Publications of the Faculty and Staff

COLLEGE OF AGRICULTURE

(From July 1, 1969 to June 30, 1970)

Published by
Agricultural Experiment Station
and
Cooperative Extension Service

P-18

THE UNIVERSITY OF ARIZONA
INTRODUCTION

These publications of the faculty and staff of The University of Arizona College of Agriculture reflect some of our college's efforts in three major areas:

1. Training future agriculturists, agri-businessmen, home economists, and others who need agricultural knowledge.

2. Research, both basic and applied, aimed at improving the conditions under which man lives.

3. Direct service to the people of Arizona.

The three areas of endeavor function as one. Basic research, largely theoretical, often builds steps that lead to applied research with practical results. What the Agricultural Experiment Station learns in the laboratories and in the fields frequently moves quickly into our classrooms through Resident Instruction. Likewise, through teamwork, the same knowledge is harnessed in direct service to man by the Cooperative Extension Service.

While this is not a complete listing of publications for the year cited (thousands of articles printed in newspapers, popular magazines and other publications are not included), it does show commendable efforts by our faculty and staff.

The basic purpose of this publication is to provide a reference point for scholars still probing the frontiers of knowledge.

Harold E. Myers, Dean
College of Agriculture, and
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AGRICULTURAL BIOCHEMISTRY

Publications During the Year

A. Books and Monographs

None.

B. Chapters in Books

None.

C. Articles


Hefferan, P. M., Goodnight, K. C.  

Jaworski, A., Whitfeld, P. P., Siegel, A.  

Kircher, Henry W.  

Kircher, Henry W.  

Matsuda, K., Siegel, A., Lightfoot, D.  

Miller, A. M., Sheehan, E. T., Vavich, M. G.  

Rappaport, I., Zaitlin, M.  

Smith, M. R., McCaughey, W. F., Kemmerer, A. R.  

Zaitlin, M., Hariharasubramanian, V.  

Zaitlin, M., Hariharasubramanian, V.  
"Proteins in Tobacco Mosaic Virus-Infected Tobacco Plant," *Biochemical and Biophysical Research Communications*, (June, 1970).

D. Monographs in a Series

None.
E. Papers Presented (Unpublished)

Goldberg, R., D. Lightfoot, W. Bemis and A. Siegel
Taxonomic Significance of the Genomic Content of DNA
Complementary to Ribosomal RNA. Paper presented at
Pacific Slope Biochemical Conference, La Jolla, California,

Kemmerer, A. R.
Effect of Extraction Procedures on Stability of Safflower Oil.

Kircher, Henry W., Goodnight, Kenneth C.

McCaughey, W. P.

Ratajczak, Helen V.

Siegel, A. and Rosella Huber

Stanfield, Alice B.
Tissue Cell Culture as an Investigative Tool in Rheumatoid Arthritis. Paper presented to the Agricultural Faculty Club, University of Arizona, December, 1969.

Stanfield, Alice B.
During the time Mrs. Stanfield was on sabbatical leave, she presented papers and showed films of the research on rheumatoid arthritis at the following places:
  - Oxford University, England.
  - Red Cross Canadian Hospital, now a Research Center at Taplow.
  - Trudeau Research Institute, Saranac Lake, New York.

Stanfield, Alice B.
Tissue Culture Techniques in the Study of Rheumatoid Arthritis. Paper presented at American Medical Laboratory Association Meeting at College of Medicine, University of Arizona, Tucson, May, 1970.

Thornburg, William and A. Siegel
Zaitlin, Milton and V. Hariharasubramanian
Proteins in Tobacco Mosaic Virus and Potato Spindle Tuber Virus
Infected Plants. Paper presented at Pacific Division Meeting,

Zaitlin, Milton and R. G. Jensen
Photosynthetic CO₂ Fixation and Other Metabolic Activities
of Isolated Tobacco Cells. Paper presented at Pacific Division

F. Abstracts

None.

G. Book Reviews

None.
AGRICULTURAL CHEMISTRY AND SOILS

Publications During the Year

A. Books and Monographs

None.

B. Chapters in Books

None.

C. Articles

Bohn, H. L.


Bohn, H. L, and M. Peech.

Bohn, H. L.

Enfield, C. G., and D. D. Evans

Fuller, W. H., and M. F. L'Annunziata

Moench, A. F., and Evans

Qashu, H. K.

Qashu, H. K., and F. Lyford

Qashu, H. K., and D. D. Evans
Warrick, A. W., and Don Kirkham
"Two-Dimensional Seepage of Ponded Water to Full Ditch Drains."
Water Resources Res. 5 (June-July 1969), 685-693.

D. Monographs in a Series
None.

E. Papers Presented (Unpublished)

Bohn, H. L.
"Inorganic Phosphate Ion Species in Natural Waters"
Western Phosphate Work Group, Riverside, California, March 19-20, 1970.

Evans, D. D. and Harshbarger, J. W.

Evans, D. D. and Warrick, A. W.

Gardner, B. R.
Petiole Analysis and Nitrogen Nutrition of Cantaloupe.
Western Growers Association, Phoenix, October 30, 1969.

