


**The National Animal Nutrition Program  
(NANP)**

Funded as a  
National Research Support Project  
(NRSP-9)

**Relevance and Collaboration with the  
National Research Council**

Merlin D. Lindemann  
University of Kentucky



## National Animal Nutrition Program

- **Established in 2010; renewed (and expanded) in 2015.**
- **A research-support activity requested by stakeholders.**
- **Focus of the NANP:**
  - **Address challenges facing researchers, educators, and support agencies in animal agriculture and fill voids in the research and academic communities.**

## Funding and Governance

- **NANP is one of seven National Research Support Projects.**
- **Funded with Hatch Funds administered by USDA prior to distribution of formula funds to state agricultural experiment stations.**
- **Administrative Advisors from four regions:**
  - Bret Hess (Lead), University of Wyoming
  - Lesley Oliver, University of Kentucky
  - David Benfield, The Ohio State University
  - Rick Rhodes, University of Rhode Island
- **National Program Leaders from USDA/NIFA:**
  - Charlotte Kirk Baer (Lead)
  - Steve Smith

## Structure of the National Animal Nutrition Program

- **Coordinating Committee – M. Lindemann (UK)**
- **Feed Composition Committee – P. Miller (UNL)**
- **Modeling Committee – M. Hanigan (VT)**

## Selection of Committee Members

- **Applicants were recruited through a national search utilizing various media and involving professional societies, government, academia, and industry.**
- **Files of applicants were reviewed, and appointments were made by the Administrative Advisors.**
- **Background and experience, species expertise, geographic region, and other factors were considered in making appointments.**

## Coordinating Committee

- **Oversee and coordinate the selection process and the work of the Feed Composition and Modeling Committees.**
- **Advise the National Academies on critical national priorities.**
- **Provide a forum to address research support needs.**

## Coordinating Committee Members

- **Merlin Lindemann (Chair), University of Kentucky**
- **Gary Cromwell (Past-Chair), University of Kentucky**
- **Todd Applegate, University of Georgia**
- **Don Beitz, Iowa State University**
- **Ryan Dilger (Feed Comp), University of Illinois**
- **Heidi Rossow (Modeling), University of California-Davis**
- **Nancy Irlbeck, Washington State University**
- **Jack Odle, North Carolina State University**
- **Delbert Gatlin, Texas A&M University**
- **Carey Williams, Rutgers**
- **Joel Caton, North Dakota State University**
- **Robin Schoen, National Academies/NRC (Liaison)**

## Feed Composition Committee

- **Bring together data and research resources in the area of feed composition.**
- **Foster communication among those collecting feed composition information.**
- **Facilitate efficiencies and consistencies in data collection and maintenance.**
- **Interface with and support the requirement revision committees as requested.**

## Feed Composition Committee Members

- **Phil Miller (Chair), University of Nebraska**
  - **Andres Schlageter – University of Nebraska**
- **Ryan Dilger, University of Illinois**
- **Bill Dozier, Auburn University**
- **Mark Edwards, Cal Poly – San Luis Obispo**
- **Alexander Hristov, Pennsylvania State University**
- **Brian Small, University of Idaho**
- **Mark Nelson, Washington State University**
- **Michael Lilburn, The Ohio State University**
- **Casey Bradley, DSM**
- **William Weiss, The Ohio State University**

## Modeling Committee

- **Improve use of predictive technologies and tools to best utilize available platforms.**
- **To work with researchers to effectively share, combine, manage, manipulate, and analyze models and modeling information.**
- **Interface with and support the requirement revision committees as requested.**

## **Modeling Committee Members**

- **Mark Hanigan (Chair), Virginia Tech**
  - **Veridiana De Souza Daley, Virginia Tech**
- **Heidi Rossow, University of California-Davis**
- **Tim Hackmann, University of Florida**
- **Ermias Kebreab, University of California-Davis**
- **Peter Ferket, North Carolina State University**
- **John McNamara, Washington State University**
- **Luis Tedeschi, Texas A&M University**
- **Nathalie Trottier, Michigan State University**
- **Mike VandeHaar, Michigan State University**
- **Dominique Bureau, University of Guelph**

