numerous state veterinarians across the country. The prohibition of bird confinement in the treat of a disease outbreak is contrary to the organic philosophy of promoting health and welfare of the birds.

§205.241(e) AMS must realize that by allowing birds access to paddocks that are least 50% soil they are willfully contributing to the potential for paddock water runoff entering surface water. Also continuous access to soil where the hens are not continuously rotated will contribute to the overloading of the soil with nitrogen and parasitic organisms. This will be exacerbated since AMS is indicating that if paddocks are rotated then the facility would require 2 times as much land commitment. Within the Clean Water Act [25, 26], operations that confine poultry to a specific paddock for more than 45 d out of 12 mo are defined as animal feeding operations. Many of the midsize organic producers fall into the medium contained area feeding operation (CAFO) definition. As with all free-range poultry operations, a significant portion of the paddock is bare soil throughout the year regardless of the season which would promote runoff into surface water systems.

AMS request for comments (FR 81(71):21972)

A majority of organic eggs produced in the United States are brown. An estimate of the percentages of white vs. brown eggs in the organic market would be approximately 10 and 90 %, respectively. There has been a shift in the genetic selection of white egg laying hens by the primary breeders to develop a white egg layer suitable for the organic market.

AMS (Are most organic laying hens from the ISA Brown strain?) No, there are four primary breeders in the world that develop and provide parent stock for the replacement laying hens. The strains used in the organic market are the ISA Brown, Hendrix-breeders, Bovans Brown, Hendrix-Breeders, LB-Lite, Lohman, Hy-Line Brown, Hy-Line International, Tetra Brown, TETRA Americana, and Novobrown,

Novogen. The distribution of the hen numbers will vary however in the United States an estimate of the distribution of the strains in order of number is Hy-Line brown, ISA Brown, Bovans Brown, TETRA Brown, Novobrown. There is a segment of the organic egg production that utilizes Heritage birds for egg production as well.

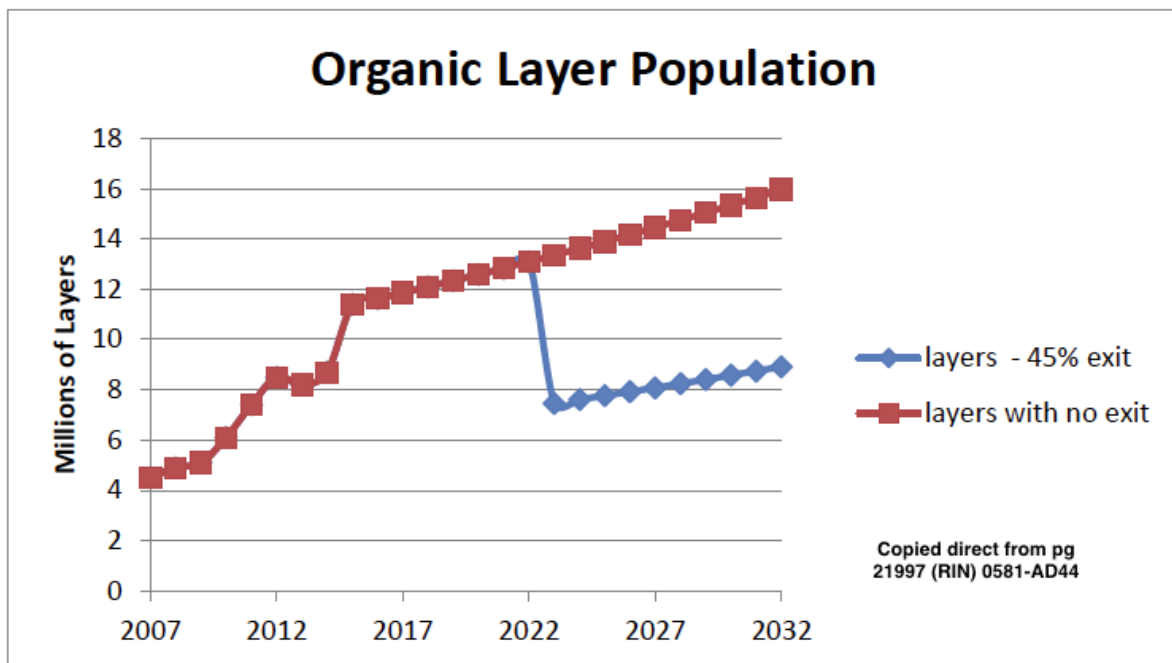
AMS (An average mature weight for an ISA Brown hen is 4.5 pounds?) Following are tabled with the average body weights for the various strains at 16 and 89 wks of age. The reality is the mature weight for a typical brown egg layer is 2.9 pounds. This would allow for a higher density of hens in a given area. Then as mortality occurs and the hens increase in weight the weight /square foot would remain relatively constant.