Gardner, B. P.

Chesnin, L, and G. V. Johnson

G. V. Johnson and L. Chesnin.

Warrick, A. W.
A Mathematical Solution to a Hillside Seepage Problem.
Amer. Soc. of Agron. Meetings, Detroit, Michigan, November 1969.

Warrick, A. W. and D. D. Evans.

Movement of Nitrogenous Fertilizers through Soil Columns.
F. Abstracts

Chesnin, Leon, and Gordon V. Johnson.

Evans, D. D., and A. W. Warrick.

Macgregor, A. N.

Shaffer, M. J., Dutt, G. R., and W. J. Moore

Warrick, A. W.


G. Book Reviews

Warrick, A. W.
AGRICULTURAL ECONOMICS

Publications During the Year

A. Books and Monographs

Angus, Robert C.

Fox, Roger W.
Multi-County Development Areas in Arizona. Experiment Station Report in progress. With Alan R. Goozner.

Riggs, James F.
Arizona Citrus and Grape Acreage, by Type and Age Group. Phoenix, Arizona: The University of Arizona, College of Agriculture, and Statistical Reporting Service, U.S.D.A., 1969. (The survey was made in the fall and winter of 1968-69, and published June 1969. A follow-up survey was conducted in the fall and winter of 1969-70, and data will be updated and published in June 1970.)

Wildermuth, John R.

B. Chapters in Books

None.

C. Articles

Angus, Robert C.

Angus, Robert C.

Angus, Robert C.
Angus, Robert C.  
"Cost and Profit Comparisons of Baling and Cubing Alfalfa Hay,"  

Firch, Robert S.  

Firch, Robert S.  

Fox, Roger W.  

Fox, Roger W.  

Fox, Roger W.  

Fox, Roger W.  

Gum, Russell L.  

Gum, Russell L.  

Gum, Russell L.  
Hillman, Jimmye S.  

Hillman, Jimmye S.  

Kelso, Maurice M.  

Menzie, Elmer L.  

Menzie, Elmer L.  

Menzie, Elmer L.  

Menzie, Elmer L.  

Wildermuth, John R.  

Wildermuth, John R.  

Wildermuth, John R.  
D. Monographs in a Series

Day, John C.

Firch, Robert S.

Firch, Robert S.

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Firch, Robert S.

Riggs, James F.

Wildermuth, John R.
E. Papers Presented (Unpublished)

Day, John C.

Day, John C.

Day, John C.

Gum, Russell L.

Hillman, Jimmye S.

Kelso, Maurice M.

Menzie, Elmer L.
"United States Food Aid Programs." Paper presented to faculty and students, Department of Agricultural Economics, University of Reading, Reading, England, December, 1969.

Menzie, Elmer L.
"University of Arizona's Brazil Project." Paper presented in a seminar at the University of Newcastle Upon Tyne, England, November 1969.

Wildermuth, John R.
Wildermuth, John R.

F. Abstracts

Day, John C.

G. Book Reviews

None.
AGRICULTURAL EDUCATION

Publications During the Year

A. Books and Monographs

Hamilton, James B.

McCormick, Floyd G.

McCormick, Floyd G., Editor

B. Chapters in Books

None.

C. Articles

Jacobs, Clinton O.

D. Monographs in a Series

Hamilton, James B.

Jacobs, Clinton O.

Jacobs, Clinton O.

Jacobs, Clinton O.
McCormick, Floyd G.
With R. C. Sawyer.

Staff.
Resource Unit on Livestock Selection for Core Curriculum.

Staff.

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E. Papers Presented (Unpublished)

McCormick, F. G.

McCormick, F. G.

McCormick, F. G.

F. Abstracts

Amator, Fred L.

Garver, Dan E.
"Factors Associated with Students Dropping From and Staying in Vocational Agricultural Programs", Summaries of Studies in Agricultural Education, Research Committee, Agricultural Education Division, American Vocational Association.

Williams, James E.

G. Book Review

None.
AGRICULTURAL ENGINEERING

Publications During the Year

A. Books and Monographs

Frost, K. R. (with C. H. Pair, W. W. Hinz, Crawford Reid)

B. Chapters in Books

Harriott, B. L. (with E. S. Shepardson and R. E. Garrett)

C. Articles

Barnes, Kenneth K.


"Magnetostriction," Ibid., 84 (21) (October 7, 1964), 32.


Barnes, Kenneth K. and Kenneth R. Frost

Barnes, Kenneth K.


Cannon, M. D. and G. D. Christenbury

Frost, K. R. (with G. W. Ware, et.al.)


Harriott, B.L., R. E. Foster and J. H. Park

Matlock, W. G.

Matlock, W. G., D. D. Fangmeier, M. S. Leo and R. H. Hilgeman

Stapleton, H. N.
D. Monographs in a Series

None.

E. Papers Presented (Unpublished)

Matlock, W. G.


F. Abstracts

None.

G. Book Reviews

Wiersma, Frank
AGRONOMY

Publications During the Year

A. Books and Monographs
   None.

B. Chapters in Books
   None.

C. Articles

Briggs, Robert E.

