



On the Agenda: NOP Animal Health and Welfare Standards

Testimony before the National Organic Standards Board
November 28, 2007

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Thank you for the opportunity to provide this briefing today in which we:

- (I) provide legal documentation to support inclusion of animal health and welfare standards within the NOP;
- (II) recommend five standards that merit NOSB deliberation and action; and
- (III) suggest a pathway forward to fully elaborate livestock standards.

I. Within the Scope of NOP and NOSB Mandates

The United States Congress foresaw the need to elaborate livestock standards in 1990 when it passed the Organic Foods Production Act. The report accompanying the Senate bill included the following statements anticipating additional standards and directing the NOSB to recommend additional standards to the Secretary.¹

More detailed standards are enumerated for crop production than for livestock production. This reflects the extent of knowledge and consensus on appropriate organic crop production methods and materials. With additional research and as more producers enter into organic livestock production, the Committee expects that USDA, with the assistance of the National Organic Standards Board will elaborate on livestock criteria. (Report, 292)

There are not many organic livestock producers at this time, perhaps as few as one hundred. A major reason is that few producers are willing to invest in raising animals organically since USDA explicitly prohibits meat and poultry from being labeled as

¹ OFPA of 1990, as well as the relevant sections of the Senate and Conference Committee reports were drafted by Kathleen A. Merrigan, then a staff member of the US Senate Committee on Agriculture, Nutrition and Forestry.

organically produced. There is also little consensus on appropriate livestock standards and thus State and private programs vary widely. (Report 302)

The Board shall recommend livestock standards, in addition to those specified in this bill, to the Secretary. (Report, 303)²

Admittedly, these passages do not explicitly discuss health and welfare. Yet it was presumed that animal health and welfare would be encompassed whenever such standards were developed as one author of this paper can personally attest. As well, our records show, and many of you remember, the central role played by The Humane Society of the United States in advocating for passage of OFPA. This underscores our point that it was widely understood at the time that organic livestock production would eventually include standards requiring superior welfare for animals.

Animal health and welfare standards were also anticipated by USDA when it promulgated the National Organic Program Final Rule. The Preamble accompanying the NOP Final Rule describes several animal health and welfare practices, most of which have yet to be fully articulated by the program. According to the Description of Regulations, an organic livestock producer *must*:

- select species and types of livestock with regard to suitability for site-specific conditions and resistance to prevalent diseases and parasites
- provide a feed ration including vitamins, minerals, protein, and/or amino acids, energy sources, and, for ruminants, fiber.
- establish appropriate housing, pasture conditions and sanitation practices to minimize the occurrence and spread of diseases and parasites.
- maintain animals under conditions which provide for exercise, freedom of movement, and reduction of stress appropriate to the species.
- conduct all physical alterations to promote the animals' welfare and in a manner that minimizes stress and pain.
- establish and maintain livestock living conditions which accommodate the health and natural behavior of the livestock.
- provide access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment.
- provide shelter designed to allow for the natural maintenance, comfort level, and opportunity to exercise appropriate to the species.³

Furthermore, in sections relating to comments, the Preamble describes several issues that the Secretary understood would require elaboration in the short-term, but for which he had insufficient expertise to prescribe. In these cases, a central role for the NOSB is established, with the Board soliciting public comment, building consensus, and providing expert recommendations to USDA on animal health and welfare standards.

² Report 101-357, 101st Congress, 2nd Session, Committee on Agriculture, Nutrition, and Forestry, US Senate, to Accompany S. 2830, Food Agriculture, Conservation, and Trade Act of 1990, July 6, 1990, GPO: 1990.

