Executive Summary
The High Plains Intermountain Center for Agricultural Health and Safety had its first meeting with its Dairy Advisory Board from April 27-28, 2011. Attendees included dairy producers, extension agents, dairy equipment manufacturers, producer organizations, and academics. The meeting centered on familiarizing advisory board members with each other and with HICAHS researchers, further understanding the needs and concerns of the dairy industry, review of current and proposed HICAHS dairy projects, and planning of next steps.

Discussions reinforced many of the major issues identified in the Regional Dairy Health and Safety Workshop held in 2009 by HICAHS and the Southwest Center for Agricultural Health, Injury Prevention, and Education (SW Center), but identified specific gaps and action items.

Major themes of discussion included: immigration, communication, OSHA/regulatory compliance, management skills, building further partnerships, and funding models.

Producers shared that immigration laws stress both employees and employers. Employers would like to keep their employees but it is difficult to verify legal status, plus the immigration visas do not accommodate the dairy farmer’s needs. Drug use, domestic violence, and suicide add to/or are a result of stress. Louise Quijano (HICAHS), Lorann Stallones (HICAHS), Bob Fetsch (CSU Extension Agent) and other HICAHS members have worked on these issues and prevention strategies.

Cheryl Beseler (HICAHS) shared her proposed study on evaluating availability and use of healthcare services. Producers confirmed that this is a problem on dairies: in some cases where workers are provided health care, they do not use it. Plus, employees do not understand their benefits, tax deductions, or bonuses.

Another facet of HICAHS’ research focuses on changing the physical work environment to reduce physical stressors. John Rosecrance and Dave Douphrate have proposed evaluating the ergonomic and economic impact of a number of engineering interventions in dairy milking partners, including an evaluation of lightweight milking units. Producers shared their concern that these units are not durable enough.
Producers and extension agents shared their thoughts about best practices for communicating with non-English speakers. A key point was need for training of managers on Communication – more than just Spanish (how, when, how often). Increasing OSHA regulations are a growing concern for the industry, and led to some discussion of how HICAHS research data is shared and how it might be used. This also led to discussion about the quality and relevance of research and disseminated results. The board members stressed that it is important to them that a solution is provided when a problem is identified.

Much of discussion kept coming around to skills or tools that managers need. In addition, the overall sentiment from producers is that HICAHS needs to continue communicating clearly that our approach is grounded in engaging and listening to the industry so that our work is relevant and of value – there is a perception that HICAHS is sheltered within the ivory tower of academia.

Given current economic challenges and likely federal budget reductions, advantages and disadvantages of a business model versus research model approaches were also discussed. A successful model will need to address both value to the industry and retention of scientific rigor. John Rosecrance’s work with the construction industry may serve as a model.

The board members suggested a number of additional organizations that HICAHS could partner with to address these issues, leveraging resources, expertise, and networks for implementation and outreach.

Organization of this advisory board and tools to facilitate board activities were also discussed. A dedicated section of the HICAHS website can serve as an important cornerstone for resources and communication. Specific action items are detailed on the following page.
**Action Items**

- OLGA’s Farm teaches her workers English through a program conducted by South Dakota State University utilizing students. Bill Wailes suggested engaging Community Colleges to do something similar. Matt Nonnenmann, Risto and Noa all expressed interest in following up.

- MATT offered to contact the Journal of Dairy Science and review articles submitted for publication.

- Select groups for HICAHS to contact. This list is not comprehensive. An extensive number of organizations were suggested during the meeting, beginning on page 13. HICAHS would like to follow-up with all of them, but these are the ones with which board members have contacts:

  1) ROBERT: The Western States Dairy Association meets four times/year. They are probably not aware of the Ag Centers and Robert can make an introduction. The members typically consist of progressive dairy producers.

  2) WYATT suggested that HICAHS talk to the DMI group. Funds for this group come from the check-off program.

  3) HICAHS is working with Wyatt and DeLaval to develop and present OSHA workshops for dairy owners. (This has been initiated since the board meeting). We will partner/coordinate with WI National Farm Medicine Center and then with other Ag Centers as this develops nationally.

- HICAHS needs to do an inventory of what programs are already underway, what organizations or partners have we not yet engaged. We need to identify gaps and our niche.

