# PINETUM 1962

Journal of the School of Forestry N. C. State College Raleigh, N. C.

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## The PINETUM

Annual Publication of the

North Carolina State College Forestry Club

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### Foreword

With great pleasure, the Pinetum Staff wishes to present to you the 1962 Pinetum. The Staff has made a painstaking effort to sample the most important aspects that will help to keep alive all the fondest memories which occurred in the life of the fonestry student. It will also serve as a contact with those who graduated before us. We trust that the graduating students will continue to support the Pinetum long after graduation.

We express our gratitude to all who gave their time and effort to make this annual possible and successful.

Our best wishes to all who read this issue.

## Dedication



To Dr. A. J. Stamm, Professor of Wood Chemistry, and this year's winner of the Reuben B. Robertson Distinguished Professorship, for outstanding contribution to research in woodliquid relationships, the 1962 Pinetum is sincerely dedicated.

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## Faculty and Staff



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Director Emeritus and Manager North Carolina Forestry Foundation B.S.F., M.F., Ph.D., University of Minnesota





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#### DR. T. E. MAKI

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Professor of Forest Genetics B.S., M.F., Ph.D., University of California

DR. T. O. PERRY Associate Professor of Forest Genetics B.S., M.A., Ph.D., Harvard University





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DR. A. C. BAREFOOT

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Professor of Wood Technology B.S.F., M.S., Michigan State College

DR. C. A. HART Associate Professor of Wood Technology B.S., M.S., Ph.D., North Carolina State College





RICHARD J. THOMAS Assistant Professor of Wood Technology B.S., M. Wood Tech., North Carolina State College

JAMES T. RICE

Instructor Wood Technology B.S., M.S., North Carolina State College





#### ROBERT C. GILMORE

Superintendent Wood Products Laboratory B.S., M. Wood Tech., North Carolina State College

#### DR. A. J. STAMM

Professor of Wood Chemistry B.S., M.S., Ph.D., University of Wood Chemistry





DR. ARTHUR KELMAN

Professor of Forest Pathology B.S., M.S., Ph.D., North Carolina State College

POVERTY is no disgrace to a man but it is confoundedly inconvenient. -Sydney Smith



Dr. Eric L. Ellwood

Dr. Eric L. Ellwood, a world-renowned scientist, has been named professor and head of the Department of Wood Products in the School of Forestry at North Carolina State College.

The announcement of the appointment of Dr. Eric Louis Ellwood, a native of Melbourne, Australia, was made by Dr. Richard J. Preston, dean of the forestry school.

In his new position, Dr. Ellwood is responsible for the School of Forestry's undergraduate curricula in pulp and paper and wood technology, and all graduate programs in wood products. In addition, he is director of the Wood Products Laboratory and is responsible for the college's research in wood and paper. He is also in charge of the Wood Products Extension Program.

An authority in his field, Dr. Ellwood came to State College from the Forest Products Laboratory at the University of California at Berkeley. At the California university, he was a wood technologist and lecturer. His duties there also included research in timber physics, work in cooperative industrial problems, and graduate student instruction.

Prior to becoming a member of the University of California faculty in 1957, Dr. Ellwood held responsible positions in the field of forestry in Australia.

The new State College faculty member received his early education at Melbourne Boys High School. He attended the Victoria Forestry School, the University of Melbourne where he carned his B.S. and M.S. degrees in forestry, and Yale University where he received his Ph.D. degree.

He also took a post graduate course in aerial photogrammetry at the University of Melbourne and completed a course on weather forcasting at the Commonwealth Weather Bureau.

The distinguished scholar is a member of the Forest Products Research Society and the American Society of Wood Science and Technology.

Since 1960 he has been a consultant to the Pacific Northwest Hardwood Association. In 1953, Dr. Ellwood visited Europe where he inspected wood preserving processes.

The new head of the Department of Wood Products is married to the former Dorothy Esther Caine, and they have three children.



### Dr. Maurice H. Farrier

Dr. Maurice H. Farrier was born in Washington County, Iowa, September 18, 1926. He received his B.S. and M.S. degrees from Iowa State College, 1948 and 1950 respectively. He obtained his Ph.D. degree from North Carolina State College.

Dr. Farrier has a varied experience in entomology. He served as assistant in the office of the state entomologists in Iowa for 2 years and as a graduate research assistant in the Medical Corps of the U. S. Army for two years. Dr. Farrier is also a specialist on the classification of mites.

Dr. Farrier is a member of the Entomological Society of America, Society of Systematic Zoologists, the American Association of Advancement of Science, the Iowa Academy of Science, the North Carolina Academy of Science, Sigma Xi, and Gamma Sigma Delta.

Dr. Farrier, Assistant Professor of Entomology, will teach the courses and conduct research in Forest Insects.

WHAT LUCK MEANS-Luck means the hardships and privations which you have not hesitated to endure; the long nights you have devoted to work. Luck means the appointments you have never failed to keep; the trains you have never failed to catch.

-Max O'Rell



Mrs. Frances Liles

Mrs. Sarah Pearson BUSINESS OFFICE Miss Hazel Adams



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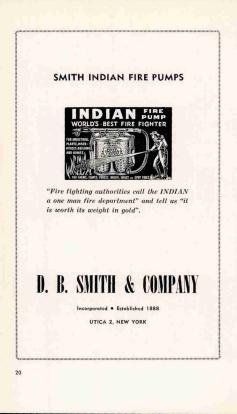
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Freshmen

Sophomores

Juniors

Graduates

### Seniors



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GARY B. BRIDGERS Conway, N. C. Pulp & Paper Tech. Fourdrinier Society, President; Xi Sigma Pi.



NEIL D. BAKER Rowland, N. C. Forest Management



Roy O. BROGDEN Garner, N. C. Forest Management Forestry Club; SAF; Intramurals.



CHARLES S. BENTLEY Richmond, Va. Pulp & Paper Tech. Alpha Zeta; Blue Key; Fourdrinier Society; Toastmasters C1ub; Westiminster Fellowhip: Intramurais; State College YMCA, President.



ROBERT P. BULLARD Evergreen, N. C. Forest Management Forestry Club; SAF.

ROBERT M. BURGESS Burlington, N. C. Forest Management Forest Management Student Government Senator; Alpha Gam-ma Rho Fraternity: Forestry Club; Inter-fraternity Council Rep-resentative. SAF.

ROY M. BUTLER, JR. Clarkton, N. C. Forest Management SAF.

