Dairy Science at Cornell University – A Century of Excellence

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Aspects of our history…

1870s Professor I. P. Roberts establishes Holstein dairy herd and conducts early experiments on silage quality and diet effects on milk composition.

1890s Winter short courses and statewide schools on farm management started to "join art and science in dairy husbandry".

1903 H. H. Wing appointed by Liberty Hyde Bailey as first Head of the newly formed Department of Animal Husbandry. Cornell hosts 3rd ADSA Annual Meeting in 1908.

1910s Educational trains used extensively for dairy demonstration across New York State. E. S. Savage conducts research that forms the basis for future approaches to feeding standards. H. A. Hopper (charter member of ADSA) promotes development of cow testing associations (with H. H. Wing) and studies cost of milk production on farms. L. A. Maynard joins faculty and (with W. I. Myers) pioneers application of statistical methods to feeding experiments. G. A. Smith and H. A. Harding determine machine milking effects on milk flow and bacterial content.

1920s Fundamental investigations conducted into milk secretion and the origin of milk constituents (L. A. Maynard and C. M. McCay). Glista Ernestine (member of Glista cow family developed by H. H. Wing) amasses lifetime production of 202,006 lbs of milk, 7,342 lbs of fat from 1908 to 1924. GLF Calf meal released in 1925 following substantial research in calf growth and nutrition.

1928 F.B. Morrison appointed Head, leads department expansion and revolutionizes practical animal nutrition through research and 22 editions of his classical text, "Feeds and Feeding".

1930s Extensive research conducted on protein nutrition (E. S. Savage and E. S. Harrison), forage grass quality and feeding (F. B. Morrison and G. W. Salisbury), and machine milking and mastitis control and prevention (G. J. Hucker). S. J. Browell demonstrates artificial insemination to hundreds of dairy scientists at 29th ADSA Annual Meeting at Cornell University in 1934 and develops first AI association in New York State in 1938.

1939 Establishment of the Division of Animal Breeding and Artificial Insemination (AI). G. W. Salisbury (future member of National Academy of Sciences) initiates research on AI that enables rapid expansion of the application of this technology in the dairy industry. S. J. Asdell conducts fundamental research on regulation of ovarian function.

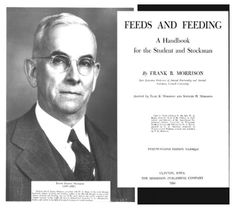
1940s New York Artificial Breeding Cooperative (NYABC) formed in 1940 with substantial support from Cornell dairy faculty. J. D. Burke develops production and feeding analyses for DHIA herds that are used continuously for many years thereafter. C. R. Henderson launches distinguished career (future member of National Academy of Sciences) in developing statistical methods for genetic analysis of production records and pioneering use of young sire sampling in genetic evaluation. J. T. Reid conducts research on methods for measuring nutrient digestibility and effects of forage maturity on nutrient and energy value. J. K. Loosli demonstrates that essential amino acids are synthesized from urea in the rumen. Dairy Records Processing Laboratory (DRPL) is established in the department.

1950s L. H. Schultz and G. W. Schmidt conduct research on absorption and metabolism of volatile fatty acids, etiology and prevention of ketosis, and the physiology and biochemistry of milk secretion. K. L. Turk leads expansion of international programs. Cornell hosts 45th ADSA Annual Meeting in 1950.

First class held in new Dairy Building, 1906

Dairy educational trains attract 25,000 statewide

Glista Ernestine (1908-1924)



F. B. Morrison publishes 22nd and final version of "Feeds and Feeding" (1958)

S. J. Brownell demonstrating AI.

Cow meets computer in DRPL.

1960s P. J. Van Soest further develops detergent system for feedstuff analysis, which revolutionizes forage chemistry methods and ration formulation systems worldwide. R. G. Warner continues research on rumen papillae development stimulated by VFA production and absorption. W. Hansel advances fundamental knowledge of ovarian function and estrus regulation. Cornell hosts 62nd ADSA Annual Meeting in 1967.

