AUTHORIZATION REQUEST FOR FY 2011

AR Title: LIFE CYCLE ASSESSMENT OF U.S. BEEF PRODUCTION

Name of Contractor: National Cattlemen's Beef Association

CBB Budget Component: Research

I. OVERVIEW

A. AR Description: This AR addresses a plan and program to generate an environmental profile of the production of beef in the United States through the use of a Life Cycle Assessment (LCA) in accordance with ISO standards. The LCA results will be used by the beef industry to inform communications about beef's environmental profile and identify areas all along the production chain where improvements can be made in beef's environmental footprint.

Sustainability has become a critical issue for the beef industry. Misinformed claims that cows are worse than cars have led to calls for consumers to reduce beef consumption to do their part in addressing climate change. This is affecting consumer attitudes. Research shows that 15 percent of consumers say they have cut their beef consumption to reduce carbon emissions and 29 percent say they are likely to take that action.

In addition, consumers are bombarded with anti-beef activist environment messages such as the claim that it takes 5,000 gallons of water to produce a pound of beef. Even a Girl Scouts of America handbook repeats numerous activist claims about beef including the statement that feeding grain to livestock is not an efficient way to produce food because 800 million people could be fed with the grain currently fed to U.S. livestock.

There is tremendous pressure from industry stakeholders including processors, animal health companies, retailers, the foodservice sector, NGOs and consumers to quantify the environmental profile of beef production. Generating scientifically sound metrics on beef's environmental profile will strengthen the industry's ability to defend the marketing environment and protect consumer demand.

B. Costs Requested from this AR:

Source of Funding	Total	Direct Costs	Implementation
Beef Board/BPOC	$ 784,400	$ 784,400	$
Federation of SBCs (FSBCs)	$ 115,800	$ 115,800	$
Other Sources *(describe)*			$
Total Funds Requested	**$ 900,200**	**$ 900,200**	**$**

C. Disclosure of Implementation Costs Requested in Separate AR:

Source of Implementation Funding	Implementation
Beef Board/BPOC	$ 8,713
Federation of SBCs (FSBCs)	$ 1,287
Other Sources *(describe)*	$
Funds Requested in R-06-2011	$ 10,000

D. Start date: October 1, 2010 **Completion date:** December 31, 2012

II. PLANNING INFORMATION FOR THIS AR

A. FY 2011 Priorities Addressed by This AR: Educate influencers on beef and beef production.

B. Committee That Reviewed This AR: Issues Management Subcommittee; Joint Information Committee

B. **Committee Recommendations for This AR:** The Joint Information Committee and Issues Management Subcommittee recommend to the Operating Committee that this AR be approved for funding for FY2100.

III. PROGRAM INFORMATION FOR THIS AR

A. Strategy 1: Industry Resource – Provide knowledge resources and guidance to help strengthen the marketing and business climate for beef.

Strategy 1 Proposed Cost: $900,200

Specific Tactic Information:

Tactic 1A: Beef Life Cycle Analysis – Quantify the life cycle environmental performance of the beef production chain from

'cradle to grave' (from birth of a calf to consumer purchase, consumption and waste disposal) by:

- Developing an inventory of resource inputs and outputs/releases into the environment across all stages of the supply chain;
- Developing scientifically sound metrics on impacts of beef production in terms of energy use, greenhouse gas emissions, water use, land use, waste and disposal;
- Developing a report in accordance with ISO standards that presents data interpretation and conclusions
- Developing tools to enable individual producers to evaluate opportunities for improving environmental footprints

- **Measurable objectives:**
  - Create a scientific database on impacts (negative and positive) of U.S. beef production by assessing the categories of:
    - Energy use (primary energy demand from renewable as well as nonrenewable sources; energy creation/conservation)
    - Greenhouse gas emissions (carbon dioxide, methane, nitrous oxide)
    - Water usage/quality
    - Land use (carbon sequestration, biodiversity, wildlife habitat, erosion)
    - Consumption/disposal (energy and materials associated with consumption, disposal, landfill waste)
  - Apply LCA assessment categories to:
    - Production of feed from seed to cattle operation gate
    - Cow-calf operations
    - Stockers and backgrounders
    - Feedlots
    - Packing and processing
    - Retailers and food service
    - Consumer purchase and consumption
    - Transportation between life cycle stages
    - End of life/disposal
  - Identify and communicate opportunities to reduce environmental impacts across all stages of the production chain.

- Develop an interactive tool for the live animal stage of the production chain to enable individual producers to evaluate improvement opportunities.
- Publish a scientific paper in a peer-reviewed journal.

- **Proposed cost:** $900,200

IV. DETAILED BUDGET SUMMARY

Strategy & Tactic	Program Manager	Completion Date	Total FY 2011 Budget	Budget by Funding Source		
				CBB/BPOC	FSBCs	Other
Strategy 1: Industry Resource						
Tactic 1A: Quantify the life cycle environmental performance of the beef production chain	**Rick McCarty**	**12/31/2012**	$ 900,200	$ 784,400	$ 115,800	
Totals - Strategy			$ 900,200	$ 784,400	$ 115,800	
AR Total			**$ 900,200**	**$ 784,400**	**$ 115,800**	

V. SUPPLEMENTAL INFORMATION

A. Changes from FY 2010 Approved AR:

- This AR represents a new area for FY2011.

NOTE: A Life Cycle Assessment (LCA) is a complex, time consuming and costly type of analysis. It is critical that the beef industry conduct an LCA and it is important that the core of this project be producer-driven and checkoff funded. Based on proposals received by NCBA for the conduct of this LCA, we estimate the total cost of the project to be at least $2 million based on other commodity LCAs with which we are familiar. NOTE: Proposals currently are being solicited and a more accurate estimate of the total cost will be available at the Operating Committee meeting in September.

B. Subcontractor information:

- **Name of proposed subcontractor:** TBD

- **Will all work with subcontractors be competitively bid?** Yes

C. Identify any relationships between this AR and projects previously funded by the Operating Committee:

This AR builds on AR R-04-2010, Tactic 4D which focuses on analyzing the environmental performance of beef production (AR R-04-2010, Tactic 4D has been extended until December 1, 2011). Key tactic deliverables will include a literature review of science on beef's

environmental footprint. It will also include a scan level lifecycle analysis of the production chain to identify those aspects contributing the most to beef's footprint. These outcomes will support the next phase in the project, outlined in this AR, to quantify the life cycle environment performance of the entire beef production chain.

D. Summary of Prior Year AR Budgets and Expenses:

This is a new AR and therefore no Prior Year information is available.

E. Historical Summary of Budgets and Expenses:

This is a new AR and therefore no Historical Summary information is available.