JAMES T. BYRD, JE. Raleigh, N. C. Forest Management SAF: Forestry Club.

JAMES D. CALDWELL Clyde, N. C. Forest Management Intramural Sports.







H. STARKE CAUTHORN Richmond, Va.

Pulp & Paper Tech. Westminster Fellow-ship: Program Chair-man, 1960-61; Viceman, 1960-61: Vice-Pres. Stewardship 1961-62: Fourdrinier Society: Xi Sigma Pi: Pulp & P a p e r Foundation Scholarship: V. P. I. Scholarship.













BUDDY W. CONNOR Kings Mountain, N. C. Forest Management Forestry Club; Dorm Vice President; Apollo Club; I. D. C.





HUNG T. DUONG Saigon, Vietnam Wood Technology F. P. R. S.: The Asian Student Magazine, The Bell of Vietnam Maga-zine: The Vietnamese Student's Association in America, Phi Kappa Phi.

KENNETH L. DAVIS Asheville, N. C.

Forest Management

Forest Management Alpha Zeta; Forestry Club; Football; Basket-ball; Alpha Beta Gam-ma; SAF; Intramural Basketball.



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J. ROY COVINGTON Lumberton, N. C. Forest Management Forestry Club - V. Pres., Prog. Chmn.: SAFC - Vice Pres.; Intramural sports.



Savannah, Ga. Pulp & Paper Tech. Band; Student Govern-Band; Student Govern-ment; Forestry Club; Fourdrinier Society; Alpha Zeta; Xi Sigma 30 & 3; Blue Key; Golden Chain; CUSC; Theta Chi; Freshman Group Forestry Club; Leader.

THOMAS ECK.



WILLIAM S. CRAIG Asheville, N. C. Ashevine, N. C. Forest Management Forestry Club — Sargent-at-Arms, Program Chairman, President; Alpha Zeta; SAF.



JAMES P. ECONOMOU Dayton, Ohio Wood Technology Wood Technology Re-Forest Products Re-search Society: Furni-ture Club: Veteran's Club.

## CHARLES E. CORDELL. Asheville, N. C. Forest Management SAF: Veteran's Club; Forestry Club,

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#### CLARENCE S. FINCH Henderson, N. C.

Forest Management Golf team; Intranural Golf; Forestry Club; Student Advisor; SAF; Friends of the College.

R. FRED FOSTER N. Wilkesboro, N. C. Forest Management Forestry Club; Xi Sig-ma PI, Secretary-Fis-cal Agent.

JAMES H. FRADY Canton, N. C. Pulp & Paper Tech. Fourdrinier Society.

WILLIAM D. FREULER Halifax, N. C. Pulp & Paper Tech, Fourdrinier Society, Vice-President; Pro-gram Chairman; Intra-mural Sports,

WILLIAM H. GOODMAN Raleigh, N. C. Forest Management

WILLIAM R. HARDEN, JR. Plymouth, N. C. Pulp & Paper Tech. Fourdrinier Society: Monogram Club; Inter-collegiate Football; Track: Intramurals.

PAUL HARDIN Canton, N. C. Pulp & Paper Tech. Intramural Sports: Fourdrinier Society.

















C. ALEXANDER HAYES, JR. Ahoskie, N. C.

Forest Management SAF: Forestry Club.



H. SCOTT JENEINS Forest City, N. C. Pulp & Paper Tech. Fourdeinter Society, Treasurer.

Not Piteured: JAMES M. HAYS Hamilton, Ohio Pulp & Paper Tech. Fourdrinier Society.



JOBERT T. JOHNSTON Littleton, N. C. Forest Management Intramurals: softball volleyball.



George C. HENDERSON Manteo, N. C. Forest Management SAF.



ALAN JUBENVILLE Suffolk, Va.

Forest Management Leopold Wildlife Club; N. C. Collegiate Academy of Science; Advanced Army R. O. T. C. (Flight Program): Intramural Basketball.



THOMAS M. HUFFMAN Salisbury, N. C. Forest Management Y. D. C.; Veteran's Club; Forestry Club.



BOHUN B. KINLOCH JR. Charleston, S. C. Forest Management Forestry Club; SAF; Xi Sigma Pi.

#### ABTHUS L. LATIMER, III Suffolk, Va.

Suffoik, Va. Pulp & Paper Tech. Sigma Nu; Blue Key: Class Treasurer, Junior & Senior years: IFC, Vice-President, Social Chairman, Activities Committee: Social Functions Committee; Ring Committee; Orien-tation Group Leader; Freshman Honorary



EDGAR L. LITTLE Durham, N. C. Forest Management



GERALD F. LAUGHING-HOUSE Vanceboro, N. C. Wood Technology Forest Products Re-search Society; Xi Sig-

ma Pl.

PETER D. LEAVITT

Plymouth, N. C. Forest Management SAF.

FRED L. LIVERMAN Ahoskie, N. C. Ahoskie, N. C. Forest Management SAF: Forestry Club, President, Vice - Presi-dent, Secretary: YMCA: Y. D. C.: Conclave; In-tramurals: Freshman Counseling Program.





JR. Kenbridge, Va. Wood Technology and Forest Management Forestry Club; SAF; F. P. R. S.; Kappa Al-pha; Intramurals.





RICHARD B. LINGMAN New Bern, N. C. Forest Management

BOB MCCRACKEN Clyde, N. C. Forest Management SAF; Intramurals.





ED L. MCMULAN, II Brewton, Ala. Forest Management Forestry Club; SAF: Kappa Alpha,



JUAN E. MUNOZ Aquadilla, Puerto Rico Forest Management



THOMAS MULLER Asheville, N. C. Forest Management Xi Sigma Pi; SAF.



J. SHERWIN ODUM Hubert, N. C. Forest Management Y. M. C. A.; Ossis Society; Forestry Club; SAF: XI Sigma Pi.



CARL F. MILLS Chinquapin, N. C. Pulp & Paper Tech. Fourdrinier Society.



W. LARRY PORTER Vaughan, N. C. Forest Management SAF: Student Government: School Traffic Committee: Orientation Leader: Ring Committee, Sigma Nu.



J. GRAHAM MOORE Raeford, N. C. Forest Management Forestry Club: Alpha Zeta; Business Manager, Pinetum; Forestry Club, Secretary.



JAMES E. REID Mt. Sidney, Va. Forest Management Xi Sigma Pi; Forestry Club: SAF: American Forestry Association.

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JAMES A. ROBBINS Holdens Beach, N. C. Forest Management SAF; Forestry Club.