³ Preamble, Subpart C, Organic Crop, Wild Crop, Livestock and Handling Requirements, Description of Regulations

- (confinement) species-specific guidelines would be developed in conjunction with future NOSB recommendations and public comment.⁴
- We will seek additional input from the NOSB and public comment before developing such standards (on a specific length of time that cattle or other species may be confined prior to slaughter).⁵
- We anticipate that additional NOSB recommendations and public comment will be necessary for the development of space requirements.⁶
- The NOP will work with the NOSB to develop additional guidance for managing ruminant production operations.⁷
- We will continue to explore with the NSOB specific conditions under which certain species could be temporarily confined to enhance their well-being.⁸

We provide this historical documentation to underscore the importance of animal health and welfare issues. The NOSB has responded to some of the challenges specified by the Final Rule. We are aware of NOSB discussions in this area, and participated directly during our terms as members of the Board. But time is running out. Because USDA prohibited an organic label for meat products through 1999, the livestock sector is relatively undeveloped, particularly for swine and poultry. This means the NOSB and the Secretary, if expedient, need not be overly constrained by the impact proposed standards will have on existing industry practices and infrastructure. In our opinion, there is still time for the NOSB and the Secretary to proceed in designing detailed standards based on the best treatment of animals without concern that such standards will cause widespread economic disruption.

II. Five Standards for NOSB Deliberation

Our paper “Ensuring Comprehensive Organic Livestock Standards” (Lockeretz and Merrigan, 2006) was distributed to the Board prior to today’s meeting and posted on the NOSB website. That paper reflects the first part of our research in which we reviewed seven sets of organic standards or guidelines,⁹ the recommendations of the National Organic Standards Board, and the standards or guidelines of six US trade associations, professional societies, or certifying organizations not specifically concerned with organic production but whose focus is livestock well-being.¹⁰ The goal of this analysis was to identify gaps and inconsistencies among standards related to animal health and welfare and use this information to develop a list of topics requiring

⁴ Preamble, Livestock Production, Changes Based on comments (5)

⁵ Ibid.

⁶ Preamble, Livestock Production, Changes Requested But Not Made, (5)

⁷ Preamble, Livestock Production, Changes Requested But Not Made (6)

⁸ Preamble, Livestock Production, Changes Requested But Not Made (7)

⁹ Organic standards are the most recent as of 2006 issued by: BioGro (New Zealand); Codex Alimentarius; the European Union; International Federation of Organic Agriculture Movements (IFOAM); KRAV (Sweden); the USDA National Organic Program; and the Soil Association (UK).

¹⁰ 2005 standards or guidelines issued by: United Egg Producers, Animal Care Certified (laying hens only); American Meat Institute, Recommended Animal Handling Guidelines and Audit Guide; American Veterinary Medical Association, Animal Welfare position statements; Certified Humane; National Institute for Animal Agriculture (primarily swine); and National Pork Board, Swine Care Handbook.

further investigation. Since our paper was written, Whole Foods Market (WFM) has produced its own standards, which we refer to in this document and which will be incorporated in our final analysis.

We are in the final stages of combining the findings of this first paper with the results of a search of the relevant research literature and input from a stakeholder forum held at Tufts University in April 2007. Our final work will separately discuss swine, beef cattle, dairy cattle, and poultry (broilers and layers) and identify issues suitable for discussion as potential standards, for potential inclusion in guidance manuals, and for further research.

Today, we begin the process of transmitting our findings to the NOSB. We choose five issues to bring to the NOSB for consideration based on three criteria: attention to the issue by way of existing animal health and welfare standards; significant research literature that supports development of a standard; and a general consensus among participants at the Tufts stakeholder forum that such a standard was both desirable and practicable.

1. Poultry: *Should perches be required for layers?*

A perch is a pipe-shaped limb, as opposed to a flat (roost) surface. The current NOP requires that layers be provided “adequate space,” which encompasses the quantity and quality of the bird’s environment. Specifying that adequate space includes provision of perches would contribute to bird health and socialization.

Ultimately the NOP will need to specify measurable indoor space allocations (e.g., 2 square feet per bird); outside space allocations (including access to direct sunlight); size and placement of doors; and the proportion of roost/floor/nest area/perches per bird. However, a requirement for perches in the short-term can stand-alone and contribute to bird health and welfare while details on other issues are resolved.