Buxton, D. R.

Buxton, D. R.

Day, A. D.

Day, A. D.
"Don't Stress Your Wheat for Water," Progressive Agriculture in Arizona, 21 (September-October, 1969), 8-10. With Suhbawatr Intalap.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E., et al.
Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.
"Records Back up Doubled Barley Yield" Western Livestock Journal 1969.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.
Dobrenz, A. K.

Dobrenz, A. K.
"Efficiency of Water-Use and Seedling Drouth Tolerance of Boer Lovegrass (Eragrostis curcula Nees.)," Crop Science, 10 (January-February, 1970), 1-3. With L. Neal Wright.

Dobrenz, A. K.

Dobrenz, A. K.

Hamilton, K. C.

Jackson, E. B. and F. M. Carasso
"Relationship of Date of Planting and Date of Harvest to Incidence of Disease, Stand Survival, Yield and Sugar Content of Sugarbeets at Yuma, Arizona", Journal of the American Society of Sugar Beet Technologists, 15, 6, (July 1969) 528-537.

Kneebone, W. R.

Kneebone, W. R.

Massengale, M. A.

Massengale, M. A.
McDaniel, R. G.

McDaniel, R. G.

McDaniel, R. G.

McDaniel, R. G.

Patterson, Lloyd L.

Ramage, R. T.

Ramage, R. T.

Schonhorst, M. H.

Schonhorst, M. H.

Thompson, R. K.

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Wright, L. Neal

Wright, L. Neal

Wright L. Neal

D. Monographs in a Series

Briggs, Robert E.

Briggs, Robert E.

Dennis, R. E.

Dennis, R. E.

Dennis, R. E.

Hamilton, K. C.
Hamilton, K. C.
Directed Applications of Herbicides in Cotton in Arizona Cotton.

Hamilton, K. C.

Hamilton, K. C.

Kneebone, William R.
Fertilizer Trials on Bermudagrass as Recreational Turfgrass.

Patterson, Lloyd L.

Taylor, Brooks B.

Taylor, Brooks B.

Wright, L. Neal

E. Papers Presented (Unpublished)

Briggs, Robert E.
Day, A. D.

Jackson, E. B. and R. E. Dennis
Adaptation of Soybeans (Glycine max) to the Irrigated Southwest. Paper presented to the Annual Meeting of the American Society of Agronomy in Detroit, Michigan, Nov. 13, 1969.

Kneebone, W. R.

Nelson, John M.
Effect of Planting Date, Variety, Nitrogen Rate and Harvest Date on Lignin Content of Sugarbeet Roots. Paper presented to the Sixteenth General Meeting of the American Society of Sugar Beet Technologists, Denver, 1970.

Nelson, John M.

Nelson, John M.

Patterson, Lloyd L.

Ramage, R. T.

Ramage, R. T.
Ramage, R. T.

Thompson, Rex K.

F. Abstracts

Day, A. D.

Dobrenz, A. K.

Dobrenz, A. K.

Dobrenz, A. K.

Dobrenz, A. K.

Kneebone, W. R.

Kneebone, W. R.

Massengale, M. A.
Massengale, M. A.

McDaniel, R. G.

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Rubis, D. D.

Wright, L. Neal

Wright, L. Neal

G. Book Reviews

None.
ANIMAL PATHOLOGY

Publications During the Year

A. Books and Monographs

None.

B. Chapters in Books

None.

C. Articles

None.

D. Monographs in a Series

Reed, Raymond E.

Reed, Raymond E.

E. Papers Presented (Unpublished)

Dewhirst, L. W.

Dewhirst, L. W.

Dewhirst, L. W.
Coccidiosis and Anaplasmosis, Are We Overlooking These. Paper presented to Cattle Feeder Health Seminar, Tucson, Arizona. May 6, 1970.

Hendershott, Richard D.

Reed, Raymond E.
Reed, Raymond E.

Rokey, Ned W.

Rokey, Ned W.

Sheldon, James J.

Sheldon, James J.

Sheldon, James J.

Sheldon, James J.

Watts, Raymond E.

F. Abstracts

None.

G. Book Reviews

None.
ANIMAL SCIENCE

Publications During the Year

A. Books and Monographs

None.

B. Chapters in Books

Hale, William H.

Roubicek, Carl B.

C. Articles


Hale, W. H., Brent Theurer, J. A. Marchello, Bruce Taylor and Herb Essig.
Bird resistant milo and wheat in high concentrate steer fattening rations.

Hale, W. H., Brent Theurer, J. A. Marchello, Bruce Taylor and Herb Essig.
Effect of Alfalfa and cottonseed hulls fed at two levels and length of feeding period for a 90% concentrate ration fed to fattening steers.

Hale, W. H., Brent Theurer, Bruce Taylor and John Kuhn.
Alfalfa, bermuda straw and molasses in growing rations for steer calves.

Hale, W. H., Brent Theurer, B. R. Taylor and John Kuhn.
Methods of starting new feeder calves.

Hale, W. H., Brent Theurer, Bruce Taylor and John Kuhn.
Influence of forage harvesting and feeding methods on beef production.