ALVIN Y. ROBERTS Cherryville, N. C. Forest Management Xi Sigma Pi; Forestry Club; SAF: Veteran's Association.

LLOYD C. SIMMONS Blakeslee, Pa. Forest Management Student Counselor; SAF; Forestry Club; Editor, Pinetum.

JOHN A. SMITH Bowden, N. C. Forest Management Advanced R. O. T. C.; Forestry Club, Secretary.



Rommer L. Smith Fairport, Va. Forest Management Forestry Club; SAF.





WILLIAM E. SMITH Jacksonville, Fla. Pulp & Paper Tech. TAPP1: Paper Foundation Scholarship; Fourdrinier Society.





MILTON F. SPAIN Waverly, Va. Pulp & Paper Tech. Intramural Basketball; Fourdrinier Society; Scabbard and Biade.



JAMES W. SPOTTS Atlanta, Ga. Forest Management N. C. State Men's Glee Club; Canterbury Club; Alpha Phi Omega; Campus Chest Drive; SAF.





ARTHUR W. STALLINGS Raleigh, N. C. Forest Management



JOHN H. TURNER Raleigh, N. C. Forest Management Xi Sigma Pi; Forestry Club; SAF.



O. DAVID THARPE, JE. Statesville, N. C. Pulp & Paper Tech. Sigma Nu: IFC; Freahman and Varsity Track Team; Fourdrinier Society.



JOSEPH V. VATTA N. Parur Kerala, India Forest Management SAF: Forestry Club.



JOHN A. TOMS Forest City, N. C. Pulp & Paper Tech. Student Government — Junior Senator; Phi Eta Sigma; Xi Sigma Pi; Crown — Zellerbach Award; Gamma Delta Sigma Award; Fourdrinier Society; Phi Kappa Phi.



Hoang Vu Saigon, Viet Nam Forest Management Xi Sigma Pi; International Clubs; SAF.



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JACK WALTERS, JR. Whiteville, N. C. Forest Management SAF: Intercollegiate Track; Monogram Club; Forestry Club.



DONALD H. WEILLER Raleigh, N. C. Forest Management Forestry Club; SAF.



DWAIN D. WORKMAN Chillicothe, Ohio Forest Management SAF: Forestry Club: Intramurals: Golf Team:



JOHN M. YOUNG Asheville, N. C. Forest Management Forestry Club: SAF.

Not Pictured: MARSHALL W. Gore Tabor City, N. C. Forest Management

PROUD WORDS—Tis sweet to hear "I love you" Beneath a giggling moon; "Tis fun to hear "You dance well" To a lilting, swinging ture; "Tis great to be proposed to And whisper low, "I do." But the sweetest words in all the world, "I've got a job for you."

-Margaret Deeney

## Freshmen



Sophomores



# Juniors



# Graduates



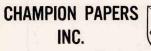
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# Activities



Forestry Club Xi Sigma Pi The Fourdrinier Society Forest Products Research Society Summer Camp The Rolleo Scholarships and Awards Extension Forestry



## The Forestry Club by FRED LIVERMAN

Officers-1961-62

President-Fred Liverman Secretary-John Smith Vice President-Chandler Eakes Treasurer-Blake Ballard

#### Advisors-Dr. R. C. Bryant and Dr. J. O. Lammi

The North Carolina State College Forestry Club has continued its wide selection of activities under the generous advisorship of both Dr. J. O. Lammi and Dr. R. C. Bryant. Club attendance and membership has tended to steadily climb during this school year.

The club was represented at the North Carolina State Fair with a booth containing a miniature asymill. The next exciting activity sponsored by the club was the annual Rolleo which was held at the Hill Forest. This year, many club members plan to travel to College Heights Arkanasa, for active participation in the Fourth Southern Annual Conclave. Plans are being prepared for club participation in the Logger's Brawl. The club calendar also reveals a good interest in a booth for College Union Carnival Night.

The programs during this school year have been of exceptionally high quality. Dr. J. O. Lamni awarde the Rolleo prizes during the first club program. Dr. Bruce Zobel discussed a seed collection trip that led him deep into the roughs of Mexico. Bud Sailer then presented a program concerning cycogenetics. Mr. J. P. Harper represented International Paper Company, and illustrated with a film on experimental equipment that will surely reach a practical level in the near future. Mr. Tom Harris, a N. C. State graduate, represented the Halifax Paper Company. Mr. Harris explained the organizational structure of his company, and explained the duties of a forester working for the pulp and paper industry. Dr. Ralph Bryant discussed a different huming system that now exists in Germany. To round out this array of entertainment, student programs consisted of color slides of Alakan and New Zealand forestry.



# Xi Sigma Pi Mu Chapter—1961-62

by

#### RONALD FRED FOSTER

#### Officers-1961-62

Forester-Alvin Y. Roberts Secretary-Fiscal Agent-Ronald F. Foster Associate Forester-Gary B. Bridgers Ranger-Larry P. Chapman Executive Council Representative-Dr. R. C. Bryant

Xi Sigma Pi, National Forestry Honor Fraternity, was founded on November 24, 1908, at the University of Washington. Mu Chapter of Xi Sigma Pi was installed at North Carolina State College on April 20, 1940. Since the time of its installation, Mu Chapter has undertaken various projects for the general aid of forestry students.

Each year Mu Chapter honors the sophomore who achieved the highest scholastic average as a freshman by awarding him a cruiser's axe. The chapter also honors the graduating senior with the highest grade-point average by placing his name on a plaque in the student lounge of Kilgore Hall.

The fraternity sponsors public lectures by widely known individuals working in forestry or allied professions.

Xi Sigma Pi proposes to honor the student who ranks high scholastically and who demonstrates exceptional ability in the forestry profession.



## The Fourdrinier Society

#### by

#### JERRY L. SELF

Welcome to a Fourdrinier Society meeting,

This society is interested in promoting educational and social activities within the Pulp and Paper Technology curriculum on this campus.

The first meetings were organizational meetings at which the officers were elected. The elected officers are as follows: President–Gary Bridgers, VicePresident–Tom Brown, Program Chairman–Bill Preuler, Treasurer– Sont Jenkins, and Secretary–Jerry Self. Professors H. D. Cook and R. G. Hitchings were selected as faculty adviors.

The society has had some very fine programs this year. Mr. Joe Baxter, Jr., Director of Research and Development, for Black-Clawson, gave a talk on "The Many Facets of Black-Clawson." The Bowater Organization furnished a series of films on the operations and developments of that company. The program committee also presented a film on therealse Powder Company.