- ROBERT says J.W. Schroeder in North Dakota has information on measuring impact.

- HICAHS will develop a Dairy Board webpage and discussion board on the HICAHS website that can be used to help facilitate connections and information sharing. Access to the website will include the Dairy advisory board and a wider network of dairy producers and related businesses (equipment, feed, pharmaceuticals). The Website will include: Contacts/Members, links to resources, translated research – our work and others in a format that can be used by producers, list serve/chatroom, upcoming events, tools and other products (such as audits, basic information on OSHA).

- HICAHS will distribute a list of Dairy Advisory Board members and HICAHS contacts.
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Wednesday, April 27, 2011

Overview of NIOSH Ag Program and HICAHS (Reynolds)

- HICAHS one of 8 Ag Centers across country
- Seven HICAHS Cores/Programs:
  1) Administrative Core
  2) Pilot/Feasibility Program: For young scientists
  3) Outreach Program
  4) Evaluation Program: 
     Example – Vicky Buchan, Deputy Director, surveyed the attendees of this 
     meetings as part of program evaluation of this meeting
  5) Research Core
  6) Prevention/Intervention Core
  7) Education/Translation Core

2009 Dairy Workshop: Identified Concerns of Dairy Industry (Reynolds)

- Language/Cultural Issues
- Immigration & Immigration Reform
- Need for Leadership Training
- Need for recruitment and retention training
- Worker Health Issues: Preventive Health, Worker Health Programs, Reproductive health, 
  Worker Treatment (immigrants fitting in to the community), chemical exposures, mental 
  health, injuries, sanitation

Outreach to Dairy Producers (Douphrate and Rosecrance)

- OSHA Training Workshops, Lean Six Sigma Training, and Training for Managers and 
  Workers. The OSHA Training workshop was conducted in South Dakota.

Seasonal and Migrant Farmworker Stress: Mental and Physical Health 
Implications (Quijano)

- Louise Quijano conducted a pilot survey of 15 Farm Workers: 14 Hispanic, one non-
  Hispanic
• Study asked respondents how they defined stress, what stressed them, and how they deal with stress. Immigration laws were a source of stress. None of the respondents reported drug use, but they did say that their buddies did drugs.

**Group Discussion: Immigrant Workers, H2A Visas, & Stress**

**Verifying Legality of Farm Worker Employment**

• DAIRY PRODUCER: raised issue of employee satisfaction and discussion included need to deal with domestic violence, drug use, suicide prevention. The immigration laws are very stressful to farm operators and farm employees. This stress can lead to unreported domestic violence -> the abused spouse is afraid of being deported so she does not report the abuse. Eighteen of my farmworkers have received deportation letters.

• Producers also indicated some using regular drug testing and that this drastically reduced rates. Rachel indicated CLA willing to assist with these issues. There are lessons to be learned from work with migrant worker populations.

• DAIRY PRODUCER: says that her farm uses eVerify to ensure that her employees can be legally employed in the U.S. Five of their 32 employees have and H2A Visas. Since South Dakota has a low unemployment rate, legal employees have more freedom to find employment elsewhere.

• Utah has a bill in process that will improve immigration laws.

• BOARD MEMBER on H2A Visas. It takes 3 years to train worker and then the H2A visa expires. Dairies are different than other industries and need a continuous labor force. It would be better if a different type of visa was created.

• BOARD MEMBER: No match on H2A is NOT an indicator of illegal employment status.

• DAIRY PRODUCER:: eVerify is not perfect but it is close

• Verifying that the SS# and DOB match can eliminate a lot of illegal documents.

**Farmworkers and Income**

• DAIRY PRODUCER: For many immigrants, their job on the dairy is the first time that they have had a steady income. Many of them do not understand their healthcare benefits, tax deductions, and employee bonuses.

**Producer Stress**

• It was reported that Bob Fetsch (CSU faculty) conducted a talk on suicide on farmers and it was very well received. The plummeting economy led to an increase in suicides in the farming industry.
• BESELER: Depression is a bigger predictor of safety behavior than knowledge (this journal article is under review and will be published soon by the American Journal of Epidemiology).