Hale, W. H., Brent Theurer, J. A. Marchello and Bruce Taylor.
MHA and various levels of wheat in 90% concentrate fattening rations.
Hale, W. H., Brent Theurer and Bruce R. Taylor.  
112-Day progress report: Various levels of alfalfa and cottonseed hulls in 90% concentrate fattening rations.

McGinty, Don D.  
Drylot cow-calf production: Production of feeder calves in intensive management systems; Production of feeder calves in total and partial confinement; Effect of age of calf at weaning on 205-day weights; Milk production by crossbred and purebred dams; Effect of breed on performance; Feedlot performance and carcass characteristics of creep fed steers following weaning.

Parrott, Cal., W. H. Hale and Brent Theurer.  
Effect of concentrate level and roughage type on dry matter and digestible energy intake.

Methods of alleviating heat stress in feedlot steers.

Theurer, Brent, W. H. Hale, John Marchello, Bruce Taylor and Herb Essig.  
Urea vs. cottonseed meal in high concentrate finishing rations.

Digestibility and utilization of cottonseed hulls by cattle.  

Effect of mechanical and pharmacological stimuli on fat deposition in the bovine.  

Influence of season, sex and hormonal growth stimulants on feedlot performance of beef cattle.  
*J. Animal Science* 29:490.

Breeding merit of topcross parents for preweaning traits in Hereford cattle.  

Genetic selection for adipsia and polydipsia in the rat.  
*J. Heredity* 60:332.

Blood creatinine and uric acid concentration in unsupplemented range cattle.  


D. Monographs in a Series
None.

E. Papers Presented (Unpublished)
None.

F. Abstracts


G. Book Reviews
None.
DAIRY SCIENCE

Publications During the Year

A. Books and Monographs
   None.

B. Chapters in Books
   None.

C. Articles

   Angus, R. C. and J. W. Stull.
   "Consumer Attitudes Towards Milk Substitutes,"
   American Journal of Agricultural Economics, 51
   (December, 1969), 1149-1153.

   Brown, W. H., L. M. Sullivan, L. F. Cheathan, Jr.,
   K. J. Halbach and J. W. Stull.
   "Steam Processing versus Pelleting of Two Ratios of Milo and
   Barley for Lactating Cows," Journal of Dairy Science, 53:
   (In press).

   Brown, W. H.
   "Urea Effect Studied on Milk Production and Composition,"

   Gardner, R. W. and J. D. Schuh
   "Accelerated Growth and Early Breeding Studies with Holstein

   Schuh, J. D., J. O. A. Lima, W. H. Hales and Brent Theurer, Jr.
   "Steam-processed Flaked Grains versus Steam-rolled grains for

D. Monographs in a Series
   None.

E. Papers Presented (Unpublished)

   Brown, W. H.
   Effect of Urea on Production and Composition of Milk. Paper
Nelson, F. Eugene and Henry Tranmal.  

Nelson, F. Eugene  

Price, R. L.  


Stull, J. W.  

Wegner, T. N.  

Wegner, T. N.  

F. Abstracts


Stott, G. H.
"Adrenal Involvement in Reproductive Failure in Bovine Related

Stott, G. H. and J. R. Robinson.
"Plasma Corticosteroids as Indicators of Gonadotrophin Secretion
(Abstract No. P25).

G. Book Reviews

Brown, W. H.
Review of The Lonely Furrow: Farming in the United States, Japan
and India by Kusani Nair. Choice, (In press).

Brown, W. H.
Choice, 6 (October, 1969), 1042.

Brown, W. H.
Review of The Beginnings of Agriculture in America by Lyman

Brown, W. H.
Review of Proceedings: Drugs Affecting Lipid Metabolism by

Brown, W. H.
Review of Single-cell Protein edited by Mateles, Richard and

Brown, W. H.
Review of The Domestication and Exploitation of Plants and
Animals edited by P. J. Ucks and G. W. Dimbleby. Choice, (In
press).

Brown, W. H.
Review of Animal Reproduction; the Efficient Breeding of Sheep and

Brown, W. H.
Review of Trace Elements in Agriculture by Vincent Sauchiolli.
Choice, 7 (April, 1970) 252.

Brown, W. H.
Review of Modern Breeds of Livestock by H. M. Briggs and D. M.

Brown, W. H.
Review of Atlas of Protein Sequence and Structure 1969, Vol. 4,
Stull, J. W.  

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ENTOMOLOGY

Publications During the Year

A. Books and Monographs

None.

B. Chapters in Books

None.

C. Articles


Haverty, M. I. and G. W. Ware. "Circadian Sensitivity and Dosage Rate Response to X-irradiation in the Pink Bollworm, Pectinophora gossypiella (Saunders)." J. Econ. Entomol.
Morgan, Donald P. and Clifford C. Roan.  
"Chlorinated Hydrocarbon Pesticide Residue in Human Tissues,"  

Morgan, D. P., C. J. Harris, S. R. Kemberling, and E. A. Williford.  
"Pesticide Intoxications in Arizona," Arizona Medicine  
(November, 1969), 872-876.