The society has a party planned for April. This party and other activities will take place during the rest of the year. The members of the Fourdrinier Society will strive to make it an even more effective organization within the Pulp and Paper Department and School of Forestry.



## Forest Products Research Society

by

#### RANDY MAHANEY

Officers-1961-62

President-Jim Economou Secretary-Randy Mahaney Vice President-Norman Anderson Treasurer-Bill Knight

The F.P.R.S. Student Chapter was formed at North Carolina State College in 1951. Since then, it has grown under the able guidance of Professor Roy M. Carter, past president of the National Forest Products Research Society.

The goal of the student chapter parallels that of the National Society-"to aid in the exchange of information on latest developments in the forest products field." The chapter has as some of its speakers prominent men from various areas of the forest products field. These men are asked to speak on their particular interests and jobs in the field, and also to give advice. This program helps to broaden the interest of the members, and to increase their knowledge of the different areas in the field.

The utilimate goal of the chapter is to be recognized in affiliation with the National Society. In the past, the National Forest Products Research Society executives agreed that organizations with similar ideas on various college campuses could be associated with the National Society on a junior basis. As of this date, the N. C. State College Chapter of the F.P.R.S. is the first and only student chapter to be recognized by the National Society.

## 1961 Summer Camp

by

## J. CHANDLER EAKES, JR.

The fird of June had fnally arrived; that long awaited date marked the beginning of a glorious 10-week vacation for all the sophomores. After the financial matters had been settled with the instigators of this "bargain vacation," we left Raleigh and headed for our pleasure resort headquarters as fast as we could go. After a short drive, we reached our destination—Hill Forest Pleasure Camp. located on the banks of the scenic Fat River.

Our first day was spent getting everything shipshape for our 7-week stay there. After everyone had stopped fighting over the "good" bunks, and got their junk moved into the spacious accommodations, we divided into cleanup crews and wholeheartedly began our assigned tasks. Our enthusiasm lasted about as long as it took us to find out jush how dirty the place really was. At any rate, we finally got everything in order and settled down for 7 pleasure filled weeks.

However, we soon noticed things were going to be a little different from what we had anticipated. The main reason was the presence of a firebug by the name of Dr. Bryant. He was accompanied by a rather small fellow who could, and usually did, walk about 90 miles an hour, and gave lectures about as fast. It seems these 2 fellows wanted us to remember everything they told us (just like back at school). Now this was against everybody's point of tive, and we soon became aware of other less placing characteristics of Hill Forest. The entire place is inhabited by nothing but redbugs, mosquicote, gnust, and copperhead snakes. Nothing but Virginia pine and poison ivy grow worth a damn, and the poison ivy is about as much good as the Virginia pine. One of our biggest problems was water-we had too much of the stuff. It rained at least 3 days a week and sometimes we got rain 8 or 9 times a week. We didn't mind the rain too awful much though, because usually when it rained we were allowed to go to the classroom and listen to Dr. Bryant tell us stories, fand stories they were, too?

A week or two after we got there this man came out to camp and got everybody on a bug catching kick. We figured he was trying to promote an outdoor hobby, and that he must have thought we would be interested since we, as foresters, are all true outdoorsmen. He must have been right-I saw some of the boys that were at camp trying to buy bugs during the fall senseter. He must have really promoted some interest out there!

One afternoon after supper we noticed Dr. Bryant sitting on the profs cabin steps alone. He had a strange expression on his face and a glitter in his eye. As he held the match to light his smoke, he let the tiny flame linger for a moment or two, and gazed at it as though he were in a trance. We knew he was getting set to burn hell out of something! Not more than 15 minutes later we were in the woods trying our damndest to set the whole place on firs. That fire never did break away from us. Tried a few nights later again-still no luck. Even when we had the big burn on the clear-cut area, nothing happened. Doc. Bryant kept walking around mumbling 'Hell, ain't nothing like the lax once; just ain't enough wind up yet." The entire 7 weeks at Hill Forest weren't a flop. Someone discovered The Lodge! That sure was a fine place-everybody that went came back happy, others came back more than happy, while still others came back in worse condition than that.

The food was great, if you happened to think so. Not that John wasn't a good cook, but you just had to have an asbestos mouth to be able to eat everything he fixed. No sir, John didn't leave anything out of what he fixed! We did get plenty to eat though, and as hungry as we usually were it tasted pretty good.

We did accomplish a few things while at Hill Forest. Dr. Miller taught us the name of every living plant on the entire place, and under Dr. Bryant we became experts at cruising timber and making topo maps, (in the rain too, dammid). All in all, it was a good experience for each of us-everyone's concert of forestry was widened, (in one way or another).

At the end of 7 weeks we packed up and headed for the mountains. Dr. Bryant must have figured he wouldn't have been able to burn anything up there, so Dr. Perry took his place.

The 3 weeks in the mountains were undoubtedly the most enjoyable part of summer camp. The biggest advantage the mountains had over Hull Forest was the fact there were gitls in the mountains. One might have raised the quescion of whether we were studying forestry or gitls. However, there was no question in anyone's mind as to which of the 2 subjects received the most attention.

Dr. Perry wanted everybody to get their exercise, so he kept taking us on 5 mile hikes. On one of these expeditions, Dr. Perry thought he'd try running up a mountain instead of walking. No one wanted to run along with him, but there just so happened to be a few of the boys ahead of him, and so he had some company on the walk back down.

Finally, those 3 weeks at Wayah Depot were gone, ending our 1961 summer camp. It was all quite an experience for each of us; an experience most of us will never forget.

AS A CURE for worrying, work is better than whiskey.

-Thomas A. Edison

PAY ENVELOPE-Folks who never do any more than they get paid for, never get paid for any more than they do.

-Elbert Hubbard

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# The 1961 Rolleo

y

## LLOYD SIMMONS

At 7:00 a.m. on Saturday, October 21, 1961, the sun was shining brightly, It looked like an ideal day to hold the rolloc events. About 7:30 a.m. every contestant and spectator was on his way to the proving grounds on the Hill Forest. But loand-behold! Before the first event got underway the rains began to fall.

The crowd of approximately 75 gathered in a tight little group behind the chow hall in the wood-hopping area to watch the first event. A pair of seniors, Conner and Odum, started the crosscut biting into the cant in fine style and finished just as great in 1 minute. So Seconds to cop first place in the event. The next hest (2 minutes 3 seconds) by Blanchard and Eakes took second place for the juniors; and the sophomores. Moss and Carey, came in third. The freshmen, King and Irby, try as they may, could only muster a fourth place which netted them no points for the event.