EFFECT OF BROWN EGG STRAIN ON BODY WEIGHT OF HENS IN THE 39th NCLP&MT (119-623 DAYS) IN THE CAGE-FREE HOUSING SYSTEMS			
	17 Wk*	89 Wk**	1st Cycle
Breeder	Body Wt	Body Wt	Wt Gain
(Strain)	(kg)	(kg)	(%)
TETRA Amber	1.30	2.21	41.00
TETRA Brown	1.31	1.90	30.96
Novogen Brown	1.34	2.07	35.48
Lohmann LB-Lite	1.30	2.08	37.50
Hy-Line Silver Brown	1.32	2.32	43.19
Hy-Line Brown	1.25	2.17	42.27
ISA Brown	1.32	2.07	36.18
Bovans Brown	1.31	2.12	38.44
All Strains	1.31	2.12	38.13

Anderson, 2015

There is continued rapid growth in demand for organic eggs with year-over-year double digit increases in demand. This indicates that there is not an aversion to porches on the part of the US egg Consumer as insinuated by the NOSB. The larger concern is that by eliminating 45 percent or more of organic egg producers over the next five years could severely undermine the availability of organic eggs for consumers at the retail markets. USDA estimates the proposed rule would lead to a 45 percent reduction of organic layers, and that up to 90 percent of organic aviaries could exit for other markets. However, industry estimates and those I have made based on USDA statistics actually show the rule would impact an estimated 70-80 percent of current organic egg production in the nation. The poultry industry has always considered the health and welfare of the birds first and foremost and the implications, of that on the public food supply keeping in mind the costs to the industry in every major decision that is made regarding the production of eggs. With the estimated 75% reduction in the supply of organic eggs by 2021 as a result of the proposed rule, this is much greater than the agency estimate. Reducing the organic egg supply in the US would only cause retailers and foodservice to purchase eggs from other countries that have no similar regulations. Using more eggs from other countries raises quality and health concerns. As a result, the greater concern is that the rule could have a far-reaching negative impact on organic egg supply, by the obvious reduction in the organic flock sizes, according to

the proposed rule. This will negatively impact the price point of organic eggs and force a large percent of organic consumers in the middle class to shift away from organic products due to price.



Related to Outdoor Space (FR 81(71):21985) the proposed rule changes would institute a major change to a production system that currently helps keep our poultry industry in the US safe from diseases and parasites and from wild birds and other sources of disease. The proposed rule would eliminate the use of poultry porches, which in reality were designed to allow chickens to have outdoor access, an accepted practice under the current organic standards. Eliminating the porches goes against USDA Veterinary Services request of organic egg farmers to increase Biosecurity and contrary to the U.S. Food and Drug Administration's requirements to prevent the introduction of Salmonella Enteritidis and Avian Influenza. FDA tests the porch area however testing does not constitute acceptance of a porch as indoor space. AMS has not taken into account the peer review research which shows that at no time does 100% of a flock enter onto the paddock Harlander-Matauschek et al., 2006; Zeltner and Hirt, 2003). Not all chickens take advantage of the outdoor access, even on the brightest, sunny days in large flocks only 10 % of a flock will be outside at any given time. Even in small flocks (60 hens) only 40 to 50% of the flock is on the paddock at any given time, even with enticements of feed and cover. In organic production systems which have flock populations greater than 3000 there would be no circumstance where 100% of the flock would be outside at the same time. It is unrealistic to ask organic producers to allocate land resources to a paddock area that will not be utilized by the flock. Birds are prey animals and as such they prefer to stay close to comfortable temperatures, feed, water and a quiet nest box, away from open areas and possible predators. One of the reasons why chickens are one of the domesticated species is that the chicken flock together and create a social facilitative group, they like to be together meaning they have a preference to do the same things at similar instances in the same environment.

Some may consider it ironic that USDA-AMS through the NOP is proposing changes that may increase the risk of exposure to wild birds only one year after the nation suffered the worst outbreak in the history of this country of Highly Pathogenic Avian Influenza. It has been documented that this outbreak came from migratory wild birds. It has been noted that this particular influenza virus had a greater impact on hens typically housed conventionally. However, this was merely the circumstance, but the next introduction of influenza or exotic Newcastle disease may infect different populations, as has been evidenced in the past. Unfortunately, AMS in this rule change eliminates one option for farmers to better protect flocks in their care. Current organic production methods protect birds from disease and allow careful management to protect hen health, while still allowing for outdoor access. The current rule also provides the capability to clean and sanitize the outdoor area between flocks or in case of an outbreak. The sort sightedness of the proposed rule would eliminate porches, a reasonable option for organic egg producers to prevent the spread of disease. The new rule would mandate direct outdoor exposure to soil which AMS indicates contains inherent contaminants for poultry and intensify contact with birds and animals that spread disease. AMS even acknowledges that direct outdoor access boosts exposure to diseases. If this proposed rule is finalized, the agency estimates in its supporting documentation that, “the mortality rate for hens would increase from five to eight percent” and that the “increased mortality would chiefly be attributed to increased predation, disease and parasites from greater outdoor access.” One could assume that with this analysis conclusion AMS through the NOP would not contemplate increased exposure to the less frequent but more devastating diseases like influenza and exotic Newcastle disease. In the poultry industry, most veterinarians would consider even a three percent increase in mortality rate too high let alone after reviewing the Poultry Production Systems studies conducted by Dr. Ken Anderson (2009, 2011) at NC State University Poultry Science Department the hen mortality rate could possibly be as high as 30%. The egg industry under this proposed rule change, would find this type of mortality rate totally unacceptable.