**How Does the National Animal  
Nutrition Program Collaborate with  
NASEM  
(the National Research Council)?**

## Specific Needs of the NRC

- **Financial**
  - Impacts amount of time between revisions
- **Feed composition tables**
- **Nutrient requirement models**
  - Development
  - Maintenance

## Support

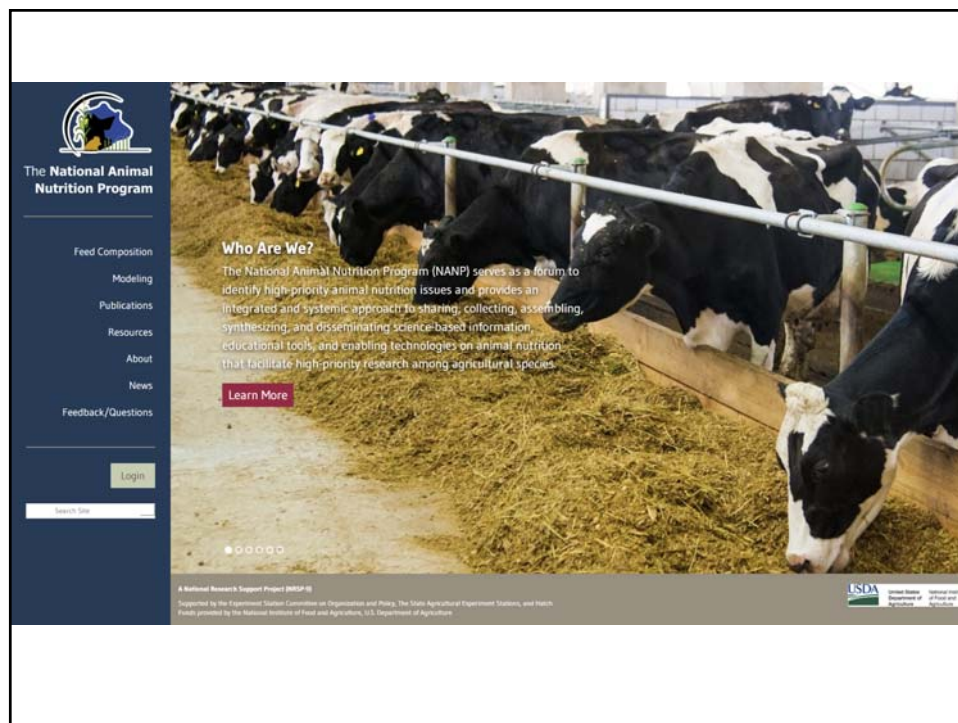
- **Financial**
  - Provides annual support to the NRC
- **Scientific and Technical**
  - Development of a system for management of **feed ingredient** information, including a **feed ingredient database**.
  - **Modeling** support for establishment of nutrient requirements for agricultural animals (beef, dairy, swine, and poultry).

**National Animal Nutrition Program  
Websites:**

[www.animalnutrition.org](http://www.animalnutrition.org)

