

Northeast Pasture Research and Extension Consortium Minutes of Annual Business Meeting

**Lakeview Conference Center
Morgantown, West Virginia
March 4-5, 2009**

Meeting registrations were down this year. Fifty-seven people registered. This may have been due to weather - a bad snow storm that tracked up the Northeast Coast on Sunday and Monday before the meeting, the date coincided with seasonal calving and some health issues for some members, and belt-tightening by both private and public sector people and their organizations in a weak economy. This year, 19 producers attended from 8 states (California, Connecticut, Maine, Maryland, New York, Pennsylvania, Virginia, West Virginia, and Wisconsin; 12 representatives from land-grant universities; 13 from the USDA-Agricultural Research Service; 7 from the USDA-Natural Resources Conservation Service; 4 from state agencies; and 3 representatives from non-governmental organizations.

James Cropper, the new Executive Director, opened the annual meeting. He introduced the Executive Committee. Then everyone in attendance was invited to introduce themselves, give their affiliation, and a bit about themselves.

The keynote speech was delivered by Dr. David Pimentel, Cornell University. It was entitled "Ecologic and energy-saving value of pasture-based livestock production". A brief synopsis of the most pertinent information follows. Fossil fuel provides 90% of US energy use today whereas in 1850 91% of the energy use was from wood. With the burning of fossil fuels, this has increased greenhouse gases emitted into the atmosphere. Feedlot raising of beef requires 40 kilocalories of energy per kilocalorie of beef protein. While a pasture-raised beef production system uses just 20 kilocalories of energy to produce a kilocalorie of protein. Another important issue is the American per capita diet consumes 2 times the amount of protein (112 grams/day from animal and plant sources) required to meet the recommended daily allowance (56 grams/day). Seventy-five grams of this protein comes from animal protein. Even though a pasture-based production system producing beef, milk, and lamb would not have the capability of producing as much protein as a confinement system, the protein production could be reduced by half and still more than meet the protein needs of the average person. Thirty-eight grams of protein could come from meat and milk and 37 grams (as presently consumed) from plants. Meanwhile 2000 kilograms per hectare of atmospheric carbon would be sequestered yearly by pasture systems on average. Therefore it uses less carbon (fossil fuel) in producing food, encourages a more balanced diet, and sequesters carbon.

Following the keynote speech, the attendees went to the poster break where poster papers were presented on Carbon Sequestration and Marketing Carbon Credits. Poster paper authors were Curtis Dell-ARS, C. Alan Rotz-ARS, Paul Hepperly-Rodale Institute, R. Howard Skinner-ARS, Mark Sperow-West Virginia University, and Martha Holdridge-West Wind Farms. Titles and abstracts of these posters can be viewed in the electronic annual meeting agenda at: www.umaine.edu/grazingguide/2009%20presentations.htm.

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These poster papers were reviewed prior to the first Session which was a panel discussion on Carbon Sequestration and Marketing Carbon Credits so the ideas presented in the papers could be fully discussed by the attendees and the poster paper presenters. Martha Holdridge was the moderator for this session. Each presenter summarized the content of their poster paper(s) and then the session was opened up for questions and comments. More research is still needed to see what the impact pasture management regimes (plant species composition, continuous versus rotational grazing, and livestock enterprise) have on rate of carbon build-up and losses through decomposition and release. As plants are lifeforms, they respire as do animals so they release CO₂ even though they also use CO₂ when photosynthesizing. Depending on the time of day and stresses they come under, there is not always a net accumulation of carbon in pastures. Under very stressed pasture conditions, there can be a net loss of carbon. For a carbon credit market to work there must be caps on the amount of carbon some industries can release so that there is a market for carbon credits produced by industries, such as pasture-based farms, where more carbon is sequestered than is released. The industries releasing too much carbon can then buy carbon credits to off-set the amount of carbon they are releasing above the cap so that there is no net increase in carbon release. Models that predict carbon sequestration and release are needed to reduce the cost of verification that carbon is being stored in soils. Soil sampling would have to be done very intensively to be even minimally accurate so the cost would be prohibitive for a limited accuracy method. Another issue is what will the accounting system track? Will it be in carbon units per unit of product? Or, will it be carbon units per acre or hectare? In animal agriculture, it becomes important if greenhouse gas emissions are being tracked for animals as well as from the pasture they are being raised on. Is there a net balance of carbon being stored, or is it a wash, or worse? Therefore, more research is still needed to determine the carbon sequestration value of different pasture best management practices. The Grassland Congress Working Group led by Dr. Richard Conant is working towards this end as well as others.