Morgan, D. P. and C. C. Roan.  
"Of Pests and Pesticides," JAMA, 210 (November 17, 1969),  
1275-1276.

Nutting, W. L. and H. G. Spangler.  
"The Hastate Setae of Certain Dermestid Larvae: an Entangling  
Defense Mechanism," Annals of the Entomological Society of  
America, 62 (July, 1969), 763-769.

Nutting, W. L.  
"The Desert Termites," Pest Control, 37 (September, 1969),  
10, 12, 20.

Nutting, W. L.  
"Distribution and Flights of Rare North American Desert Termites  
of the Genus Amitermes (Isoptera: Termitidae), Pan-Pacific  
Entomologist, 45 (October, 1969), 320-325.

Nutting, W. L.  
"How Large is a Dry-wood Termite Colony?" Pest Control, 38  

Nutting, W. L.  
"Free Diurnal Foraging by the North American Nasutiform Termite,  
Tenuirostritermes tenuirostris (Isoptera: Termitidae), Pan-  

Nutting, W. L.  
"Composition and Size of Some Termite Colonies in Arizona and  
Mexico," Annals of the Entomological Society of America, 63  
(In press).

Philipp, Jerry S. and T. F. Watson.  
"Influence of Temperature on Population Growth of the Pink  
Amer. (In press).

"Blood Cholinesterases, Serum Parathion Concentrations and  
Urine p-Nitrophenol Concentrations in Exposed Individuals,"  
Bulletin of Environmental Contamination and Toxicology,  
Roan, C. C., J. A. Laubscher and Donald P. Morgan.
"DDT in Tissues of Man, Animals and Soils of Arizona," 
Progressive Agriculture in Arizona 21 (November-December 1969), 16-17.

Ware, G. W., L. W. Dewhirst and R. Echeverria.
"Sheep Bot Fly in Arizona." Progressive Agriculture in 
Arizona, 21(5) 20-21.

Ware, G. W., W. P. Cahill and Betty J. Estesen.
"Uptake of C14-DDT from soil by Alfalfa." Bull. Environ. 
Contam. Toxicol. 5 (Jan-Feb. 1970) 85-86.

Ware, G. W. and C. C. Roan.
"Interaction of Pesticides with Aquatic Microorganisms and 
Plankton." Residue Reviews.

Ware, G. W., B. J. Estesen, C. Jahn and W. P. Cahill.
"DDT moratorium in Arizona--agricultural residues after 
one year." Pesticides Monitoring Journal

Ware, G. W., B. J. Estesen, W. P. Cahill, P. D. Gerhardt and 
K. R. Frots.
"Pesticide Drift III: Drift Reduction with Spray Thickeners." 
J. Econ. Entomol.

Ware, G. W. and G. K. Whitacre.
"Similar Effects of X-Irradiation and Piperonyl Butoxide 
on Toxicity of Malathion and Malaoxon to House Flies. 
J. Econ. Entomol.

Ware, G. W. and M. McComb.
"Circadian Susceptibility of Pink Bollworm Moths to 
Azinphosmethyl. J. Econ. Entomol.

Ware, G. W., W. P. Cahill, P. D. Gerhardt, and J. M. Witt. 
"Pesticide Drift IV. On-Target Deposits from Aerial Application 
of Insecticides." J. Econ. Entomol.

"Value of Stalk Shredders in Pink Bollworm Control." J. Econ. 
Entomol. (In Press)

Watson, T. F.
"Pink Bollworm Research Progress in Arizona." Proc. Western 

Watson, T. F. and Leon Moore.
"Cotton Insect Control in Arizona--A Changing Outlook." 
Progressive Agriculture in Arizona (In Press).


Wene, George P. "Mesquite Scale" Progressive Agriculture in Arizona 21 (May-June 1969) 17.

Wene, George P. "Drenches Control Mites on Italian Cypress." Pest Control Operators News 29 (June 1969) 21.


Whitacre, D. M. and G. W. Ware
"Endosulfan Metabolism in Temperature-Stressed Rats."

D. Monographs in a Series

Carruth, L. A.

Roney, J. N. and George P. Wene

E. Papers Presented (Unpublished)


Frost, Kenneth and G. W. Ware.
*Pesticide Drift from Aerial and Ground Applications.* 1969 Winter Meeting of American Society of Ag. Engineers.

Nutting, W. L.
*Composition and Size of Wood-inhabiting Termite Colonies in Arizona and Mexico.* Paper presented to the Third Annual Meeting of the Working Group on Social Insects (Productivity of Terrestrial Communities Section, International Biological Program), Warsaw, Poland, June 24, 1970.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.
F. Abstracts

None.

G. Book Reviews

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.

Tuttle, D. M.
Tuttle, D. M.

Tuttle, D. M.

Ware, G. W.
HORTICULTURE

Publications During the Year

A. Books and Monographs
   None.

B. Chapters in Books
   Bemis, W. P.  

C. Articles
   Hilgeman, R. H.  

D. Monographs in a Series
   None.

E. Papers Presented (Unpublished)
   Bemis, W. P.  
Hilgeman, R. H.
Toward Improved Irrigation Efficiency. 18th International Horticultural Congress, Israel, 1970.