The seniors, with the first event up their sleeve, knew that this was their day. Chandler came striding up to the cant with his bow saw singing for blood. Dr. Lammi, who, by the way, tild an excellent job of officiating the events, yelled Go' Chandler's saw cut through the first half of the log in record-breaking time but then something happened—he just plumb petered out. The first thought of the crowd was that Chandler was out late the night before or that he smoked too much, but someone in the crowd gave the answer when he yelled. "There's a good example of a married student". Even though his heart was broken. Chandler continued plugging and finished in 5 minutes, 10 seconds.

The juniors "saw" there chance and took it by sending Manning in to do the job in 2 minutes, 11 seconds for a first. Sophomore Zobel and freshman Brookes took second and third, respectively.

The next event could have undoubtedly been handled nicely by Lizzie Borden--the axe throw. Much like Lizzie, although not of the same sex, Coville made headlines for the juniors by killing first place. Connor, a senior, and Elkin, a freshman, tied for second place honors. Carey got the forty whacks.

The knife throw was handled keenly by Arunan, a redman in the senior class, but he was tied by a white man (Elkin) of the freshman class for first place honors. Srago and Moss came in third and fourth respectively.

The chopping contest was a test of endurance and ability to sidestep a glancing axe head. Craig, who showed that a single man had far more stamina and endurance than the aforementioned married man, took first place by chopping through the cant in 6 minutes, 41 seconds. Eakes and Moss took second and third place respectively.

The chain throwing contest was a battle between senior Craig and junior Franklin. Halfway down the road, Bill got tangled in his chain but managed to break loose and win with a time of 1 minute, 20 seconds.

The sophomores and freshmen competed in the rifle shooting contest

since they had no experience in chain throwing. Showing excellent form, Jeffries shot his way to a first for the freshmen.

The half-time events caught the enthusiasm of everybody present. First, a delicions lunch of barbeque, hushuppips, potato slad, and pepsis was served. When the meal was sufficiently consumed and digested, the group gathered near the main barracks where Dr. Hofmann's portrait was presented to the college. (Picture and write-up found in alumni section). Artman and Blanchard were presented with the Homelite scholarship, and Zobel and Self were honored for attaining a 3.925 average at the end of their freshman year.

After the presentations, and in spite of the rain, the events went on. Evidently somebody had spike the senior's peptis since in the remaining nine events they only managed two first places which were bait casting by Liverman, and the tug of war. I've got a sucaking uspicion that the juniors did the spike gince they managed four firsts. They were log rolling. Blanchard and Lewis; fire fighting, Kohut; DBH estimating, Thomas; and volley ball. Mercer had a field day in the afternoon by taking firsts for the sophomores in both pole climbing and tobacco spitting. Bartelt took a third first for the sophomores in the pole dimb.

The final talley gave the juniors a first place in the rolleo with 44 points, the seniors a second with 38 points, and the freshmen and sophomores a tie with 27 points.

The initiation of new members brought an end to the festivities.



LIFE, like war, is a series of mistakes, and he is not the best Christian nor the best general who makes the fewest mistakes. Poor mediocrity may secure that, but he is best who wins the most splendid victories by the retrieval of mistakes. —Robertson

# Scholarships and Awards



# Homelite Scholarship HAROLD BLANCHARD—JOEL ARTMAN

Scholarships and awards play a tremendous role in helping the college student meet his financial obligation. During the 1961-62 school year, 84 School of Forestry students received approximately \$15,700 from scholarships and awards. The editor, on behalf of the recipients, extends a many fold thanks to the companies, foundations, organizations, and individuals who make the scholarships and awards possible.

#### PULP AND PAPER FOUNDATION SCHOLARSHIP

Altman, Laurice G., Jr. Amick, William Michael Baird, Bennett Rav Bentley, Charles Scott Biggar, Francis Bradley Blevins, Ronald Lee Bowling, Bernard Philip Bridgers, Gary Bryant Broughton, Royall M., Jr. Calloway, James Lyle Cauthorn, Hurley Starke Clark, Ernest Calvin, Jr. Donald, Joe Keenan Duckworth, Charles J. Dunning, Charles Everett Eck. Thomas Herbert

Ford, Michael James Groce, Augustus B., Jr. Guerard, Edward P. Ir. Harrison, Robert Clarke Harriss, Herbert Lynch Hart, Ladson Frederick Langley, William H. Leary, Jesse Herbert Lindsey, Alfred W. Major, Eugene Hartwell Massengill, Ralph Erwin Oakley, George David Orr. Thomas Earl Owenby, Furman Douglas Parham, William C., III Parker, Robert S.

Prescott, Jack Brinkley Pritchard, John Stanley Pruckett, Ralph Keith Quesinberry, Garnett D. Robertson, Gerald Wayne Sanders, Harry Thomas Sawyer, Thomas Wayne Self, Jerry Lee Shotwell, James F., Jr. Smith, William Edmond Smoak, Charles Roland South, William David Stoudemire, Stewart McB. Stroup, Thomas Frank Taylor, Andrew J., Jr. Tickel, William H., Jr. Uptegrove, Raymond R. Webb, Joseph Thomas Williams, James Varnado

#### CONTINENTAL CAN COMPANY SCHOLARSHIP

Baldwin, George William Hamrick, James Lewis Blanchard, Harold C. Land, Samuel B., Jr. Franklin, Edward C. Roberts, Alvin Yates Gregory, Jimmy D. Tice, William Eddie Zobel, Donald Bruce

#### U. R. P. NATIONAL SCIENCE FOUNDATION GRANT

Baldwin, George William Best, Elwood Vance Dunning, Charles Everett Hamrick, James Lewis Laughinghouse, Gerald F. Miller, Thomas Zobel, Donald Bruce

#### CROWN-ZELLERBACH FOUNDATION SCHOLARSHIP

Bridgers, Gary B. Chapman, Larry P. Toms, John Amos

#### BILTMORE WORK SCHOLARSHIP

Ballard, Gerald B. Floyd, Burton R. Reid, James E.

#### INDIVIDUAL SCHOLARSHIPS

Weyerhaceuser Foundation-Best, Elwood Vance Garner Scholarship-Baliane, Charles T. French Broad River Garden Club Foundation, Inc.-Cordell, Charles E. George K, Stocum-Eakes, James C., Jr. Kentucky Council on Higher Education-Howell, Jerry F., Jr. General Scholarship-Hudson, David Rex 4:H Smith-Douglass-Huneycutt, Joel Andrew Darlington Vencer-Laughingbouse, Gerald F.