Please also consider the cost to egg farmers, and cost goes way beyond financial, although monetary costs are expected to be very large. In fact, many will be unable to comply given the configuration of their hen houses on their property, setbacks from adjacent lands, setbacks from water bodies, Biosecurity conflicts and more. AMS is also making a supposition that the supply and demand associated with organic eggs is the same as conventionally produced eggs. I believe the contrary is true and that a different scenario will be manifested with a loss of up to 45 to 75% of the organic egg production. Based upon this scenario the egg price for organic eggs would potentially double, in this case consumers would probably make a shift in their purchasing habit and move to a conventionally produced product. It is stated that Heng (2015) indicated a willingness to pay for \$0.21 to 0.49 per dozen for premium livestock care. The question is did Heng take into account the socio economic classes and how the upper and lower economic classes differ in their willingness to pay? Consumers actions do not correlate to their verbal responses, they tend to communicate their desires through their pocketbook. The potential of a \$2.30 per dozen increases in organic eggs would exceed the upper limit Heng found and drive consumers to the less expensive product. This would ultimately damage the organic egg producers still able to operate in that scenario by driving their prices below their cost of production.

Vukina et al. (2014) indicated the small sample size for this analysis based upon the requirement imposed on the study due to the Paperwork Reduction Act (1980) which limited our sample size to a total of 9 producers. In this case we attempted to balance these 9 between small, midsize and large producers. However, the option potentially being imposed by this AMS proposed rule would seriously disrupt the organic egg supply in the US and have a farther reaching ripple effect on the organic sector. It has also been indicated by the Organic egg producers that the USDA-AMS (2011) data use to populate Table 1 in the Vukina et al (2014) is inaccurate in that the estimate is that 1% of the producers actually control 45 to 70 % of the laying hens currently certified as organic. Even with a 45% loss in organic egg production based upon this proposed rule the organic egg supply would drop, instituting an immediate doubling of organic egg prices to the consumer, which would drive consumers to the conventional eggs there by damaging the organic sector. However, based on conversations with the organic producers the estimate is that 90 % of these producers would leave the organic sector, potentially amounting to a 63 % loss in the number of organic laying hens. Simultaneously the withdrawal of organic hens from the market at this level would result in an immediate decrease in organic grain prices, which may help other organic producers but would hurt the organic grain growers. Also there would not be a quick recovery in egg supply since new structures would be needed all of which would have to be permitted. At this juncture permitting of new poultry production facilities is difficult at best regardless of the production system to be used.

FR, pp. 22002 AMS is proposing a 5 year implementation plan to mitigate the impact of the proposed rule. However, producers in the 150,000 to 245,000 laying hen flock size would not recover from this rule's implementation for outdoor access. This is the primary limiting factor and it is the configuration of currently certified organic production facilities which prevents them from implementing the proposed outdoor standards at any point in the future.

In conclusion, as an expert in all types of poultry production systems, the close review of the AMS proposed rule I have completed shows that USDA developed its proposed rule on organic livestock production using a variety of subjective assumptions and incomplete data.

Here are the top three examples:

1. USDA acknowledges that available layer data used to develop this rule is almost 50 percent incomplete: "Several states do not report total production volume for broilers to protect confidentiality. Given these omissions, the data does not provide details of nearly 50 percent of state level production of organic broilers." The data reported by Vukina et al. (2014) though accurate based upon the data we were allowed to use does not capture the true population of hens in the organic flock under the management of large producers.

2. Even when using incomplete data, USDA acknowledges that the majority of organic eggs will be impacted by this rule: "AMS also considered whether porches should count as outdoor space. In general, a porch is a screened-in area with a solid roof overhead. AMS estimates that at least 50 percent of organic egg production comes from operations that use porches exclusively to provide outdoor access." We estimate that up to 90 percent of organic aviaries could exit to the cage-free market. This has to be rectified in order to fully estimate the negative impact of this rule on supply of organic eggs. Why would AMS ignore the plethora of data indicating the true use of outdoor space by laying hens

which is at approximately 10% of a flock out doors at any point in time. In addition, there is language indicating that producers are expected to force the animals outdoors which is contrary to their instinctive behavior as a prey animal.

3. USDA acknowledges that more hens will die on organic farming operations as a result of this rule: “AMS assumed that the mortality rate for hens would increase to 8 percent from 5 percent if this proposed rule is finalized. The increased mortality would chiefly be attributed to increased predation, disease and parasites from greater outdoor access.” Based upon past research and comments from industry leaders this increase in mortality is grossly under estimated.

4. FDA indicated for public record that they were not consulted on the impact of this rule and the negative interaction it would have with the FDA Egg Safety Rule. There are components of this proposed rule that does not conform to the FDA Egg Safety Rule, Guidance Documents, or intent.

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