1970s C. R. Henderson and R. W. Everett continue innovation in genetic evaluation of dairy cattle. W. G. Merrill continues innovation in milking systems and mastitis management and H. R. Ainslie continues longstanding tradition in DHI records analysis. C. E. Coppock integrates nutrition research with industry education. Time of numerous retirements and new hirings (L. E. Chase, C. J. Sniffen in dairy nutrition extension and research, W. R. Butler, R. D. Smith in reproductive physiology, P.A Oltenacu in dairy systems management).

1980s D. E. Bauman (future member of National Academy of Sciences) conducts pioneering research that leads to the development and commercialization of recombinant-derived bovine somatotropin in the dairy industry. D. M. Galton establishes the Dairy Herd Management Fellows program, which becomes the leading dairy science undergraduate program in the U.S. during the next 20 years. Fundamental work continues (J. M. Elliot, A. W. Bell) on aspects of postabsorptive nutrient use and regulation. J. E. Parks continues tradition of excellence in AI and gamete biology initiated during distinguished career of R. H. Foote.

1990s Application begins of the Cornell Net Carbohydrate and Protein System (CNCPS) in the dairy industry (original development team included D. G. Fox, P. J. Van Soest, C. J. Sniffen, and J. B. Russell). The CNCPS and future derivative programs (CPM-Dairy) grow to have major influence on ration balancing approaches and software in the dairy industry. Time of new faculty hires (A. N. Pell, Y. R. Boisclair, M. E. Van Amburgh, T. R. Overton) to strengthen efforts in forage chemistry, dairy nutrition, metabolic regulation, and nutritional physiology. D. M. Galton assumes Directorship of PRO-DAIRY and conducts substantial expansion of the multi-disciplinary, statewide specialist program. Cornell hosts 90th ADSA Annual Meeting in 1995.

2000s Significant adoption of innovative calf growth practices stemming from Cornell research (M. E. Van Amburgh). 2001 Dairy NRC released – publication reflects substantial Cornell influence through committee (A. N. Pell), review (L. E. Chase, M. E. Van Amburgh, D. G. Fox), and research. Nutritional modeling efforts focus on aspects of whole-farm nutrient management. D. M. Galton passes G. W. Trimberger, giving Cornell the two winningest coaches of the National Collegiate Dairy Judging contest.

D. E. Bauman injects first cow with rbST, 1981

Senior Dairy Fellows class, 2003

PRO-DAIRY

Cornell University Nutrient Management Planning System

Major ADSA awards and honors

Award of Honor
K. L. Turk
R. Albrechtsen
J. K. Loosli
R. P. Natzke

National Association of Animal Breeders
R. H. Foote
W. Hansel
L. D. Van Vleck
C. R. Henderson

Borden Award
G. W. Salisbury
J. K. Loosli
J. T. Reid
C. R. Henderson
W. Hansel

ADSA Fellow
J. K. Loosli
J. M. Elliot
W. P. Flatt

American Feed Industry Award
J. T. Reid
P. J. Van Soest
D. E. Bauman
C. J. Sniffen
J. B. Russell

American Cyanamid
D. E. Bauman

Pharmacia & Upjohn Physiology Award
R. H. Foote
D. E. Bauman

J. L. Lush Award
C. R. Henderson
L. D. Van Vleck

Purina Mills Dairy Teaching
J. M. Elliot
D. M. Galton
J. E. Pollak

West Agro, Inc.
R. P. Natzke
Y. H. Schukken

DeLaval Dairy Extension
S. J. Brownell
R. Albrechtsen
J. D. Burke
H. R. Ainslie
R. W. Everett
L. E. Chase

Merck AgVet Dairy Management
P. A. Oltenacu

Pioneer Hi-Bred Forage
P. J. Van Soest
J. B. Russell

ADSA Foundation Scholar
M. E. Van Amburgh

International Dairy Production
R. E. McDowell
P. J. Van Soest
R. W. Blake