

**The WCC Regional Association of Agricultural Experiment Station  
Directors**

**Multi-state Research Project**

**PROJECT NUMBER:** WCC-92

**TITLE:** Beef Cattle Energetics

**Meeting Report**

Denver – November 4 & 5 2002

## List of Meeting Participants

G Carstens  
M Enns  
C Ferrell  
H Freetley  
D Garrick  
A Goetsch  
R Hill  
D Johnson  
K Johnson  
M McPhee  
M Neilsen  
J Oltjon  
R Sainz  
H Tyrrell

## Items of Business

### 1. CSREES National Program Leader Report – Henry Tyrrell

- IFAFS funds likely to move to Integrated Programs
- Appropriation Bill not passed
- Appropriation may be carried forward to 2003

### 2. Technical Reports

All participating scientists presented technical reports 15-30 min plus 20 - 30 min discussion each report. Achievements provided in attached summary.

3. Next meeting – November 10 & 11, 2003 at MARC, contingent upon set up of Individual Feed Intake apparatus at MARC – otherwise – meet in Reno, Nevada.

4. Incoming Secretary for 2003 – C Ferrell

5. Review / Planning Collaborative Research

Meeting participants agreed to develop an additional objective for future focus - Action Plan for Collaborative Research.

- Identify a specific descriptor of efficient performance – Initially Residual Feed Intake (subject to review)
- Develop an outline describing objectives – iterative revision of preliminary objectives by January 1, 2003 – Primary responsibility – Hill, Sainz, D Johnson, Carstens, Nielsen.

## Summary of meeting achievements

Contribution to Project Objective 1 - The forum provided active discussion of a range of issues following presentations of recent data and ideas:

- Residual Feed Intake (RFI)
  - Is this the best measure of feed efficiency?
  - Should additional parameters be included? Although RFI is theoretically independent of mature size and growth rate – are there any long-term disadvantages to RFI as a target trait?
- Ruminant contribution to greenhouse gas emissions
  - Improved feed efficiency will decrease contribution of ruminants to greenhouse gasses

Contribution to Project Objective 2. – The group resolved to develop a collaborative research program:

- The group will target CSREES ‘Integrated Programs’ in developing a research program.
- RFI will be the focus trait of the program.
- Units will contribute sub-projects under a common umbrella.
- Themes within the program to be investigated will include - underlying biology, mechanisms, predictor traits of RFI including
  - Metabolites
  - Hormone profiles
  - Specific challenge eg response to glucose clamp
- Technologies to be utilized
  - Proteomics
  - Genomics
    - Microarray
  - Biochemistry
    - Hormone / metabolite assay
  - Selection
- Cattle resource – MARC herd – assessed for RFI
- Preliminary Program Outline and Objectives to be documented by January 1, 2003

Contribution to Project Objective 3 – This meeting has built upon the symposium held during the ASAS Western Section meeting:

- WCC-92 was the impetus and shared in the development of the symposium
- Ideas / hypothesis development
- Consolidation of collaborative arrangements