## Extension Forestry by JOHN GRAY In Charge, Forestry Extension

Since the 1961 "Pinetum" was published, great strides have been made in the conquest of outer space. As a result of numerous sub-orbital and orbital flights, the name of Gagurin, Shepherd, Grissom and Glenn have become household words on everyone's lins.

Few people were on hand, however, when Ed Jones (B.S., '51) and John Gray (both pale and haggard but still smiling) returned from outer space on September 1, 1961. Jones brought back from Louisiana a Master of Science in botany in the field of bottom land hardwood management, wrenched from Louisiane Polvechnic Institute at Ruston.

Gray brought back no written evidence of having been anywhere. From his somewhat incoherent babblings, onlookers were able to gather that he found living creatures on the planet Duke and that these had somehow initiated him into the mysteries of graduate economics and statistics. According to him, he is still considered only a pledge for their doctorate order until he proves that he can write something original in their language.

Shortly after these landings, two more intrejid pioneers were launched into the rarified atmosphere of graduate study. John Gilliam was pointed towards the University of Tennessee and a Master's degree in horticulture in the field of Christmas tree production. J. C. Jones was aimed at Duke and told to bring back a Master's degree in watershed management.

Initial communications, established with both these astronauts shortly after they landed, indicated that they were amazed to find so many *female*  inhabitants on these two academic planets and that they were having some difficulty breathing as a result. The two men are adjusting nicely, however, and have stoutly refused all offers of assistance.

All fuel for these flights is provided by the Richardson Foundation of Greensboro, North Carolina.

So much for our space effort this year; now let's get down to earth.

We are proud to report that the hard work of Bill Keppler, Dixie Hobbs (BS, '38), Bill Huxster (BS, '55), plus the partime services of Pere Dyson in Wood Product Extension is beginning to receive substantial recognition and cooperation from the wood-processing industry. Leaders from the lumber and vencer segments of the industry who attended a  $2\frac{1}{2}$ day meeting of our Wood Products Extension Program Development Contract Advisory Committee (how's that for a tile!) stated that the individual case assistance they had received through this program had meant more to them than any other educational assistance in the history of their businesses. They felt that the program was practical, was getting on-the-ground results and was beginning to sir the interest of many members of the industry.

Examples of the major accomplishments of the Wood Products Extension Section this past year include:

Initiating veneer-mill case studies to serve as demonstrations for improving production efficiency, materials handling, labor-efficiency costs and quality control in the veneer industry.

Holding key-man critiques for key personnel in case-study sawmills and veneer mills to explain results of operations analysis studies and improve efficiency and employee working relations.

In cooperation with the Eastern Carolina Lumbermen's Association holding an "island meeting" to present results of a case study which led to greatly improved production efficiency at a member's mill.

In cooperation with the Eastern Carolina Lumbermen's Association, planning and conducting a three-day short course on saw filling attended by 28 mill managers and filers.

Preparing and publishing "Veneer Drying Times for High Temperature Continuous Dryers" based on research by Dr. C. A. Hart of the School of Forestry.

Developing data and publishing "Estimated Production Rates and Board-Thickness Variations for the 24-Inch Sash Gang Saw."

Publishing "Three Case Studies of Lumber Manufacturing Firms in North Carolina"-a procedural guide for Extension workers in other states. This was based on work done by our Wood Products Extension Section.

Testing and preparing a mimeograph, "Applying Queuing Theory Techniques Developed by Canadian Research to Improving Lumber Grading Chain Efficiency."

Based on this Section's experience, preparing and publishing "Problem Studies in Quality Control, Costs, Labor Efficiency, Materials Handling and Plant Layout at Sawmills and Veneer Plants."

Preparing and publishing a folder, "Good Business," as a procedural guide to landowners and timber buyers in timber sales transactions.

Last, but by no means least, this Section was fortunate in securing the services of Mrs. Billie Thomas, who took over the duties of Section secretary on December 1, 1961.

In Forest Management Extension, a new program in bottom-land hardwood management was initiated with emphasis on the Roanoke River valley area of the state. Here, all major holdings of the timber types involved have been mapped and individual contacts made with the owners. In cooperation with the U. S. Weather Bureau and radio stations in the area, floodstage-prediction reports are now being carried twice a week for the benefit of loggers in the area. An informal management problem analysis is underway.

Efforts to promote and develop a large-scale Christmas tree production program with Fraser fr in the mountain conucties were intensified. A major bulletin, "Christmas Trees in North Carolina," was prepared and is now being printed. A mimeograph on Christmas tree insects and diseases was prepared. Field test demonstration areas on chemical weed control and the use of fertilizers in Fraser fit production were established in cooperation with School of Forestry research staff members.

Greater emphasis was placed on reaching and influencing landowners in the 100+o5000 arter size-class category. An illustrated talk on "Investment Aspects of Timber Growing" was prepared. Two field days were planned and held in Chatham and Wake Counties featuring costs and returns from forest land development under various conditions.

Finally, not to be outdone by the Russians, both Sections cooperated in the preparation of a fiveyear plan for Extension Forestry. This was part of a total plan prepared by the North Carolina State College Extension Service, Forest management features include greater program emphasis on landowners in the medium size of ownership category plas intensive educational efforts on quality hardwood production, Christmas three production in the mountains, hardwood marketing and the business aspects of forest management.

The plan calls for the Wood Products Section to concentrate on the lumber, veneer, hardwool-dimension and logging sectors of the industry. Educational efforts will focus on helping the industry reduce costs and/or increase revenues through greater production efficiency, use of better business methods, product improvement and development, and specific efforts in consumer education and market promotion.

Total expected dollar impact of both programs is estimated at \$86,000,000 annually by 1967.

THE MAN without purpose is like a ship without a rudder—a waif, a nothing, a no man. Have a purpose in life, and, having it, throw such strength of mind and muscle into your work as God has given you.

-Carlyle

ALL OTHER KNOWLEDGE is hurtful to him who has not honesty and good nature. -Montaigne

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## Progress Report for 1961-1962

#### by

## R. J. PRESTON, Dean

#### School of Forestry

This year has been one of continuing progress and growth, both qualitatively and quantitatively, for the School. The programs of the School were reacredited by the Society of American Foresters, alumni topped the thousand mark with 1017, and the 74 undergraduate degrees granted in 1961 ranked fifth among the nation's forestry schools.