Proposed HICAHS Projects: 2011-2016 (Reynolds)

Changing Healthcare Utilization Patterns among Dairy Workers (Beseler)

• Project goals:
  1) Increase access and availability to healthcare services in dairy workers
  2) Identify barriers to access and reduce the barriers
  3) Increase self-efficacy in accessing healthcare
  4) Increase health literacy

• This project aims to do the following: (1) Collect information on the factors that influence workers’ use of healthcare services, (2) Use a local community health clinic (Salud Family Health Center) to provide medical services, and (3) Evaluate how these actions affect healthcare use and healthiness of the workers

• Length of study will be ~6 months

Group Discussion on Healthcare Services

• DAIRY PRODUCER: HIPAA laws prevent Cheryl and HICAHS from reporting specific diseases in dairy workers

• BOARD MEMBER: My facility has been using Salud’s services. Family members of his employees also come to use Salud. He used to provide health insurance to his workers but they did not use it, or wanted money instead of the insurance, or just did not see the value in it — so he stopped providing it altogether.

• DAIRY PRODUCER: I provide health insurance for my workers but they do not use it!

• BOARD MEMBER: Employees are young and think they are bullet-proof.

• DAIRY PRODUCER: Employees utilizing homeopathic medicine for treatment.

• DAIRY PRODUCER: I would like to provide dental insurance to my employees.

Exposure Assessment and Intervention Analysis (Douphrate)

• Study will evaluate (A) ergonomic stress and compare stress in each dairy parlor designs: herringbone, parallel, rotary, (B) The design of the lightweight milking units by DeLaval, including their durability and product failure. Tests will be conducted at the new milking facility at Tarleton State University. (C) A teat scrubber produced by Alpha Technology that is used in rotary milking parlors will be tested for ergonomic stress.
**Group Discussion-Exposure Assessment and Intervention Analysis**

- DAIRY PRODUCER: Does the lightweight equipment last as long?
- Wyatt from DeLaval: Durability of the lightweight units is an important issue
- If DeLaval can provide it cheap enough, then we can use it and replace it as necessary! (Laughing – joking with Wyatt from DeLaval)

**Enhancing Safety Training Effectiveness in Industrialized Dairy Production (Rosecrance)**

**International Dairy Research Consortium (Reynolds)**

- Consortium was developed this year with researchers from Sweden, Finland, Germany, Italy, Canada, Australia, Brazil and New Zealand.
- First meeting will be in July
- Focus on bringing together international researchers to identifying the greatest OH&S needs and make research more efficient by pooling resources.

**Group Discussion-Language Barriers**

- One producer teaches her workers English through a program conducted through the university.
- BOARD MEMBER: Agricultural managers are typically not extroverts. They would prefer to do things themselves rather than explaining it. They would just like to get on with it!
- BOARD MEMBER: The main means of communication in a dairy is still the blackboard that is at the head of the milking parlor.
- MATT heard from one farm worker that he learned English because he wanted to understand the things written on the blackboard and the English-written lists given to him at work.
- BOARD MEMBER: Writing things down works best. Telling things to your workers sometimes works, but if you want to ensure that it gets down, you need to write it down.
- OLGA heard of a dairy with 300+ workers in Minnesota where they chose to teach their English-speaking workers Spanish, rather than vice versa. This is not the choice Olga and her husband made for their farm, but it is another option.
- BOARD MEMBER: The language barrier is an important factor in farm management. Teaching programs go a long way to help, including teaching dairy owners Spanish.
- REYNOLDS: Scholarships could assist in this area.
Key point was need for training of managers on Communication – more than just Spanish (how, when, how often). Much of discussion kept coming around to skills or tools that managers need.

*Note that all the proposed projects are dependent upon the HICAHS Center receiving funding for FY 2012 or alternative funding.*
Day 2 Minutes:
Thursday, April 28, 2011

Federal Budget Update (Reynolds)

- Funding is secured through fiscal year 2011 (September 2011), but unknown for fiscal year 2012.

