DEPT. HEAD: "A major activity since the last newsletter has involved the search for four new faculty members to fill positions in microbiology (applied physiology), meat science, plant products processing, and dairy products/food safety and sanitation (extension). As with most organizations, the dept.'s future depends on the ability of our faculty. Thus, the major thrust has been to obtain the most highly qualified individual available for each position. We feel that we are attracting such applicants and have an opportunity to obtain outstanding individuals for the four positions.

Two of the positions have been filled and we are in the final stages of campus interviews for the other two. Dr. E. Allen Forberg, currently completing his Ph.D. degree at the University of Minnesota, has accepted the faculty position in meat science and will join our faculty in September. He has an M.S. degree from the University of Missouri and has previously worked for Land O' Lakes. Dr. Perry Forberg has accepted the faculty position in microbiology (applied physiology). She is also finishing her Ph.D. degree at the University of Minnesota and will join us in September. She is doing her Ph.D. research with Dr. Frank Datta, a former faculty member of our dept. More information on these two new faculty will be featured in the next newsletter.

In addition to the search for new faculty, activities surrounding graduation were recently completed. Jobs were harder to find this year due to the economic situation and uncertain outlook. However, most of our students seeking positions are meeting with success, although the number of opportunities are fewer than last year. We would appreciate your contacting us if you need food science graduates or know of those who do. We are often in contact with former students who are considering a change of positions. We will be glad to assist you as we can.'

ACADEMIC AFFAIRS (V. A. Jones)

Graduates: Thirty-one students completed degrees in Food Science in 1981-82. They included 15 B.S. 8 M.S. 6 Ph.D., and 8 Ag. Inst. students. (Ph.D. degrees were awarded to Mark Johnson and Parak Boesel.) M.S. degrees were received by Jean Anderson, Elaine Castor, Vuc-Mao Liu, Demi Nguyen, Edward Ommen, Hsiao-Chien Lin Fang, Shi-Chu Wang, Faust, and Ray Treadwell. B.S. graduates were: Donna Arledge, Charlotte, NC; Susan Barsekat, Raleigh, NC; Wayne Brown, Liberty, NC; Jeffrey Cramer, Winston-Salem, NC; Evelyn Darnall, Raleigh, NC; Gary Harrill, Newport News, VA; Pamela Hemphill, Morrisville, NC; Allen Hines, Raleigh, NC; Martha Hunt, Trenton, NC; Carol Jackson, East Brunswick, NJ; Melissa Hays, Conover, NC; Kimberly Kirsch, Winston-Salem, NC; Deborah Munn, Raleigh, NC; Eric Peterson, Raleigh, NC; Susan Royal, Charlotte, NC. All graduates in Food Processing, Distribution, and Service were: Mary Bagley, Jefferson, NC; Tracy Cox, Asheboro, NC; Anthony Finch, Wilmingtorn, NC; Yolanda Finley, Durham, NC; Scott Strickland, Spring Hope, NC; Frances Unstead, Rocky Mount, NC. Mary Bagley was the top student in the Agricultural Institute graduation of 139 students. She had a GPA of 4.0. A couple of graduates are working temporary jobs and will be available for full-time employment shortly. More information about prospective employers, including at least eight graduates in December 1981, is available from V. A. Jones (919-797-2082).