Relevant Standards

There must be adequate perches (EU, Codex, KRAV, SA)¹¹; Chickens must be able to perch simultaneously (Whole Foods, Step 4); Perches can take a number of designs. A minimum of 7 inches/18 cm per bird is required (Whole Foods, Step 5)

Relevant Research

Hens desire perches.

- Hens push through significantly heavier doors to gain access to a perch than to a sham perch (a perch that cannot be accessed by the hen). Hens should be given access to perches, since they are highly motivated to use a perch for night-time roosting (Olsson and Keeling, 2002).
- Hens choose elevated perches 47% of time compared to other pen areas at various stocking densities (Carmichael et al., 1999).

¹¹ Sources for all standards are given in Table 1.

Hens are healthier with perches.

- Foot and feather damage was generally less in furnished than in conventional cages—furnished cages included nests, perches, and a dust bath (Appleby et al 2002).
- Early access to perches decreases the prevalence of cloacal cannibalism during the production period (Gunnarsson et al., 1999).
- Tibia breaking strength greater in birds from cages with perches (Duncan et al 1992).

While no scientific consensus yet on the ideal perch design, studies are informative.

- Perch and feed areas of cage systems should be provided at 14 cm or more per bird for most breeds (Appleby 2004).
- Hens show no preference between perches made from wood, plastic, steel or textured aluminum (Lambe and Scott, 1998).
- Wet perches may aggravate foot pad dermatitis (Wang et al., 1998).
- There is a threshold, at around 1.00 m, beyond which birds have difficulty in moving from perch to perch (successful movement between perches occurred at 0.50 and 0.75 m in this study) (Scott and Parker, 1994).
- To minimize the risk of injury, the angle between perches at different heights should be no more than 45 degrees and the horizontal and vertical distances between these perches minimized, to allow the birds to be able to move downwards easily (Scott, et al., 1997).
- Foot damage was less in birds with rectangular perches than with circular perches (Duncan et al 1992).

Broilers are different.

- In some broiler strains, access to perches may increase the occurrence of breast blisters, but significant strain differences in the occurrence of breast blisters are also found independent of perch use (Nielsen and Birte 2003).

2. Poultry: Should induced molting by feed or water withdrawal be prohibited?

Molting is a natural process in which new feathers push out and replace old feathers. Forced (induced) molting is used to lengthen the laying period to maximize egg production and quality, although it does increase the percentage of breaker eggs. In traditional forced molting systems, hens are essentially starved, left for periods of 1-2 weeks with no feed and limited water.

The conventional egg industry is moving away from forced molting and it is not a common practice in the organic industry. Additionally, with a limited organic market for breaker eggs, at this time, it is not in the producer's economic interest to force molting.

Relevant Standards

Layers should not be force-molted by feed withdrawal (ACC, CH, WFM steps 4-5)

Relevant Research

Forced molting increases hen aggression..

- Cage pecking increased in fast-induced subjects and aggression increased in both fast-induced and nonfast-induced subjects during the molt (McCowan et al., 2006).
- Feed deprivation increased non-nutritive pecking and pacing activities and the frequency remained elevated throughout the period of fasting (Zulkifli et al., 2006).
- Hens were frustrated at the time of feed deprivation, leading to increases in object pecking, locomotion and negative social interaction activities in the wire floor and globovolg systems. The behavior of hens in cages during both production and molting periods did not show any changes (Aggrey et al., 1990).
- Extent of feed deprivation caused hens to emit an increasing number of gavel-calls (Zimmerman et al., 2000).

Forced molting is detrimental to hen health.