Hilgeman, R. H. and F. O. Sharp.
Response to 'Valencia' Orange trees to four soil water schedules during 20 years. 18th International Horticultural Congress, Israel, 1970.

F. Abstracts
None.

G. Book Reviews
None.
PLANT BREEDING

Publications During the Year

A. Books and Monographs
   None.

B. Chapters in Books
   None.

C. Articles


Katterman, F. P. H.

Stith, L. S.

Turcotte, E. L. and Carl V. Feaster.

Voigt, Robert L.

Voigt, Robert L.

D. Monographs in a Series


Voigt, Robert L.
E. Papers Presented (Unpublished)

Stith, Lee S.

*Inheritance of Flat-Square and Its Effect on Agronomic Properties in Gossypium hirsutum L. Var. Acala.*

Muramoto, H.

Turcotte, E. L. and Carl V. Feaster.
*Semigamy - A Short cut to pure lines of Pima Cotton.*

F. Abstracts

John P. Cherry and F. R. H. Katterman.

J. P. Cherry, F. R. H. Katterman and J. E. Endrizzi.

J. E. Endrizzi and F. R. H. Katterman.

G. Book Reviews

None.
PLANT PATHOLOGY

Publications During the Year

A. Books and Monographs

Streets, R. B.
"The Diagnosis of Plant Diseases," Univ. of Arizona Press
"Diseases of the Cultivated Plants of the Southwest"
Univ. of Arizona Press.

B. Chapters in Books

None.

C. Articles

Allen, Ross M. and H. H. McDonald
"Fifth Anniversary of Arizona's Citrus Budwood Program". Citrograph (1970)

Allen, Ross M. and Herbert H. McDonald
'Budwood Certification: A Plan for Tomorrow". Citrograph

Allen, Ross M.
"Mechanical transmission of exocortis virus". Citrograph

Bloss, H. Earl and J. F. Baniecki
"Effects of Sterols and Light on Sporulation and Germination
of Conidia of Phymatotrichum omnivorum. Phytopathology 59;

Bloss, H. E. and John F. Baniecki
"The basidial stage of Phymatotrichum omnivorum". Mycologia

Boyle, Alice M. and Milton Charles Rush

Boyle, Alice M. and Jerald E. Wheeler
"Identification of Four Phytophthora isolates previously
unreported from Arizona". Mycologia (In press).

Boyle, Alice M., J. E. Wheeler and R. B. Hine
"Comparative activity of the soil fungicides Dexon and
Terrazole against Phytophthora and Pythium". Phytopathology
Gilbertson, R. L. and A. B. Budington
"Three new species of wood-rotting fungi in the Corticiaceae". Mycologia (In press).

Gilbertson, R. L. and A. B. Budington

Gilbertson, R. L. and A. B. Budington
"Some Southwestern Lignicolous Hymenomycetes of Special Interest". Southwestern Naturalist (In press).

Gilbertson, R. L. and K. Sieglinde Neuhauser
'Some Aspects of Bipolar Heterothallism in Fomes Cajanderi Karst". Mycologia (In press).

Hine, R. B. and J. E. Wheeler

Hine, R. B., J. E. Wheeler and E. L. Clark
"New canker disease found in pecans". Progressive Agriculture in Arizona 21 (1969) 17.

Hine, R. B., S. V. Thomson, J. E. Wheeler and A. W. Johnson
"A new method to control root rot (Phymatotrichum omnivorum) in replant sites". Progressive Agriculture in Arizona (In press).

Hine, R. B. and E. G. Ruppel

McClure, M. A., J. P. Reed and K. Helrich

McClure, M. A.

McClure, M. A.

Ruppel, E. G.

Ruppel, E. G.
"Relationships of Cucumber Mosaic Virus Isolates from Arizona". Plant Disease Reporter (In press).

Turner, Raymond M., Stanley M. Alcorn, and George Olin

D. Monographs in a Series

Bloss, H. E.
Techniques for Measuring Populations of Fungal Populations in Soil. Wash. State Univ. W-38 Bulletin 716 (Published)

Nigh, E. L., Jr., I. J. Shields and R. B. Hine
Alfalfa Stem Nematode. Univ. of Ariz. Press

E. Papers Presented (Unpublished)

Allen, R. M. and R. H. Hilgeman

Gilbertson, R. L. and A. B. Budington

McClure, M. A. and E. L. Nigh, Jr.

McClure, M. A. and E. L. Nigh, Jr.

F. Abstracts

Allen, R. M. and R. B. Hine
"Control of Thielaviopsis root rot (Thielaviopsis basicola) by citrus by soil amendment with benomyl". Phytopathology 59 (Aug. 1969) 1015.
Caldwell, Roger L. and R. B. Streets

Caldwell, Roger L. and Ross M. Allen

Caldwell, Roger L.
"Effects of Air Pollution on Vegetation". Progressive Agriculture in Ariz. (In press).