Group Discussion on Funding & HICAHS’ Role

Funding & Collaboration Opportunities

- BOARD MEMBER: The Western States Dairy Association meets four times/year. They are probably not aware of the Ag Centers. The members typically consist of progressive dairy producers.
- BOARD MEMBER: Has HICAHS talked to the DMI group? Funds for this group come from the check-off program.
- BOARD MEMBER: One dairy management group received $1 million through USDA to promote dairy products etc.
- BOARD MEMBER: Wal-Mart spends a lot of money on sustainability. Also, if you use the right “buzz words” there is funding through the Gates Foundation

Management and Safety Programs by Other Organizations

- DAIRY PRODUCER: Pfizer has started a management training program called “People First.” If the employer/employee relationship is bad, injuries will go up. Team building is very important. In the People First Program, the 1st consultation is free. They provide advice from field experts and analysis of leadership and supervision. Could be interested in joint venture.
- DAIRY PRODUCER: There is a need to train supervisors to be better leaders. Safety suffers where there is poor communication. Example given of fake injuries. Use of bilingual safety messages.
- Action item – HICAHS needs to do an inventory of what programs are already underway, what organizations or partners have we not yet engaged. HICAHS needs to identify gaps and our niche.

Politics, Accountability, and Mistrust/Misunderstanding of HICAHS

- BOARD MEMBER: There is a perception that HICAHS is part of OSHA, and that HICAHS is setting up the industry for additional regulations by “gathering ammunition” for OSHA
- RESEARCHER: The funding and the goals of the Agricultural Research Centers are subject to political whims. It would be good to develop some independence.
• RESEARCHER: What is of value to industry may not be necessarily of value to NIOSH.
• BOARD MEMBER: If support can be brought in through the producer section and these groups have a bigger impact on the Hill.
• BOARD MEMBER: It would be helpful for industry groups to have 1 page documents on HICHAS research. This could increase access to Hill 10 fold.
• BOARD MEMBER: Organizations will ultimately not trust HICAHS if it is supported by government funds rather than a dairy management group. Ultimately, your research is accountable to the government rather than the producers.

Data Ownership & Confidentiality
• BOARD MEMBER: Who owns the data?
• STEVE: By federal law, HICAHS must share its data with other researchers. This is part of a push for accountability and transparency. What we do if data is requested is we ask the researcher to work with us because there is much contextual information that a researcher needs to know in order to properly analyze the data.
• ALLISON: All data must be de-identified though.
• JOHN R: Yes, but I think the industry’s concern is that someone will use the data to make a case against the industry.
• STEVE: University must provide confidentiality for subjects and adhere with strict ethical guidelines for research. Our approach has been that de-identified data can be provided but persons must specify how and where the data will be used, especially to avoid misuse or misinterpretation of the data.
• BOARD MEMBER: This issue relates to the role of government. Producers need to be aware that if we pay for the research, then we can have control over how it is used.

Maximizing Value to the Dairy Industry (Douphrate)
Practical Solutions Based on Sound Science
• BOARD MEMBER: There is a need to translate data to action, use the research findings to create engineering solutions.
• BOARD MEMBER: Find solutions to problems. Producers will say, “Don’t tell me I have a problem; tell me how I can solve it!” Be wary of regulation based on poor or old science:
  o Example: Much of California’s legislation is based on an air pollution study that was conducted in the 1930s.
  o Example: One paper in the Journal of Dairy Science recommended that all dairy workers needed to wear respirators. This recommendation was based on findings from studying old dairy parlors that had gas heaters.
• MATT offered to contact the Journal of Dairy Science and review articles submitted for publication.

**A Market-Driven Business Model in conjunction with a Scientific/Academic Model**

• BOARD MEMBER: Try not to duplicate other work, this will reduce the burden on research participants. With every study, have an end goal to improve a problem and not just conduct research for research’s sake.

• STEVE: Some projects (large scale) can take up to 5 years (bioaerosols etc.) and we do not want to overburden supporters.

• MAGGIE: (Speaking about research approaches): On the other hand, exploratory research is conducted to identify issues before they become a problem. For example, research on preventing asbestos from coming out.

• A Market-Driven Research Center?
  1) RESEARCHER/BOARD MEMBER: If there were a market-driven program, would producers be willing to pay for it?
  2) BOARD MEMBER: The last 3 years have been devastating for the industry. When the industry booms, producers may be willing to pay. Otherwise, they would not.
  3) RACHEL conducts safety meeting for the Colorado Livestock Association. In her experience, the best time to have meetings in on pay day (so that workers show up), and the meetings must be short (~half hour). [Indication that not many resources are being devoted to safety and health on farms right now).
  4) BOARD MEMBER: I think it is important to bring academia back to the entrepreneurial environment, and take out research from the ivory walls to the business world.
  5) BOARD MEMBER: Feed companies can bring in experts for workshops with dairy supervisors. Colorado is one of the biggest and fastest growing dairy regions.
  6) Would 3M be a potential source of funding or trial products?