- Molting by feed deprivation shortened the time of onset and increased the severity of acute intestinal inflammation caused by *Salmonella enteritidis* (Macri et al., 1997).
- Molting hens infected with *S. enteritidis* shed more of the organism at 7 days post-infection than the non-molted group receiving a similar dose (Holt 1993).
- Lymphocyte numbers were lower in molted birds compared with non-molted controls (Holt, 1992a).
- Fasting to induce a molt altered T lymphocyte subpopulations and that these effects primarily occur early in the fasting process (Holt, 1992b).
- Feed deprivation resulted in elevated heterophil to lymphocyte and the values declined with period of feed withdrawal, but did not return to the level of hens fed ad libitum. Feed deprived hens were hypoglycemic throughout the fasting (Zulkifli et al., 2006).

3. Beef Cattle: *Should space in feedlots be sufficient for all animals to lie down together, without touching?*

Cattle are squeezed together into feedlots such that they are unable to move or lie down. In June 1994, the NOSB recommended that the production environment limit livestock stress and promote health. While there may be disagreement among organic advocates as to the appropriateness of feedlots, the reality is that they are in use and standards must be developed for this stage of production to protect animal health and welfare. Eventually, the NOSB will be asked to make stipulations with regard to dry space, shade, cooling, mounds, and distances to water sources within feedlots. In the meantime, consensus has been building on specific and enforceable space dimensions.

Relevant Standards

Minimum outdoor surface area for fattening bovine (EU (with potential derogations until 2010), WFM, step4/5 (WFM step 3 has significantly lower space requirements))

Up to 100 kg must have 1.1 m²/head

Up to 200 kg must have 1.9 m²/head

Up to 350 kg must have 3 m²/head

Over 350 kg, must have 3.7 m²/head + 0.75 m² for each additional 100kg

Bulls for breeding must have 30 m²/head

Provide for sufficient free movement and the opportunity to express normal patterns of behavior (Codex); Housing conditions must allow cattle to stand normally, lie down easily, turn around, groom themselves, and assume all natural postures and movements such as stretching (IFOAM); Feedlots must be constructed to provide for adequate space, social and physical environment and comfort of the cattle based on requirements for the geographic region in which they are located, age, sex, live weight, and behavioral needs (CH).

Relevant Research

- Increased social aggression occurs under high density husbandry in cattle (Kondo et al., 1989).
- In excessively large group sizes, individual animals show a difficulty in memorizing the social hierarchy of peers and the incidence of aggressive interactions increase (Stricklin et al., 1980).
- Daily gain of bulls (and heifers) is lower when they have a low space allowance as compared to those with more space (Andersen et al., 1997).
- With increasing floor area, the cattle spent more time lying down with legs outstretched, spent more time lying down and lay at greater distances from other animals. In addition, there was less stepping on lying animals, and they avoided lying in the middle of the pen. Soiling of floor and coat with dung decreased and daily weight gain increased, both significantly, with increasing floor area (Siegwart et al., 2006).

4. Dairy Cattle: *Should tail docking of dairy cattle be prohibited unless directed by a veterinarian for medical reasons?*

The NOP states that performance of physical alterations are to be preformed as needed to promote animal welfare and in a manner that minimizes pain and stress.

Traditionally, tail docking is routinely performed to improve cleanliness. AVMA states that current scientific literature indicates that routine tail docking provides no benefit to the animal, and that tail docking can lead to distress during fly seasons. When medically necessary, AVMA states that amputation of tails must be preformed by a licensed veterinarian.

Relevant Standards

Tail docking is prohibited (CH, BioGro, KRAV, IFOAM); tail docking must not be carried out systematically but is allowed in exceptional circumstances when authorized by a competent authority in order to improve health and welfare (Codex, EU).

Relevant Research

- No significant differences between tail docked and non-tail docked lactating dairy cows with respect to somatic cell count, or for the prevalence of contagious, environmental, or minor pathogens. No significant differences in milk quality, udder hygiene or leg hygiene that could be attributed to tail docking (Schreiner and Ruegg (2002).
- Monitoring of milking cows after half the animals in the herd were docked, found no differences in four measures of cow cleanliness, two measures of udder cleanliness, or

udder health. An analysis of a sub-sample of cows illustrated that any differences in cow cleanliness over time were attributed to individual differences (Tucker et al., 2001).