The Public and Private sectors met from 1:00 PM to 3:00 PM on Wednesday afternoon, a departure from previous meetings, so that the Raw Milk Session could be held on Thursday morning to accommodate a featured speaker's travel schedule.

Following the breakout session for the Public and Private sectors, the second poster break was presented to the attendees. This poster break was entitled "New Findings in Pasture Research". It was divided into two sections, Agronomy and Pasture-Based Livestock Products. The presenters in the Agronomy section were Caroline Rasmussen-Cornell, Kathy Soder-ARS, Heathcliffe Riday-ARS, Stephen Herbert-University of Massachusetts, Matt Sanderson-ARS, Craig Yohn-WVU Extension, and Bob Hendershot-NRCS. The presenters in the Pasture-Based Livestock Products were Kathie Arnold-Twin Oaks Farm and Diane Van Hekken-ARS. Titles and abstracts of these posters can be viewed in the electronic version of the annual meeting agenda.

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Wednesday afternoon was rounded out with a session entitled, “Value-Added Production Systems”. Jim Cropper moderated this session in place of Rick Kersbergen whose air flight had been delayed irretrievably by the Nor'Easter snow storm. Clyde Bailey led off this session with a presentation about his beef cow/calf operation in Kanawha County, WV that he runs in partnership with his Brother, Clay. Clyde backgrounds his calves on pasture. He was followed by Gabe Clark, Cold Spring Ranch – North New Portland, ME, who raises pasture-fed beef that he sells locally in the close-by New England area as a finished meat product. He described how he does this with his local meat processing plant.

An evening session followed dinner. This session had been requested by Elmer Dengler, Resource Conservationist and Grazing Lands Conservation Initiative Coordinator for NRCS in Maryland. He wanted to involve the Northeast Pasture Consortium in the debate on the issue of pasture management impacts on the water quality of the Chesapeake Bay with the Chesapeake Bay Program Nutrient Subcommittee. He was given the floor along with Dr. Les Vough, Professor Emeritus in Agronomy, University of Maryland. The issue centers around the devaluing of the reduction of nitrogen, phosphorus, and sediment delivery to Bay waters as contemplated to be modeled by the current version of the Chesapeake Bay Program's watershed computer model for the management intensive grazing practice. This practice is a component of the NRCS Prescribed Grazing standard where pastures are rotationally grazed in a series of smaller units called paddocks. These paddocks are grazed for a short period of time from a half day to perhaps 3-4 days. Then, the livestock are moved to another paddock that has been allowed to grow ungrazed for a period of time so that it has a chance to accumulate standing forage while its plants accumulate food reserves. The food reserves allow the pasture plants to initiate vigorous regrowth after being grazed. Much emphasis is also given to livestock exclusion along stream corridors that pass through some rotational pastures even though exclusion can occur for several days at a time within each paddock if the paddocks straddle the stream passing through the larger pasture area. In some larger pastures that do not follow the stream linearly, there may be paddocks that do not straddle the stream at all and thereby provide livestock exclusion from the stream corridor altogether while occupied by grazing livestock. Therefore, some care has to be taken on the assumptions used in the computer model being employed to predict reductions in nitrogen, phosphorus, and sediment delivery based on access to streams by grazing livestock when pastures are rotationally grazed. Also, streambank erosion has been shown to be most controlled by watershed hydrology and stream morphology rather than by livestock presence on banks and streambed. Total livestock exclusion in and of itself does not abate streambank erosion if the morphology of the stream and watershed hydrology are conducive to perpetuating raw, receding banks. Also, assumptions based on the filtering capacity differences between rotationally grazed grasses and grasses that are occasionally mowed need to be carefully reviewed. A shorter but thicker stand of grass may be a much better filter than a grass stand that is allowed to grow tall since the taller grass stand tends to be less dense at the ground surface where shallow runoff flows pass through.