• The Science Approach
  1) JOHN R: As we saw in Cheryl Beseler’s presentation yesterday, our grant funding requires the development of complex scientific models. Each grant must pass scientific scrutiny. What you (the producers) are saying is that this research should be pertinent to the industry at the same time.
  2) STEVE: We should use scientific rigor to learn about the issues and propose answers.
3) BOARD MEMBER: Science highlights issues and leaves it to other agencies (e.g. regulatory) to solve problems.

4) JOHN R: We could use our projects with the construction industry as the basis for development. Currently doing 5 year leadership and management training (health and safety) safety climate program and John Deere is involved.

5) DAVE: Historically, research has been funded by industry groups has been criticized for being biased.

6) Maggie: Yes, for example, some important findings in the research conducted by chemical and tobacco companies was withheld from dissemination.

7) DAVE G: Science occurs in 2 steps: (1) Understanding Mechanism and (2) Developing a solution.

8) DAIRY PRODUCER: Industry and Ag Extension ask the “what” (how do we solve this problem) while academia ask the “why” (what is the problem, why is there a problem).

9) BOARD MEMBER (in response to DAIRY PRODUCER): Extension used to work like this.

• STEVE’s Summary: There is a need to avoid duplication of other research and push academia into the entrepreneurial sector. Sell the concept of research.

**Build Trust and Work with Other Organizations**

• BOARD MEMBER: Building trust will lead to more access to farms.

• The Farm Bureau: The Farm Bureau is one organization that works to solve agricultural problems. The Farm Bureau is not active in all states.

• BOARD MEMBER: New Mexico Extension is working to rebuild the dairy program to build an unbiased platform between industry and academia. E-Extension could move research from academia to the field.

• CLA is collaborating with CSU Department of Animal Sciences to write articles for CLA’s newsletters.

• DAIRY PRODUCER: There is a need to change immigration policy. Producers want well-trained workers, but you can’t train them if the visas are short. We want to keep our employees and employees are going to become more and more valuable.

• BOARD MEMBER: The National Milk Producers Federation could access insurance companies and their with programs i.e. Nationwide and Reece Meyers.

• BOARD MEMBER: Workers compensation is not efficient. Why aren’t the agencies all working together?
• BOARD MEMBER: Iowa offers an independent evaluation (safe farms accreditation) which could be modified to fit dairy industries so that farmers can get discounts.

• BOARD MEMBER: It could be better to have the farm safety programs initiated and created by the farmers, rather than insurance companies. The farmers could use the program as bargaining tool to lower insurance rates.

• NOA works with the Western Dairymen’s Association

**Measuring HICAHS Impact to Dairy Industry (Reynolds)**

• BOARD MEMBER: J.W. Schroeder in North Dakota has information on measuring impact.

**Benchmark Dairyworker Health**

• BOARD MEMBER: Not all businesses provide health insurance and workers don’t always get medical attention. Need to find a way to benchmark population health status.

**Meet Face-to-Face, Host Seminars, and Talk to Dairy Councils**

• BOARD MEMBER: The focus groups need feedback, but surveys are useless. Feedback is best when it is done face-to-face for longer than 30 minutes.

• BOARD MEMBER: Need to ask producers what is of value, what are the day-to-day issues and what needs to be done.

• BOARD MEMBER: Short educational seminars are good; what we propose, solutions and challenges etc.

• BOARD MEMBER: Try to access dairy council meetings to learn more about the dairy producers’ areas of interest.

• BOARD MEMBER: Board meetings are an essential source of information.

**Effectively Translating Research to Practice (Rosecrance)**

• STEVE: There is not good baseline data on the impact of agriculture research. Need to find ways to measure i.e. training course, stakeholders, website hits.

• MATT: The well-collected data is on tractor incidents, data collected from newspaper clippings! Other areas where data could be collected is on worker stability and turnover.

• BOARD MEMBER: Could use animal happiness as part of worker assessment. There is a link between animal happiness and worker satisfaction. The understanding of the human/animal interface is changing.