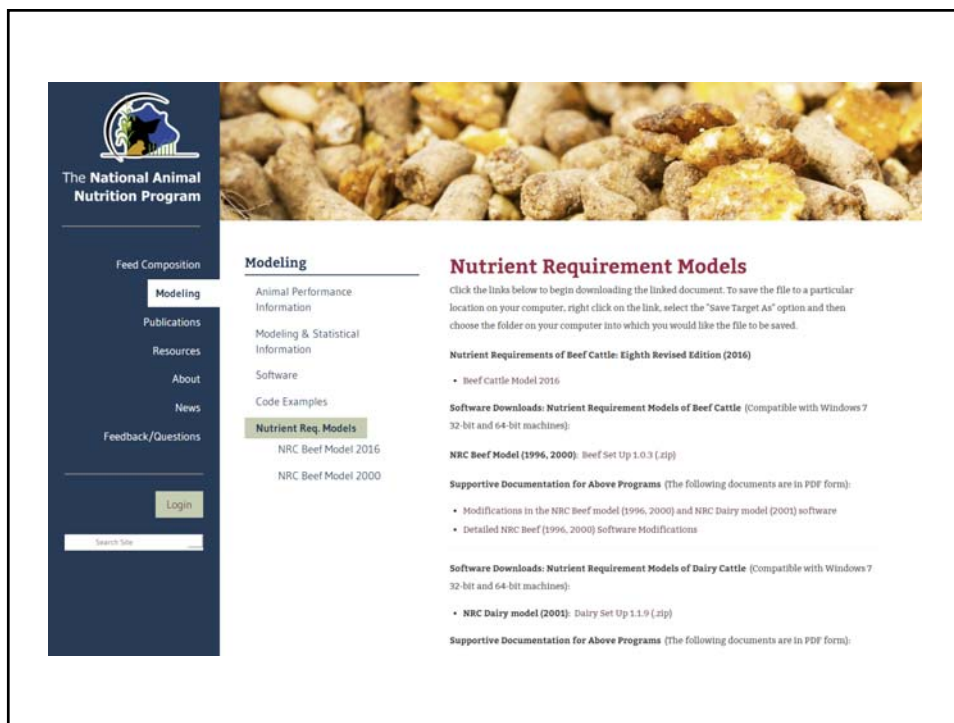
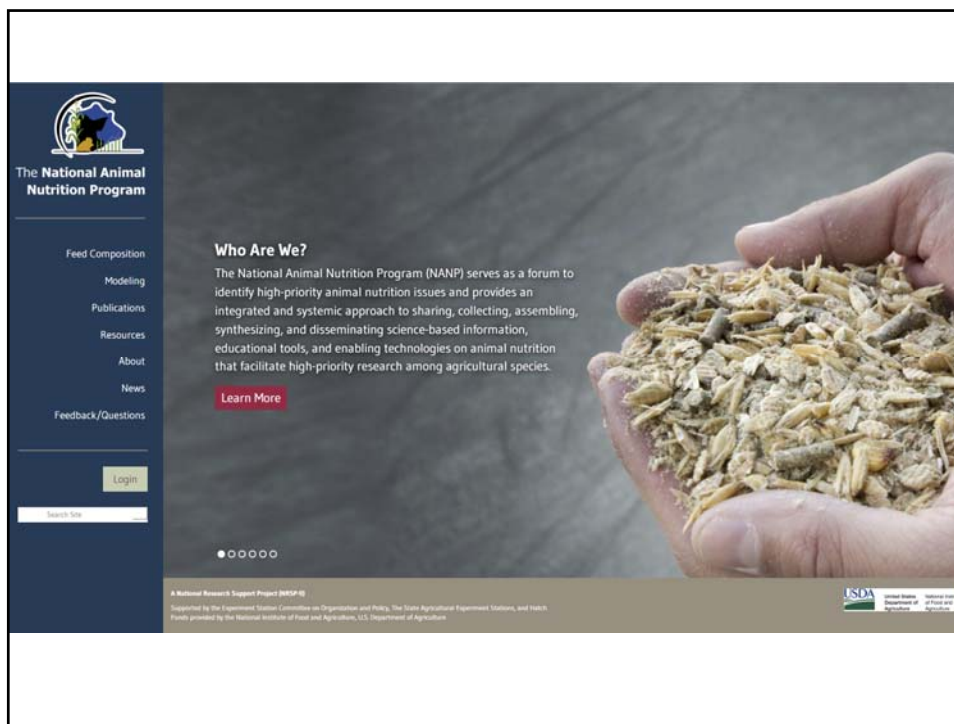
**Global Animal Nutrition Network**