Hine, R. B., C. J. Wenger and D. L. Johnson


Hine, R. B. and J. E. Wheeler

Nigh, E. L., Jr., and H. Eshtiaghi
"Nematodes associated with upland cotton infected by Phymatotrichum omnivorom". Phytopathology 59 (1969) 1042.
POULTRY SCIENCE

Publications During the Year

A. Books and Monographs

None.

B. Chapters in Books

None.

C. Articles


D. Monographs in a Series

None.

E. Papers Presented

None.
F. Abstracts

Weber, Charles W.

Weber, Charles W.

G. Book Reviews

None.
WATERSHED MANAGEMENT

Publications During the Year

A. Books and Monographs

Brickler, Stanley K.

Ffolliott, Peter F.

Hull, Herbert M.

B. Chapters in Books

None.

C. Articles

Bonham, Charles D.

Bonham, C. D.

Bonham, Charles D.

Bonham, C. D.

Bonham, C. D.

Bonham, C. D.
Bonham, C. D.

Bonham, C. D.

Bonham, C. D.

Bonham, C. D.

Bonham, C. D.

Bonham, C. D.

Ffolliott, Peter F.

Ffolliott, Peter F.

Fogel, Martin M.

Fogel, Martin M.

Hull, Herbert M.
Jordan, Gilbert L.  

Klemmedson, James O.  

Klemmedson, James O.  
"Needs for Soils Information in the Management of Range Resources," Jour. of Range Manage. 23 (March, 1970), 139-143.

Klemmedson, James O.  

Martin, S. Clark  

Martin, S. Clark  

Martin, S. Clark  

Martin, S. Clark  

Ogden, Phil R.  

Schmutz, E. M.  

Schmutz, E. M.  
Thames, John L.

Thames, John L.

Thorud, David B.

Thorud, David B.

D. Monographs in a Series

Ehrenreich, John H.

Ffolliott, Peter F.

Knorr, Philip N. (Regional Contributing Author)

Schmutz, E. M.

Thorud, David B.
Soil Rejuvenation Following Artificial Compaction in a Minnesota Oak Stand. Univ. of Minnesota. 1969. Minnesota Forestry Note 208. 4 pp. With Sidney S. Frissell.
Wagle, Robert F.  

Zwolinski, Malcolm J. (Co-author)  

Zwolinski, Malcolm J. (Co-editor)  

Zwolinski, Malcolm J. (Editor)  

E. Paper Presented (Unpublished)

Bonham, Charles D.  

Bonham, Charles D.  

Bonham, Charles D.  

Bonham, Charles D.  
Brickler, Stanley K.

Brickler, Stanley K.

Ehrenreich, John H.

Ehrenreich, John H.

Ehrenreich, John H.

Ffolliott, Peter F.

Fish, E. B.

Fish, E. B.

Fogel, Martin M.
Klemmedson, James O.

Martin, S. Clark
Vegetation Changes on Semidesert Range During 10 Years of Summer, Winter and Yearlong Grazing by Cattle. Prepared for XI International Grassland Congress, Surfers Paradise, Queensland, Australia, April 22, 1970. (Paper read by E.H. Reid)

Ogden, Phil R.

Thames, John L.

Thames, John L.

Thorud, David B.

Thorud, David B.

Zwolinski, Malcolm J.

F. Abstracts

Bonham, Charles D.
Bonham, Charles D.

Fish, E.B.

Fish, E.B.

Hull, H.M.

Hull, H.M.

Thames, John L.

Thorud, David B.

Thorud, David B.

G. Book Reviews

Fogel, Martin M.

Fogel, Martin M.
Fogel, Martin M.

Fogel, Martin M.

Fogel, Martin M.

Schmutz, E.M.
SCHOOL OF HOME ECONOMICS

Publications During the Year

A. Books and Monographs
   None.

B. Chapters in Books
   None.

C. Articles

   Kight, M.A., B.L. Reid, Janice I. Forcier, Carol M. Donisi and Martina Cooper
   "Nutritional Influences of Mexican-American Foods in Arizona."

D. Monographs in a Series
   None.

E. Papers Presented (Unpublished)

   Ruth C. Hall

   Household Production Here and Abroad
   Paper presented to the 6th Biannual Home Economics Alumni Association meeting, The Ohio State University, Columbus, Ohio, October 18, 1969.

   Women in World Affairs

   Role of the Home Economist in World Problems
   Paper presented to the All College Honors Banquet, Kansas State University, Manhattan, Kansas, February 5, 1970.

   Faye C. Jones

   Social and Physical Requirements for Housing the Elderly.
   Paper presented to the Arizona Institute on Housing, Phoenix, Arizona, April, 1970.

F. Abstracts
   None.

G. Book Reviews
   None.
One of the primary responsibilities of Extension workers, especially state specialists, is to "prepare publications and other educational material needed by county personnel and the public in the conduct of Extension educational programs."

Usually, Extension staff members, because of the particular ability in writing for popular reading, author the Extension publications. Sometimes, however, Extension staff members coordinate the writing of an Extension publication by several other staff members. At other times, either because we do not have a specialist in the particular subject matter area or because a research worker desires to write an Extension publication, the Extension Service initiates the desire for and publishes needed bulletins authored by other than Extension staff members.