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A number of handouts were given to the participants at the 7:00 PM session. They were: Pasture BMPs in Phase 5 (of the Bay computer program) presented at the Joint Meeting of the Agriculture Nutrient Reduction and Watershed Technical Workgroups in January 15, 2009, Pasture Management for Dairy, Beef, and Livestock Definition and Nutrient and Sediment Reduction Effectiveness Estimates for use in the Tributary Strategy runs of Phase 5 of the Chesapeake Bay Program Watershed Model, Horse Pasture Management Definition and Nutrient and Sediment Reduction Effectiveness Estimates for use in Tributary Strategy runs of Phase 5 of the Chesapeake Bay Program Watershed Model, Pasture BMPs application in CBP (Chesapeake Bay Program) Phase 5.2 modeling, research findings by Research Scientist Kirsi H. Saarijarvi of MTT Agrifood Research Finland on reducing nitrogen losses from pastures, Environmental Benefit of Rotational Grazing Must be Defended, and assistance request from Elmer Dengler to the Northeast Pasture Consortium to formally offer its expertise to the Chesapeake Bay Program personnel to adequately account for improvements in water quality associated with management intensive (rotational) grazing.

A lengthy discussion of the issues revolving around the benefits of off-stream watering facilities, livestock exclusion, grassed ungrazed buffers between grazed pasture and pasture-side stream, and rotational grazing followed. There was also discussion about the validity of percent reduction values given to each of the practices and in relation to each other. There was concern that the values did not seem to correlate very well between practices. Some being over-rated while others, especially rotational grazing, were under-rated. The meeting ended with agreement that a resolution should be presented before the Northeast Pasture Consortium business meeting in the afternoon business meeting on Thursday for the Northeast Pasture Consortium to offer its assistance in providing technical advice and consultation to the Chesapeake Bay Program Nutrient Subcommittee and its workgroups to more accurately reflect the role pasture management plays in water quality improvement to the Chesapeake Bay.

On March 5, the annual meeting continued. Session 3 began at 8:00 AM. The issue presented here was the Plight of the Small Packing Plants. This session was moderated by Karen Hoffman, NRCS, Norwich, NY. Kathleen Harris, Marketing and Processing Coordinator of the NE Livestock Processing Services Company, Sprakers, NY led off the session describing the role of her company in helping small farmers find the appropriate meat processor to process their livestock for consumer use through local marketing. Her job is to advocate on the farmer's behalf for the best quality processing, processing discounts, and scheduling preference. She provides one person contact for scheduling and cutting instructions and information sharing regarding transport of livestock to the processing plants. She also provides personal service and technical assistance regarding: Greater consistency in percent return of usable meat, attention to quality control, attention to humane animal handling, guidance on cuts and packaging, live animal readiness for processing, product storage for held inventory, and production recommendations for raising livestock for off-season processing periods.

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Kathleen also listed the number of packing plants remaining in New England. There were 6 USDA inspected meat packing plants in Maine, 1 state inspected plant and 6 USDA inspected plants and a mobile poultry processor in Vermont, Massachusetts had 2 plants, Connecticut had 1 slaughter and processing plant and 1 processing only plant. New Hampshire had none.

DVM Robert Pitts, Director of the West Virginia Department of Agriculture's Meat and Poultry Inspection Division, spoke next. All 24 of the meat packing plants in West Virginia are state inspected. Nation-wide only 27 of the 50 states have state inspected meat packing plants. The problem for small livestock producers who want to sell meat across state lines is that it is illegal to sell meat interstate if it is state inspected. Title V of the 2007 Farm Bill was to facilitate small meat packing plants to ship interstate. However, the rules still have to be written. There is a vested interest to not make it easier for small plants to ship interstate due to who does the meat inspection. If state inspected meat could be sold across state lines, this would cut into the purview of USDA inspectors and might also be seen as weakening food safety laws by some food safety conscious consumers and advocacy groups. He also talked about the logistics and challenges of handling cattle due to bovine spongiform encephalitis (BSE) disease control restrictions by small packing plants.