• DAVE: It would be nice to be able to collect fatality data on all farms, not just those with 10 or more employees. OSHA investigates all fatalities.
STEVE: could learn from the mining industry regarding how to gather information for near misses as a guide for collecting similar information in farming industry. The industry is driving data collection, sharing its data and using that information to prevent incidents in the mining industry.

**OSHA Consultation**

- BOARD MEMBER: The industry would like more information on OSHA consultation (how, where and why). Are producers required to implement their recommendations? It would be great to have an OSHA course developed on how to prepare for an audit.
- DAVE: There is a Wisconsin presentation that could be repackaged.
- DAVE D.: OSHA consultation is backlogged with visit requests in Colorado. Also, OSHA Consultation is not available in all states.
- RACHEL received a brochure the OSHA Englewood Office and it said that the program required that the problems that they find be fixed within six months. They cannot fine if the problem is not fixed.
- Dave D.: Wisconsin has some information developed which could be repackaged for the newsletter.
- BOARD MEMBER: A Training course on OSHA inspection process would be great – 1 page handouts on what to expect. Facts and figures etc.
- STEVE: Would like to develop information for OSHA dairy visits.

**Indicators for Measuring Impact**

- DAIRY PRODUCER: Outcomes could be measured i.e. cash flow, workers comp/accident and incident data using a selective group of dairies to share information. You would need to first research the baseline rate.
- Baseline data must include days of work missed and near misses. This information could help with formal record keeping. Perhaps OSHA consultation help with formal record keeping, training logs etc?
- HICAHS could compare 2 groups. First group has training and 2nd without training program.
- Exposures to an irritant is (relatively) easy to measure but an exposure is not always matched with an “outcome” (e.g. a health effect that you see or experience.
- BOARD MEMBER: Need to be cautious because workers compensation collection varies between States. The Bureau of Labor Statistics could be of assistance. The dairy industry has 5.3 injuries per 100 workers per year (using data only from farms with 10 or more employees).
• Dave D: The workers compensation rate higher than the national average
• NOA: Has found that 40% of dairy workers have an injury.
• DAVE G.: We need to think of leading indicators instead of lagging indicators
• BOARD MEMBER: There are 2 worlds: the compliance world and the industry world. The compliance world is driven by OSHA regulations, and not industry needs. The industry world is producer driven, based on individual farms’ needs and may team up with insurance companies and other stakeholders.
• BOARD MEMBER: A Worker Safety program could benefit the producer by containing the cost of insurance. For example, a 5% discount when taking up the 6 step safety/training program.
• BOARD MEMBER: Farmers are not traditional book-keepers. Family farms are rapidly expanding and data documentation may not be keeping up with growth. Not traditional book keepers.
• DAIRY PRODUCER:: Collecting data on worker safety, health, ergonomics is difficult but doable.
• DAVE D: HICAHS could offer students information/classes on safety and health regarding dairy and large animal handling. Great way to disseminate information.
• MATT: Poultry extension could be another avenue for OHS. Could include awareness.

HICAHS Dairy Advisory Board Operations

• STEVE: The purpose of the dairy board is to share information. The proposed time commitment is 1 face-to-face meeting per year. Conference calls (e.g. Skype) can also be made available.
• STEVE Showed a slide of suggested tools:
• BOARD MEMBER: A website chat room would be useful – could have a dairy chat room and also put on links to other information sources . For example, the National Agricultural Health and Safety Database.
• BOARD MEMBER: A website resources section that could link to research papers would be nice.
• MAGGIE: A HICAHS database of research papers is being developed.
• BOARD MEMBER: There could be a membership-only section for papers and discussion boards because we need to think of issues such as Agro terrorists (PETA). There are also copyright issues for sharing publications. Need to be careful of mentioning immigrant status.
• JOHN R’s Suggestion: We could have a project report every 4 months, including funding updates and who is working on what.

• STEVE: Would two people in this group be interested in representing the HICAHS Dairy board. These two representatives would drive the broader agenda for advisory group and serve as a leader.

• ROBERT agreed to be a liaison
## Attendance

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Jeff Levin and Ralph Bruno participated remotely through the video-conference system. However, the audio quality was poor and they could not hear most of the conference.