Enrollment, after several years of rapid increase, has leveled off with 418 students enrolled in the fall semester, the sixth largest among forestry schools. This leveling off of enrollment is partly explainable by a stiffening of entrance requirements and an increase in the undergraduate mathematics and science requirements. There has been a marked increase in the ability of the student body as measured by entrance examination scores, with Forestry students averaging just below those in Design and Engineering, but higher than in the other Schools, Graduate enrollments continue to climb, with 40 enrolled during the fall semester, including one post doctoral fellow and 20 working for the Ph.D. degree. The regional nature of the School is emphasized in that 23 states and 13 foreign countries are represented in the student body. Cooperative agreements with Kentucky, Tennessee, and Texas exist which provide part or all of the out-of-state tuition for upperclassmen by the state in which the student resides; a similar agreement with Virginia provides only for students in Pulp and Paper or Wood Technology, This year seventeen students are receiving these grants.

We are most gratified with the number of scholarships available to qualified students. This year a total of 114 undergraduate students are receiving some scholarship aid and forty-one have secured loans.

The big disappointment of the year was the failure of the bond issue to pass. Eight hundred thirty-three thousand dollars had been allocated for a new forestry building and we were eagerly anticipating the move into this new facility which would give us baldy needed space and centralize our forestry facilities. We are assured that our building will retain its priority and we are hopeful that a way may be found to permit architects to soon start the plans for it. One gratifying measure of the stature of our School was approval by the National Science Foundation for a matching grant of \$\$5,000 for graduate laboratories and facilities, which with the state appropriation hrings the total for the building to over \$\$900,000.

The finest thing that happened during the year was a most generous gift by the School's good friend Edwin F. Conger. This gift amounts to twofirths of the value of some 3,500 acres of land near Aiken, South Carolina. The first 350,000 received from this gift will establish the Edwin F. Conger Distinguished Professorship and the balance will endow scholarships which will give preference to students from Virginia.

Other new National Science Foundation grants received during the year which indicate the esteem our programs have achieved include a grant to Dr. Perry for \$31,400 for aid in his research on physiological-genetic differences in growth rate, onset, duration and cessation of dormancy: a grant to L. C. Saylor for \$24,200 for research on the cytogenetics of speciation in pines, a matching fund grant of \$12,000 to Dr. Stamm for a research treating, eylinder: a predoctoral research participation grant for college teachers to enable faculty from other schools to do advanced work here: and undergraduate research participation grants to the Departments of Forest Management and Wood Products to enable eight outstanding undergraduates to spend a full summer and part-time during the year on a research program.

There were many items of interest concerning our staff during the year:

Dr. Eric L. Ellwood was appointed Head of our Department of Wood Products which includes the curricula in Pulp and Paper and Wood Technology. Dr. Ellwood, whose background appears elsewhere in this Pinetum, is in charge of the teaching, research and extension programs in wood products.

Dr. A. C. Barefoot returned after a two-year leave of absence with I.C.A. on a program to develop a veneer and plywood industry in Pakistan.

Dr, R. C. Bryant took a semester's leave to visit western Europe and in particular to study forestry practices in Germany.

Mr. H. E. Duke retires June 30, 1962 after twenty years as Superintendent of the Hope Valley Forest.

Mr. Peter Dyson filled in for Dr. Bryant in the fall and continued on through the spring semester as a Visiting Lecturer. His appointment as Assistant Professor in Forest Economics has been approved for the coming year.

Dr. J. V. Hofmann received two fine honors during the year. A beautifully painted portrait, with commissioning arranged by interested school alumni, was unveiled at the Rolleo and at the time of the Society of American Foresters National Meeting in October the University of Minnesota awarded him the coveted alumnus Outstanding Achievement Citation and medal.

Dr. J. O. Lammi permanently rejoined the staff after leave with FAO in Switzerland.

Dr. R. J. Preston was re-elected to the Council of the SAF and reappointed as the Society's representative to the National Research Council.

Dr. A. J. Stamm was awarded the Reuben B. Robertson Distinguished Professorship in recognition of his outstanding contribution to research in wood-liquid relations. Dr. Stamm again participated in the N. S. F. visiting wientid lecture program.

Mr. K. O. Summerville, a graduate in the class of 1959, was appointed research technician to work in the area of genetics, nurseries, silviculture and management.

Professor R. J. Thomas was awarded a predoctoral fellowship by the National Science Foundation. He has been granted a leave of absence for the coming year and will study at Duke. Dick is serving as Chairman of the Carolinas/Chesapeake Section of the Forest Products Research Society this year.

Dr. B. J. Zobel received a NSF grant to present a paper on forest genetics at the meeting of the International Union of Forest Research Workers in Vienna, Austria, last fall. He also visited genetic centers in northern Europe and shortly after returning to this country was called upon to give a series of lectures in British Columbia, Oregon and Washington.

Cooperative arrangements have been concluded between the school and three departments in the School of Agriculture (Entomology, Plant Pathology and Soils) which will greatly strengthen the program of the school. An essentially foul-time scientist in each of these areas will be a joint member of the School of Forestry faculty and the departmental faculty and will teach the courses in these disciplines taken by foresters as well as conduct active research.

Dr. Arthur Kelman, Reynolds Professor of Plant Pathology, will teach courses in Forest Tree Diseases and conduct an active research program in several areas of serious forest disease problems.

Dr. Maurice Farrier, Assistant Professor of Entomology, will teach the courses and conduct research in Forest Insects,

Dr. Charles B. Davey has accepted the position of Associate Professor of Soils effective July 1, 1962 and will work with problems in forest soils.

The increasing importance of forest pests in the management of southern forests caused the pulp and paper industry to establish this year the Southern Forest Disease and Insect Research Council. This makes the full-time participation of Dr. Kelman and Dr. Farrier in this area of forestry most timely.

The Forestry Extension staff continues its fine program of self-improvement through the generosity of the Richardson Foundation. John L. Gray and E. M. Jones returned this fall after a year of graduate study at Duke and Louisiana Polytechnic Institute respectively. This year J. C. Jones is on leave studying at Duke and J. H. Gilliam is studying at the University of Tennessee.

All of us were most pleased when the Appalachian Section of the Society of American Foresters honored retired State Extension Forester R. W. Graeber by naming him "Man of the Year in Forestry" in recognition of his pioneering achievements in bringing forestry to the people of the state.