Craig Garrett, a small meat processor and owner of Garrett Country Market in Accident, Maryland was the final speaker for this session. Craig found out that there was no place close-by that could process the American bison that he was raising on his farm in western Maryland since it is considered a game species. He set about correcting this situation by building his own processing plant. This turned out to be not an easy task, but with perseverance, he accomplished the task. His facility is USDA inspected by an inspector who comes by on a scheduled visit. By setting up this processing plant and store, other people who raise bison now have a place where they can get their bison processed within driving distance.

The final topical session of Thursday morning was entitled Raw Milk Opportunities and Challenges. It was moderated by Fay Benson, Cornell University. The first speaker was Mark McAfee, Organic Pasture Dairy Company, Fresno, CA. His company provides six raw milk dairy products that can be purchased at their farm store, via UPS delivery, and at some member retail outlets in California. Mark explained how raw milk can provide beneficial bacteria, enzymes (including lipase, protease, and other), lactase forming bacteria, and many enzyme based pathogen killing systems. The common practice of pasteurization he said inactivates or dramatically reduces the effects of these important active (living) elements. As a result, you may be lactose intolerant when drinking pasteurized milk, but not lactose intolerant when you drink raw milk. This is because lactase enzymes are being formed when you digest raw milk. Pasteurization practices continue today with the chief benefit being extended shelf life. These modern “dead” milk products now cause allergies and lactose intolerance to huge sectors of the

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population. Current (PMO) Federal standards for pasteurized milk permit 100,000 bacteria per ml for milk before being pasteurized with as many as 20,000 injured or living bacteria to be alive after pasteurization, and this may include pathogens (this is arguably the reason why milk is pasteurized). California standards for human consumption raw milk require that milk sold for raw consumption have fewer than 10 coliform and fewer than 15,000 live bacteria per ml and no pathogens. His dairy company averages about 1500 beneficial living bacteria per ml and no test has ever detected a human pathogen in their raw milk samples. All their milk cows are pastured year-around so they tend to be very clean and thus less subject to having their udders contaminated by soil and feces compared to confined milk cows.

Dr. Bhushan Jayarao, Penn State University, University Park, PA was the next speaker. He has studied raw milk safety from milk stored in bulk tanks at Pennsylvania dairy farms. He noted that many farm families drink raw milk that comes from their dairy herd. Pasteurization of commercially distributed milk has greatly reduced the risk of infection resulting from the consumption of contaminated milk. These food-borne pathogens *Campylobacter jejuni*, Shiga toxin-producing *Escherichia coli*, *Listeria monocytogenes*, *Salmonella*, and *Yersinia enterocolitica* have been detected in bulk tank milk samples. Although the contamination percentages were low in raw bulk tank milk, the risk is there for people drinking raw milk to become sickened by these pathogens. Gastroenteritis is the primary condition associated with cases of food-borne illness attributable to raw milk consumption. However, *L. monocytogenes* causes listeriosis, which is characterized by septicemia (blood poisoning) and meningitis in humans.

Peggy Wolf, a long-time consumer of raw milk, was the next speaker. As a child growing up in New Jersey she had consumed certified raw milk, and then as a farm wife in Pennsylvania she and her family drank raw milk from their own herd and to this day uses raw milk produced by a nearby farm. She felt that the benefits of drinking raw milk far out-weighed the risks of contracting a food borne illness from it. She pointed out that the Center for Disease Control website states that “those consuming raw milk are 2.5 times less likely to contract food borne illness (from milk) than those consuming pasteurized milk and 3.5 times less likely to contract food borne illness from consuming other foods.” She also noted that among raw milk advocates there are many who can give personal testimonies about their families’ health improvement, including her own. She related that their fourth child who had the benefit of raw milk from conception to maturation did not require teeth straightening as did the other three children who were born prior to the family moving to their PA farm.

The final speaker of this session was Laura Wilson Shields from Le-Ara Farms, LLC in Worthington, PA. She is a PA licensed raw milk producer. She shared with us her love of dairy cows and proudly showed us pictures of some her very long-lived dairy cows she had raised and cared for over the years. Her cows are pastured throughout the growing season. She said it was not easy working with milk inspectors the first one and a half years of holding a permit, even though she had followed all the rules and regulations. She pays a great deal of attention to make sure all the milking equipment is clean before the next milking. She would like to sell more than just raw milk. Many of her customers ask for other products

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made from raw milk, such as butter, cheese, and yogurt. Her clientèle are well-educated about raw milk and find it tastes better and has healthful properties based on their own experiences. She has a very loyal clientèle and has seen sales of raw milk continually grow.