- Docked and undocked cows were scored for cleanliness on a five-point scale. Docked cows were cleaner, but the total fly counts of docked cows were greater, especially on their rear legs. As fly counts increased, so did alternative methods of fly avoidance in the docked cows—especially foot stomping (Eisher, 2001).

5. Swine: *Should gestation crates be prohibited?*

Gestation crates are uncommon in organic production. As a result, few standards explicitly prohibit them. Rather, the focus within standards debates has been on farrowing crates which are used to reduce piglet crushing. Several standards prohibit or restrict use of traditional farrowing crates (crates in which the sows cannot turn around) because they interfere with natural maternal behavior and reduce sow-piglet interactions. Other standards allow for farrowing crates as a strategy to reduce piglet mortality due to crushing by the sow. Alternatives, such as loose-housing farrowing pens, require more building space per sow. Currently there is no consensus on farrowing crates and pens, although the Board should anticipate wrestling with this issue in the near future and we have, therefore, provided some studies for examination. In the meantime, banning gestation crates has broad support.

Relevant Standards

Cages are prohibited (KRAV, IFOAM, Codex).

Relevant Research

- Piglet rates were higher and maternal behavior—such as response to piglet distress—improved in family systems as opposed to farrowing crates (Arey and Sancha, 1996).
- Sows in a conventional farrowing crate directed less of their behavior to their piglets, and were less responsive to piglet vocalization while feeding in the trough than pigs in a prototype pair-pen system (Cronin et al., 1995).
- Farrowing crates prevent the sow's rolling movements from crushing the piglets compared to indoor open pens (Weary et al., 1996).
- Pens are better at protecting piglets from the sow's transitions between lying and sitting. Piglet crushing in outdoor farrowing huts occurs mainly during the evening and at night, and is most common within 12 hours of farrowing (Vieuille et al., 2003).
- Piglet mortality was 32% in farrowing pens compared with 14% in farrowing crates (Blackshaw and Blackshaw, 1994)
- Piglet crushing was more frequent in pens compared with crates (Jarvis et al., 2005).
- Piglets in farrowing pens rested in the pen area nearly three times as long as piglets in farrowing crates. In the farrowing crate, piglets spent almost twice as long under the heat lamp, and the duration of sucking activity was significantly longer in the crates. There were also differences in the behavior of the sows, with sows in crates being less active than sows in pens (Blackshaw et al. 1994).
- Rapid sucking movements by piglets increased in farrowing pens with straw (sized 2.8 m x 2.8 m) compared with piglets in farrowing crates without straw (sized 1.6 m x 2.2 m);

this increase, however, did not translate into increased weight gain (Cronin and Smith, 1992).

- Farrowing crates, compared with farrowing pens, thwart interactions between sows and piglets. Provision of straw, both in pens and crates, facilitates the performance of maternal behaviors that resemble those performed by free-ranging sows (Jarvis et al., 2004).

III. Moving Forward

The five potential standards presented were chosen because they are relatively easy, as there is consensus among organic industry participants as well as animal health and welfare experts that they are appropriate for organic production.

No one knows better than NOSB members the difficulty encountered when designing standards and building consensus for their adoption. It takes time, more time than we ever seem to anticipate, to develop standard recommendations and guide them through the process of rulemaking.

In approaching the domain of animal health and welfare issues, the NOSB must make a critical strategic decision. Should the Board recommend, for example, that perches be required for layers, before it has had the opportunity to consider and debate potentially related standards on minimum roost and nest space as well as other attributes of housing? Ideally, the NOSB would have the luxury of time to move forward and recommend all health and welfare standards as they pertain to layers, since at some level, there is an interconnectivity that makes a holistic appraisal appealing. But we argue that a ‘holistic’ strategy is ill-advised.