Early in 1968, the Publications Program for the College of Agriculture was changed so that all publications issued by the College of Agriculture were handled under the Extension Information Publications Project. This meant the addition of Experiment Station Reports and Experiment Station Technical Bulletins to the "popular publication" categories formerly handled by the Publications Editor.

Publications issued during the year were:

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<td>Chemical Weed Control 1970</td>
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<td>A-18 Reprint</td>
<td>Insect Control for Flowers, Shrubs and Shade Trees</td>
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<td>A-19 Reprint</td>
<td>Commercial Vegetable Insect Control</td>
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<td>A-33 Reprint</td>
<td>Growing Grapes in Arizona</td>
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<td>A-37 Reprint</td>
<td>A Milker's Manual</td>
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<td>A-51 Reprint</td>
<td>Budding and Grafting Fruit &amp; Nut Trees</td>
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<td>A-58 New</td>
<td>A Guide to Improvement of Arizona Rangelands</td>
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<td>A-59 Reprint</td>
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<td>Finishing and Refinishing Furniture</td>
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<td>Growth and Development of the Cotton Plant</td>
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<td>A-65 Reprint</td>
<td>Arizona Home Gardening</td>
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BULLETINS

A-66  Reprint  Chile Peppers  7,000
A-67  Reprint  Easy Ways to Cook Pinto Beans  10,000
A-68  Revised  A Guide for Family Day-Care Mothers  5,000
A-70  New  Arizona Agriculture 1970  11,000

CIRCULARS

C-233  Reprint  How to Process Your Home Grown Olives  5,000
C-236  Reprint  Easy Sewing Skills for Everyone  7,000
C-245  Reprint  Making a Rope Halter  5,000
C-255  Reprint  Your 4-H Stock Horse  5,000
C-283  Reprint  Freezing Cooked Foods  8,000

FOLDERS

F-68  Revised  1969-70 Arizona Farm & Home Publications  15,000
F-87  Revised  Citrus Pollination By Honey Bees  3,000
F-90  Revised  Melons and Cucumbers Need Bees  3,000
F-91  Revised  Honey Bees in Alfalfa Seed Production  2,000
F-103  Reprint  Rose Varieties 1970  5,000
F-118  Reprint  Food for Fitness (Spanish)  15,000
F-121  Reprint  Darning on a Simple Sewing Machine  7,000
F-138  Reprint  Cotton Insect Control 1970  8,000
F-144  Reprint  Cultural Control of Pink Bollworm  6,000
F-146  Reprint  Insect Control in Field Corn, Sorghum, Small Grains 1970  6,000
F-147  Reprint  Insect Control Alfalfa and Bermuda Grass  5,000
F-148  New  Storage Battery Maintenance  6,000
F-149  New  Arizona Replacement-Heifer Program  5,000
F-150  New  I - Tourist Suggestions - All Citizens  20,000
F-151  New  II - Tourist Suggestions-Service Stations  5,000
F-152  New  III - Tourist Suggestions-Restaurant Personnel  5,000
F-153  New  IV - Tourist Suggestions-Hotel & Motel  5,000
F-154  New  V - Tourist Suggestions-Retail Sales Personnel  5,000
F-155  New  Alfalfa Stem Nematode  5,000
F-156  New  Root Rot Control in Ornamentals  8,000
F-157  New  Control of Texas Root-Rot in Ornamentals  8,000
F-158  New  Preparing Tree Holes for Root Rot Control  8,000
F-159  New  Evaporation of Water from Open Water Surfaces in Arizona  10,000
F-161  New  Chemical Control of Powdery Mildew in Cantaloup  2,000
F-162  New  Controlling Flies Around Dairies and Corrals  5,000
### 4-H MANUALS

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<td>3</td>
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<td>Learning to Sew</td>
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### RESEARCH REPORTS

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<td>R-253</td>
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<td>Costs and Returns Data for Crop Farms in Arizona</td>
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<td>R-254</td>
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<td>Annual Report 1968 - Short Staple Cotton Breeding</td>
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<td>R-256</td>
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<td>Quality of Arizona's Domestic, Agricultural and Industrial Waters</td>
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<td>R-257</td>
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<td>1969 Turfgrass Report</td>
<td>New</td>
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<td>R-258</td>
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<td>Arizona Grain Sorghum, Forage Sorghum and Sudangrass Performance Tests</td>
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<td>R-259</td>
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<td>Evaluation of Biochemical Soil Additive Vineyard Study</td>
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### PRODUCTION SERIES

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<td>P-12</td>
<td>2,000</td>
<td>Cattle Feeders Day</td>
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### MISCELLANEOUS

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<td>College of Agriculture Student Handbook</td>
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<td>Your Digest: October</td>
<td>7,000</td>
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<td>Your Digest: November</td>
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<td>Your Digest: December</td>
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**TOTAL NO. COPIES**: 426,000
A. Books and Monographs
None.

B. Chapters in Books
None.

C. Articles


D. Monographs in a Series

None.

E. Papers Presented (Unpublished)


F. Abstracts

None.

G. Book Reviews

None.