Four Undergraduates Awarded Scholarships: National IPT and American Dairy Science Asn. scholarships have been awarded to four NCSU Food Science students for 1982-83. Philip Hakes was a double winner. He received $1,600 scholarships from both IPT and ADSA. A native of Raleigh, Phil is a senior. Susan Stenel, a senior from Huntersville, NC, was awarded a $1,000 IPT scholarship. Ann Palo, a senior from Lexington, NC, and Ruth Price, a junior from Lenoir, NC, each received $500 IPT scholarships. Karen Cranfill was awarded a $750 Nat. Indep. Poultry and Food Dist. Asn. scholarship. With students from 40 schools eligible for IPT scholarships, we were pleased to have four of 35 junior-senior scholarships awarded to NCSU students.
NC State Seafood Lab: The seafood lab at Morehead City in cooperation with Ag. Ext. provides Sea Grant advisory services to varied coastal audiences. Our dept. is in both research and extension. The research group includes R. W. Kershner and Mrs. Susan Lovelace under the direction of T. C. Lanier (Raleigh) and the extension component includes S. D. Thomas, D. A. Hill, and Mrs. Joyce Taylor under the direction of P. E. Thomas (Raleigh). Recently a seafood workshop was conducted at the Morehead Lab for the general public and another will be held in Spruce Pine for extension homesteaders.

DEPT. REVIEW: A comprehensive review of the dept. was conducted March 25 through April 2. The review team consisted of the following: R. G. Barron, CSRS, USDA, Washington, DC; A. L. Brumen, Head Dept. of Food Sci. and Technol., University of Nebraska; W. W. Marion, Head, Dept. of Food Sci. and Technol., Iowa State University; and H. B. Morse, Senior Res. Dev. Res., and Development R&D, Winrock-Salem. The primary purpose of this five year review is to assist in the improvement of research planning, quality, relevance, coordination, and program orientation.

FACULTY ACTIVITIES: The newly elected chancellor at NC State, D. R. Bruce Fielding, before coming to NC State he was chancellor of the University of New Hampshire System. His degrees are B.S. - Animal Science, M.S. - Nutrition, and Ph.D. - endocrinology, all from Rutgers. R. C. "Bob" Wells has been named the associate director of extension. He joined the N.C. Extension Service in 1985 and worked in the area of dairy management and legal economics. D. R. Lineback was elected a fellow of the Institute of Food Technologists and will be honored at the annual meeting in Las Vegas. R. E. Cerrigan was recently initiated into Gamma Sigma Delta, an honor society of agriculture. Takayuki "Taka" Akahane, Dept. of Biochemistry, Sophia University, Tokyo has joined our seafood research group for one year. H. E. Swaingood attended an international symp. on "Uses of Enzymes in Food Processing" at Versailles, France and visited Tetra-Pak International in Lund, Sweden and discussed research support possibilities on a pilot scale reactor to remove cooked flavor from UHT milk. P. J. Skudder, Nat. Inst. of Research in Daitying, Reading, England, who worked with Harold on a six months sabattical, completed his work on large scale immobilization of sulfhydryl oxidase. While in Europe, Harold gave seminars on sulfhydryl oxidase in several countries three in France, two in Sweden, one in W. Germany, and one in the Netherlands. Also of interest in Harold's "shop" is the issuance of the patent for the rapid penicillia test for milk. Several commercial companies are negotiating for the rights to make the test kits.

Food Science Extension conducted its "first ever" retreat to assess the status of programming at the home of N. C. Miller, specialist-in-charge. Nick Barte, Univ. dairy plant manager, went into the record books with a "hole-in-one" at the Dairy Tech. outing at Tanglewood in May.
**Graduate Students Win National Fellowships:** Three food science students have won graduate fellowships for 1982-83 in national competition. Susan Barefoot, Mary Ellen Sanders, and Catherine Wright each received awards for their scholastic excellence and research. All three are pursuing Ph.D. programs in food microbiology with T. R. Kinselmann. Susan Barefoot was awarded a $6,400 Ralston Purina Fellowship. A native North Carolinian, Susan received an IFT scholarship while an undergraduate at NCSU in 1970-71. She also received both a Ralston-Purina and an IFT fellowship in 1981-82. Her research is on bacteriocins produced by *Lactobacillus acidophilus*.

Mary Ellen Sanders received a $6,000 General Foods IFT Fellowship. Her research concerns the genetic instability of phage resistance in starter culture organisms. She is a repeat recipient of an IFT fellowship. Mary Ellen completed her B.S. in food science at the University of California-Davis before earning her M.S. degree at NCSU.