The scheduled noon luncheon was delayed a half hour due to the informative and interesting morning sessions running overtime. The afternoon public and private sector reports began at 1:30 PM. Below is a compilation of the joint report:

Private and Public Sector Reports - 2009

- 1) More On-the-Ground technical support needed at farms.
- 2) Grazing focused technical support rather than just program financial assistance.
- 3) Low-input (low to no-grain) dairy system needs to be evaluated and reported on.
- 4) Raw milk production economic feasibility studies and infrastructure guidelines to meet milk inspection standards are needed.
- 5) CAFO Regulations. MAFO (NY & MD) Current regulations would seem to include pastured animals as well if animal wastes come in contact with surface waters flowing through a pasture.
- 6) Research & documentation to support Carbon Markets for pasture
In all Northeast States

Base data needed, but consensus needed to describe what the base is and how to measure it.

Results from Penn. State Grazing Conference
- 7) Water quality of continuous versus rotational grazing documentation needed:
To aid Chesapeake Bay modeling effort

Water quality monitoring needed at farms to capture all management differences between continuous and rotational grazing as practiced in most situations.
- 8) Climate change as it affects weed creep (expansion into new areas)
Using Weeds as Forage
Nutritional value
Toxicity issues
Biological control systems

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9) International Centre for Research in Organic Food Systems (ICROFS) – new organic farming center and website based in Denmark.

10) Compost research on pastures needed as alternative to chemical fertilizer usage.

11) Meat Processing

Support small meat packers

State & Federal inspected plants needed

Title V of 2007 Farm Bill as it pertains to meat inspection for interstate sales.

USDA Rules – Consortium needs to be involved in the review and comment.

Animal Doc. (1 – 13 pgs)

Disposal of brain & spinal material guidelines that are effective yet reasonable to comply with.

12) 2008 Farm Bill implementation

National Institute of Food & Agriculture (NIFA)

CSREES & ARS eligible for grants under this authority.

“Chief Scientist” (appointed by President) + Advisory Committee

Under Sec. of USDA for Research, Education, and Extension Office (REEO)

Grazing needs to be represented.

Mark Walbridge, ARS liaison to NIFA

Executive Committee Co-Chairs draft NEPC priorities letter

Producers also send letters

“Pasture is important & needs research money”

Send letter when new under secretary is appointed.

13) Chesapeake Bay Model

Model almost changed to indicate rotational pasture has no or low impact. Not based on good, sound research science.

Include research paper titles as examples in letters.

On-site monitoring on private sector farms could assist in providing needed support data.

14) Professional Development for pasture professionals similar to range management

Grazing researchers

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Academia

Undergrad programs

Research

Technical staff

- 15) Letter of congratulations to Bruce McPheron as new Dean of the College of Agriculture Sciences at Penn State.
- 16) Letter to Kathleen Merrigan, Deputy Secretary of Agriculture-USDA designate
- 17) Biotechnology emphasis in research hurting other areas of ag. research.
- 18) Organic Pasture Rule - Let NOP know we have technical expertise to help.
- 19) Stake Holder Committee
 - Letters to Sen. Arlen Specter & Congressman Tim Holden to thank them for restoring funding to PSWMR Unit at University Park, PA.

 - Also letters of support to select Ohio congressional delegation members for Coshocton, OH ARS Unit grant proposal by Small Farm Institute.
- 20) 4th National Conf. Grazing Lands
 - To be held at Reno, NV – December '09

 - Submit papers to display activity in eastern pasturelands.
- 21) Forage Suitability Groups
 - Old data in many states

 - Need research to fill gaps in yield data for such things as available water holding capacity and soil pH for all forage species found in pastures.

