To the Agriculture and Forestry Committee:

Thank you for giving me the opportunity to testify last Tuesday. At your request, (and with the assistance of Cynthia Cross Greenia, who assisted me in my research) I have attempted to clarify several points and to come up with clearer definitions and guidelines as to what size of constructed shelter is required for both a mix of animals and for horses in particular.

To reiterate my testimony concerning Article 17, the statement that "snow and ice" are suitable substitutes for liquid water: there is NO standard of animal husbandry that advocates this for any animal; "All animals need water to survive. Under cold conditions, provide fresh water often, or use freeze-proof watering devices." (*http://www.ag.ndsu.edu/pubs/ansci/livestoc/as1763.pdf*) In the case of equine livestock this is of particular concern, as the frequency of reports of horses pastured in winter without available water is quite high. As things currently stand (to wit: ACOs and law enforcement are not required to be certified in animal husbandry standards) investigators cannot be counted on to know that snow and ice are not acceptable substitutions for water in ANY case, with the possible exception of poultry. This is an unclear law that also contradicts **13** V.S.A. § 352. I strongly urge the Committee to remove this language.

Concerning the definition of the appropriate size of constructed shelter: The current wording states that it "(must) provide enough space to accommodate at one time all livestock and animals comfortably." This requires that "comfortably" be further defined. For example, if in order to adequately shelter all the animals in a given group animals are crowded together so tightly that they cannot turn around or lie down one cannot argue that they are being "comfortably accommodated;" given that the point of the shelter law is animal welfare, this scenario undermines the purpose of the article. The logical solution is to have parameters that aid in defining what "enough space to accommodate at one time...comfortably" actually means in more specific terms. I would suggest the table contained in the following report from the University of New Hampshire Extension Service as a guideline for all pastured animals: https://extension.unh.edu/resources/files/Resource000471\_Rep493.pdf

It would be a simple matter for an investigator to calculate the space needs for a given group of animals by adding together the suggested square footage and averaging the result, then measuring the footprint of the shelter and comparing the numbers. Please keep in mind that there is a difference between how much space an animal "takes up" (i.e., its footprint) and the amount of space it requires to turn around, lie down, and stand up, all without being injured by other animals sharing that space. While noted below specifically in reference to horses, there is a "pecking order" in **any** given group of animals, whether of mixed species or not, that often results in malnourished and/or injured individuals due to the stress of sharing insufficient space.

For guidelines primarily concerning horses I suggest that you consider the following information in deciding on space considerations: "When determining your run-in (shed)'s size, consider the number of horses that will be turned out at any one time. **Horses need room to escape each other when they all want to be in the shed.** A good general rule is to allow two horses per equivalent stall size of about 12 x 12 feet (i.e. a run-in for four horses would have 12 x 24 feet of space).....**simply remember that crowding too many horses into a run-in is dangerous for horses and handlers**" (Dallas Goble, DVM, thehorse.com) Similar numbers may be found in materials from the University of Kentucky and the

University of Tennessee, among many others, and are considered standard for the industry. Should you require it I would be happy to provide more citations of these numbers from both academic and commercial sources.

Best practices suggest that the size allotted per animal should be based on the minimum space requirement of the largest animal in the group; thus even if allotting significantly more space than strictly necessary for a small pony or ruminant, the result is a more habitable environment for the larger animal. Square footage requirements per species are documented in the previously referenced materials from the University of New Hampshire.

In the big picture shelter alone is just one factor among many in evaluating the welfare of animals; when investigating any livestock living situation it should be of overarching importance that the welfare of the animals in question be taken into consideration by the investigator(s), and that their overall health and appearance be made paramount.

Again, I am thankful for the opportunity to be of service. Please let me know if I may be of further assistance to the Committee.

Most Sincerely,

Lori J. Berger