IFT also awarded a $1,000 Standard Brands Fellowship to Catherine Wright. A native of Maine, Cathy received her B.S. in animal science from Vermont, and her M.S. in food science at NCSU. Her research on *Lactobacillus bulgaricus* stability during frozen storage is important for starter culture use in the dairy industry.

**Graduate Program:** Recent additions to the food science faculty will permit the dept. to strengthen its course offerings, especially at the graduate level. Several additional graduate level courses are under development. These will deal with sensory evaluation, fermentations, kinetics, and ingredient technology. Information about the graduate program in food science at NCSU has been incorporated in a brochure describing the research interests of each faculty member. Copies will be available soon. Fifty-one students are currently pursuing M.S. or Ph.D. degrees.

**Food Science Club:** New officers of the Food Science Club are: June Parker, Clinton, NC, president; Jane Burgarella, Sudbury, MA, vice-president; Mattie Williams, Warrenton, NC, secretary-treasurer; Pamela Humphill, Morrisville, NC, and Steve Tracey, Greensboro, NC, activities co-chairmen; Karen Hoffman, Boone, NC, historian. The club had the best exhibit at Agricultural Awareness Week for the second consecutive year. Kim Kinselmann, outgoing president, was presented the Most Outstanding Senior and the Agricultural Council Outstanding Club Member awards at the spring picnic. In 1982-83, the club will edit the National Student Chapter Newsletter for IFT, in addition to its other activities.

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**FOOD FERMENTATION LABORATORY:** Research on pickling of vegetables is centered in our Food Science Dept. as a cooperative effort among the N. C. Ag. Research Service, the USDA, and Pickle Packers International, Inc. USDA scientists, H. P. Fleming and R. F. McEvers, work closely with other university scientists to develop more efficient and safe methods to preserve vegetables by fermentation and direct acidification. Research on controlled fermentation methods is underway that could open new dimensions for fermented vegetables in the form of new flavors, improved quality, reduced spoilage, and reduced salt usage. These studies include microbiological and chemical changes during fermentation; selection and adaptation of lactic acid bacteria for fermentation; and prevention of spoilage by undesirable bacteria, yeasts, and molds. USDA chemist R. L. Thompson; graduate students M. A. Daeschel, E. A. Folke and K. H. Chen; and technicians R. E. Sonny and S. A. Armstrong, are involved in the research. These fundamental studies may soon find application in the pickled vegetable industry in developing an anaerobic tanking system for bulk fermentation and storage of cucumbers and other vegetables. Development of this tanking system could pose the industry to take advantage of the biotechnology revolution.
FACULTY IN THE SPOT-LIGHT

L. W. "Len" Aurand is the "dean" of our faculty, coming to NCSU in 1949. His research has been in food chemistry with particular interest in milk flavors. "Len" was a consultant in Chile and Bolivia and had several other overseas assignments. He has authored two textbooks, "Food Composition and Analysis" and "Food Chemistry," in addition to a lab manual, and he has also written chapters in other textbooks. Len and Eleanor have three children: "Becky," 33, who has two children and is a housewife working on nursing degree; "Tom," 32, Ph.D. from Cornell and working for A. E. Staley Co.; and "Sally," 27, housewife in Illinois with two children. "Tom" and "Sally" are B.S. grads of our dept. Eleanor is food service director, Gov. Morehead School.

W. M. "Bill" Welter, Jr. has been on our faculty since 1965. He is a research chemist, USDA, and professor, food science. "Bill" works with the sweet potato industry, the largest vegetable crop in N. C. His research is concerned with the curing of sweet potatoes and the development of frozen French fry and patty type products. The goal of his curing research is to develop objective tests to describe the stages of the process so that curing treatments can be optimized. "Bill" and "Kay" have one son, William III, who is a senior at Broughton High. "Kay" is working on her Ph.D. in Ed. Psych. and does private educational testing.

U.S.D.A.

William M. Welter, Jr.