 - NRCS uses to plan grazing systems

 - Can't meet needs of models that are used to set policy
- 22) Letter of thanks to Mass. Dept. of Agriculture Resources – Ag Innovation Center for funding pasture research at UMASS Upper Northeast Pasture Center.
- 23) Letter to new NRCS Chief - List accomplishments & why important

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Reports were also received from Evert Byington, National Program Leader for Range, Pasture, and Forages, Agricultural Research Service; Bill Tucker, President of the American Forage and Grassland Council; and Matt Sanderson, Agricultural Research Service, University Park, PA. Ev gave an update on ARS with the transition of a new Administration coming on board. He also talked about bio-energy feedstocks that could come from forage resources. One example of technology being explored was cold fusion that could make diesel fuel out of any organic feedstock for 50 cents a gallon. Bill gave a legislative update on things happening in Washington with a new Congress and President taking over. He also gave an update on AFGC and encouraged attendance at the 2009 Annual Meeting at Grand Rapids, MI in June. Matt gave a report on the Pastureland Conservation Effects Assessment Project (CEAP). He chairs a group of scientists who are assessing the conservation effects of the following NRCS conservation practices: prescribed grazing, pasture and hayland planting, nutrient management, and forage harvest management. They are also doing an integrated assessment of the socio-economic concerns of implementing these practices. Matt gave out a handout entitled "Pastureland Conservation Effects Assessment Project (CEAP) Report for the NEPC 2009 Annual Meeting".

The Business Meeting followed. Jim Cropper thanked Fay Benson, Cornell University, and Gary Bergmann, Stonegate Standardbred Farms, Inc. for their service as members of the Executive Committee who were stepping down at the end of the Annual Meeting after serving a 4-year term. The floor was then opened up for nominations for a Private Sector member and a Public Sector member to replace Gary and Fay. Rachel Gilker was nominated and confirmed as the new Private Sector Member-at-Large. Jill Ott was nominated and confirmed as the new Public Sector Member-at-Large. Both will begin their duties at the end of the Annual Meeting.

A list of the current Executive Committee is available on the Consortium website:
<[Http://www.umaine.edu/grazingguide](http://www.umaine.edu/grazingguide)>.

The next item brought up for discussion was the the Chesapeake Bay resolution introduced by Gabe Clark and read into the minutes. The text of which follows:

WHEREAS rotational grazing management practices have been shown to reduce losses of N, P and sediment from pastures, thereby being very efficient in reducing the flow of nutrients and sediment into streams, rivers and ultimately to the Chesapeake Bay, and

WHEREAS there is a lack of scientific evidence to support the proposed reduction of N efficiency from 20% to 5% for rotational (prescribed) grazing practice in the Phase 5.2 version of the Chesapeake Bay Program Watershed Model, and

WHEREAS the best professional opinion of the producers and scientific/technical experts comprising the Northeast Pasture Consortium indicate that rotational grazing management

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practices are clearly superior to continuous grazing with an off-stream water source for nutrient and sediment reduction efficiencies, therefore be it

RESOLVED that the members of the Northeast Pasture Consortium request that the Chesapeake Bay Program retain in Phase 5.X of the Model the efficiency credits used in the Phase 4.3 version of the Model (20% TN, 20% TP, 40% sediment) rather than the proposed 5% TN, 20% TP, 40% sediment efficiencies, and be it further

RESOLVED that the Northeast Pasture Consortium offers the technical support of its members to assist the efforts of NRCS and members of the original panel of consulting scientists to develop a new report to be submitted to the Chesapeake Bay Program Nutrient Subcommittee and its work groups, and be it further

RESOLVED that members of the Northeast Pasture Consortium are available to the Mid-Atlantic Water Program staff for technical advice and consultation that will lead to a more accurate reflection of the role of pastures in water quality improvement of the Chesapeake Bay.

After discussion, the members present at the Business Meeting unanimously adopted the resolution and directed that it be sent to the Nutrient Subcommittee of the Chesapeake Bay Program. It was the consensus of the Consortium that members of the Executive Committee and ARS scientists from Coshocton and University Park meet with the Nutrient Subcommittee at a time convenient to all after the resolution was sent and acknowledged by the Subcommittee.

Jim Cropper thanked the Raw Milk Session speakers for their graciousness in responding to a total stranger within 6 weeks of the annual meeting and agreeing to speak on such short notice. It was the one session that had languished in scheduling speakers. If it were not for their willingness to adjust their schedules, the session would have been canceled. It was an excellent session because of their unique insight and outstanding cooperation.

Jim then thanked everyone for their attendance and called for and received a motion and a second to adjourn the 2009 Northeast Pasture Consortium Annual Meeting.