Given the time consuming nature of standard setting, and the likely challenges to animal health and welfare standards, we recommend that the NOSB move forward and adopt discrete standards as consensus emerges. There are three compelling reasons for doing so:

- (1) The organic livestock sector is relatively undeveloped, allowing for more flexibility in rulemaking. By law, the rulemaking process must consider the impact a proposed rule will have on the regulated industry. With little locked in, in terms of current organic livestock infrastructure and systems, it is an ideal time to carve out an organic standard that elevates science over economics.
- (2) Rulemaking is a dynamic process and standards may be amended as science emerges to suggest alternative strategies; and
- (3) Animals will sustain significant health and welfare gains, merely by enacting the five recommendations we make today. Delaying standard recommendations that make sense now, simply prolongs animal suffering.

Our livestock project is nearing completion. We look forward to working with the NOSB and the NOP as it continues its important work.

Thank you for the opportunity to appear before you today.

Table 1. Standards, guidelines, and recommendations analyzed.

Organic Standards and Recommendations

BioGro: *BioGro NZ Organic Standards*. BioGro New Zealand, Inc., Wellington. www.Bio-Gro.co.nz

Codex: *Codex Alimentarius - Organically Produced Foods*. FAO and WHO, Rome, 2001.
www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/005/Y2772E/Y2772E00.HTM

EU: *Council Regulation (EC) No 1804/1999 of 19 July 1999*; supplementing Regulation (EEC) No 2092/91 so as to include livestock production. *Official Journal of the European Communities*, L222/1 - L222/28. europa.eu.int/eur-lex/pri/en/oj/dat/1999/l_222/l_22219990824en00010028.pdf

IFOAM: *IFOAM Basic Standards for Organic Production and Processing; approved by the IFOAM General Assembly, Victoria, Canada, August 2002*. International Federation of Organic Agriculture Movements, Bonn, Germany.

KRAV: *KRAV Standards - July 2004*. KRAV, Uppsala, Sweden.¹
arkiv.krav.se/arkiv/regler/Standards2004EditionJuly.pdf

NOP: *National Organic Program Final Rule*. US Department of Agriculture, Washington, DC, December, 2002. www.ams.usda.gov/nop/NOP/standards.html

NOSB: National Organic Standards Board, recommendations to the US National Organic Program and records of meetings. www.ams.usda.gov/nosb/index.htm

SA: *Soil Association Organic Standards*. Soil Association, Bristol, UK.¹

Additional Standards/Guidelines from Non-organic Organizations²

ACC: Animal Care Certified (laying hens only). United Egg Producers.
www.uepcertified.com/docs/2005_UEPanimal_welfare_guidelines.pdf

AMI: American Meat Institute. Recommended Animal Handling Guidelines and Audit Guide 2005 ed.
www.animalhandling.org/guidelines/2005RecAnimalHandlingGuidelines.pdf

AVMA: American Veterinary Medical Association. Animal welfare position statements.
www.avma.org/issues/policy/animal_welfare/default.asp

CH: Certified Humane. www.certifiedhumane.org/documentation.asp

NIAA: National Institute for Animal Agriculture (primarily swine).
animalagriculture.org/pamphlets/pamphlets.asp

NPB: National Pork Board. *Swine Care Handbook*, 2002.
www.porkboard.org/SwineCareHandbook/default.asp

WFM: Whole Foods Market. *Farm Animal and Meat Quality Standards*, 2007.
www.wholefoodsmarket.com/products/meat-poultry/qualitystandards.html

¹European Union member countries' standards must be compatible with the EU regulation, but are allowed some flexibility in applying it, and may impose additional requirements.

²These are shown as covering a given item only when it was not also covered by at least two organic standards.

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Poultry/Molting

Aggrey, S., Kroetzl, E., Foelsch, D.W. (1990) Behaviour of laying hens during induced moulting in three different production systems. *Applied Animal Behaviour Science* 25: 102, 97-105.

Holt, P. (1992a) Effects of induced molting on immune-responses of hens. *British Poultry Science* 33(1), 165-175.

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