<https://gann-nanp.org/expert>



The screenshot shows the homepage of the National Animal Nutrition Program. On the left is a dark blue navigation menu with the program's logo at the top. The menu items are: Feed Composition, Modeling, Publications, Resources, About, News, and Feedback/Questions. Below the menu is a 'Login' button and a search bar. The main content area features a large background image of black and white cows in a barn. Overlaid on this image is the 'Who Are We?' section, which includes a heading, a paragraph describing the program's mission, and a red 'Learn More' button. At the bottom of the page, there is a small text block identifying the program as a National Research Support Project (NRSP-08) and listing its funding sources: the Department of Agriculture, Food and Forestry, the State Agricultural Experiment Stations, and the Health Funds provided by the National Institute of Food and Agriculture, U.S. Department of Agriculture. The USDA logo is also present in the bottom right corner.





The screenshot shows the 'Feed Composition' page for 'Swine'. The left sidebar contains navigation links: Feed Composition (selected), Modeling, Publications, Resources, About, News, Feedback/Questions, and a Login button. The main content area features a 'Database' section with 'Swine' selected. Below this is a table of feed database resources. The table has columns for nutrient name, protein, fiber, CP, TDN, MEV, and MEQ. The table is titled 'Page 1 of 4 (10/31)'.

nutrient	Protein	Fiber	CP	TDN	MEV	MEQ
DM, %	88.24	18	2.38	2.65	30.50	38.42
CP, %	47.72	194	2.30	4.82	41.72	54.22
Acid EE, %	2.86	6	0.96	33.40	1.85	4.22
EE, %	1.82	70	0.91	38.69	0.34	4.21
ash, %	4.27	58	0.51	8.18	9.25	7.50
Sulfur, %	4.80	12	1.81	23.43	3.70	8.70
Lactose, %	--	--	--	--	--	--
Raffinose	9.89	12	17.82	296.19	0.34	42.82
Starch	12.61	12	23.89	208.79	0.00	87.40
Sucrose	--	--	--	--	--	--
Organic acids, %	3.81	0	0.18	4.22	0.42	3.94
Starch, %	1.76	0	0.27	15.96	1.31	1.89
Mannitol, %	2.00	0	0.48	12.22	0.42	4.70
CP, %	2.89	18	1.80	42.24	1.90	9.68

At the bottom of the page, there is a footer with the USDA logo and text: 'A National Research Support Project (NRSF-0) Supported by the Department System Committee on Organization and Policy, The State Agricultural Experiment Stations, and Hatch Funds provided by the National Institute of Food and Agriculture, U.S. Department of Agriculture.'

The screenshot shows the 'Modeling' page. The left sidebar is similar to the previous page, with 'Modeling' selected. The main content area is divided into two columns. The left column lists categories: Animal Performance Information, Modeling & Statistical Information, Software, Code Examples (selected), and Nutrient Req. Models. The right column is titled 'Code Examples' and lists several modeling topics: 'A Simple, One Pool Dynamic Model In R', 'Repeatedly Simulating a Dynamic Model Using Different Inputs', 'A 3-Pool Dynamic Model', 'Least Cost Diet Formulation', and 'Diet Formulation to Optimize Profit'. Below these is a 'Statistical Analyses' section listing: Linear Regression, Nonlinear Regression, Analysis of Variance, Analysis of Covariance, General Linear Models, Mixed Models, and Get started with R.

## Future - Goals and Direction

- **Committee membership rotation.**
- **Expanded opportunities with the website.**
- **More dynamic, current, and robust feedstuff data base.**
- **Expanded educational options through the website.**
- **Modeling workshops.**
- **Integrated animal performance databases with nutrient requirement estimates.**



**The National Animal Nutrition Program  
(NANP)**

Funded as a  
National Research Support Project  
(NRSP-9)

**Working together to enable a healthy,  
wholesome food supply for a growing population**

