

*Charlie Staples*

# 5th ANNUAL FLORIDA RUMINANT NUTRITION SYMPOSIUM



**JANUARY 12-13, 1994**  
**Holiday Inn West**  
**Gainesville, FL**

**Animal Science Department**  
**Dairy Science Department**  
**Institute of Food and Agricultural Sciences**  
**University of Florida**



Institute of Food and Agricultural Sciences  
Dairy Science Department

PO Box 110920  
Gainesville FL 32611-0920  
Tel.: (904) 392-1981  
Mgmt., Genetics, Youth: (904) 392-5594  
Nutrition: (904) 392-1958  
Physiology: (904) 392-5590  
DHIA: (904) 392-5592  
Farm: (904) 462-1016  
Fax: (904) 392-5595

Dear Symposium Participants:

We welcome you to the Fifth Annual Florida Ruminant Nutrition Symposium. The decade of the nineties promises changes of astonishing dimensions in our animal feed and livestock industry. Technological advances of unbelievable magnitude will offer mind boggling options for new practices of beef and dairy production which will challenge our ability to adapt and compete in this new world of the future. This symposium has been designed to provide a variety of timely and special topics of interest to us all as we begin our task to meet and conquer these challenges of the nineties.

Special appreciation is expressed to the speakers at the symposium and to the sponsors. See the following pages for a list of the sponsors.

Special thanks and appreciation to the planning committee for their work in arranging the program. Also, we express our gratitude to the Animal and Dairy Science Departments of IFAS for their assistance and support.

The American Registry of Professional Animal Scientists has assigned 7 units of Continuing Educational Units to this symposium. We trust that you will find the symposium both enjoyable and educational.

Sincerely,

*Bernie Haskins*

Bernie Haskins, Owner  
Bernie Haskins Company, Inc.

Sincerely,

*Barney Harris Jr.*

Barney Harris, Jr., Prof.  
Dairy Science Department

BHjr/sjh

# TABLE OF CONTENTS

SPONSORS .....	iii
UPDATE ON FEED COMPOSITION TABLES	
-- L. L. Berger .....	1
CONSIDERATIONS FOR USING BY-PRODUCT FEEDSTUFFS IN THE SOUTHEAST	
-- J. W. West .....	13
BODY ENERGY RESERVES AT PUBERTY IN BEEF HEIFERS	
-- C. C. Chase, R. B. Simpson, A. C. Hammond, M. J. Williams and T. A. Olson .....	24
FEEDING STRATEGIES DURING HOT WEATHER	
-- J. T. Huber .....	35
ECONOMIC EFFECTS OF WHOLE COTTONSEED AND SUPPLEMENTAL TALLOW ON LACTATION WHEN FED WITH DIFFERENT FORAGES	
-- H. H. Van Horn, B. Harris, Jr., and A. L. Adams .....	47
THE ROLE OF PROBIOTICS IN DAIRY CATTLE DIETS	
-- B. Harris, Jr. ....	56

AN UPDATE ON IRON AND SELENIUM IN ANIMAL NUTRITION -- C. B. Ammerman and P. R. Henry .....	66
IDENTIFYING COPPER DEFICIENCIES UNDER FIELD CONDITIONS -- D. B. Herd .....	76
THE ROLE OF COPPER AND OTHER MINERAL PROTEINATES IN RUMINANT DIETS -- R. W. Hemken .....	83
PROTEIN LEVELS AND SOURCES IN MOLASSES FOR GROWING CATTLE -- W. E. Kunkle, D. A. Stateler and D. B. Bates .....	89
FIVE-STATE STUDY ON THE USE OF BYPASS PROTEIN IN LACTATING COW DIETS -- D. K. Beede .....	*

*\* Insert in proceedings.*

# PLANNING COMMITTEE

---

BARNEY HARRIS, JR., CO-CHAIRMAN

BERNIE HASKINS, CO-CHAIRMAN

CLARENCE AMMERMAN

DAVID BEEDE

JIM CHAPMAN

BILL KUNKLE

JOHN MOORE

CHARLIE STAPLES

JACK VAN HORN

---