During this year a calender was added to the "Tar Heel Baby," our paper machine, greatly increasing its usefulness for instruction and research. One of the outstanding collections of tropical woods was purchased from Professor Emeritum Dave Cribbs OP Penn State, who spent a week with us going over the collection and giving points on techniques for more effective use of our research microscope. Last summer, Ralph Marts, recently retried from the U. S. Forest Products Laboratory, spent several weeks with our staff instructing them in advanced microscopic textchiques.

The curriculum in Forest Management was revised with substantial increases in the requirements in mathematics, physics and chemistry. The requirements in these areas are probably now higher than in other programs in accredited schools. An option or minor is also now required which assures that each student gets training in some depth in a selected field. Honor programs have been developed in all three curricula to stimulate outstanding students and to permit them great flexibility in course requirements.

## Improving Quality and Yield of Forest Trees

by

#### BRUCE ZOBEL<sup>1</sup>

#### <sup>1</sup>Professor, Forest Genetics at North Carolina State College, Raleigh.

#### General

In the practice of silviculture, trees can be improved in two ways: (1) by making more suitable the conditions in which the trees are growing—in other words, by improving environment, (2) by making the tree itself better through the application of genetic principles. In order that forestry progress rapidly, we need to improve both the quality of products and yields from our forest lands. We need to use both the environmental and genetic methods to get the greatest gains in quality and yields through silviculture.

Classical silviculture has emphasized the importance of the environment and its effects on trees. The works "tree improvement" have been applied in recent years to silviculture where improvement of forest trees is sought through the manipulation of both environment and genetics. This article described certain phases of the tree improvement program in the School of Forestry at N. C. State, with specific lengthsis on the genetic approach.

#### Tree Improvement Program at N. C. State

Although previous research had been underway, a really intensive program in tree improvement was initiated when, in 1956, 13 of the major pulp and paper industries from 7 states started a region-wide program in 1956 in cooperation with the N. C. Agricultural Experiment Station and the School of Forestry. Since then, money for research has also been obtained from the National Science Foundation, and several other companies have jointed the program, so that now a total of 15 companies in 10 states are contributing to it. This program is a rather unique one, supported by industry funds, Experiment Station funds and National Science Foundation Grant funds. Five faculty and staff members now work full time on the present program, and several other "specialities," on the faculty of N. C. State devote part time to this work, advising in their specialities, as needed.

Funds from the Industries and Experiment Station are used in three ways: (1) Consultation and advice is given to the industries on practical problems concerning genetics or related questions in silviculture. Trees for use in seed orchards are graded, advice is given on the establishment, operation and maintenance of seed orchards, progeny tests are designed and analyzed, advice is given as to proper species or geographic source of a species to be used in a specific situation, and other similar consultant activities are undertaken. To date, 900 trees have been selected and graded, and approximately 900 acres of seed orchard is established or being established, as well as one orchard each of yellow popalr. (*Livioednatron*) and sweetgum (*Liguidambar*). Bob McElwee works directly between the School and supporting industries, and has the descriptive title of Liaison Geneticist.

(2) Four graduate assistantships are given to students majoring in forest biology. These half-time assistantships carry a stipend of \$2700.00 a year for the Ph.D. degree, and \$2400.00 a year for the Master's degree. There are currently more than 15 graduate students working on various problems with genetic significance, most of them for the Ph.D. degree. Much of the "short term" basic research is done by these students for their thesis research. Because of the complexity of this research and its long-term nature, in awarding assistantships preference is given to students who plan to work all the way through to the Ph.D. degree, although they are encouraged to secure the Master's degree along the way.

(3) Studies on wood properties comprise the majority of basic research projects for which industry funds are used. The ultimate objective is to determine the inheritance patterns of various wood properties; i.e., how much improvement can be obtained by using selected parents. It was found, however, that to accomplish this objective, much information not strictly genetic in nature had to be determined. Such things as variation within trees, variation among trees of the same age and species growing under similar conditions, variation among trees of the same age growing on different sites and variation of trees of a species growing in different geographic areas had to be determined and analyzed. Many important wood properties could be studied, but at the present time only specific gravity, tracheid length, tracheid vidth, wall thickness and cellulose yields have been looked into, with the most information being available on specific gravity and tracheid length.

(4) Special problems such as adaptability of Mexican pines or production of hybrids for certain problem sites are being undertaken.

Funds from the National Science Foundation grant are used in two ways: (1) Detailed studies on heritability (i.e., the intensity of inheritance) of a number of characteristics of loblolly pine are underway. This long-term study is a very large one, and perhaps the only one in forestry of such a scale and design that will enable a good determination of the variance components of a large number of characters of pine. This heritability study is a joint undertaking between N. C. State College and the Southland Experiment Station of International Paper Company at Bainbridge, Georgia, Four persons are working on it full time, and already \$2,000 seedlings have been planted in a 50-acre test area. Control pollinations have been made involving 320 large loblolly bines; this job in itself is a formidable undertaking requiring considerable skill and hard work consuming thousands of man-hours. Seedlings from these control crosses will require another 40 acres of test area. This basic research project is large, but one that will yield valuable results and information for many years to come, and will yield information not available from any other source.

A tree improvement program cannot be successful without the inclusion of many allied fields such as physiology, cryogenetics, soils, statistics, wood technology, and pathology and entomology. Every time you "turn around" problems involving these allied fields are encountered. Thus, the tree improvement program at N. C. State works closely with the special disciplines, and each has contributed considerably to the N. C. State program.

Physiological phases of genetic studies have been expanded by a NSF grant to Dr. Perry, a faculty member of the School of Forestry making possible basic research on "why certain trees grow faster than others", on genetic differences in nutrition, photosynthesis and respiration and other similar things. These will be expanded with time to include physiological information involving the development of different kinds of wood. Phases of the work involving soils or management problems are under the direction of Dr. Maki who, as Head of the Forest Management Department, is administratively in charge of the Tree Improvement Program.

Several projects are jointly sponsored by the Forest Management and Genetics Departments. One of these has as its objective cryogenetic, speciation and evolutionary studies of the members of the Genus *Pinus*. Chromosome analyses have been made by Mr. Saylor on a number of species; already seed of 60 or more pine species has been obtained. This work is also partly sponsored by National Science Foundations funds, under the direction of Mr. Saylor. In addition to laboratory studies, a pine arboretum has been started on the Schenck Memorial Forest. This arboretum will contain all pine species available that will grow in this area; currently, 50 acres have been set aside for this purpose.

#### Results of the Tree Improvement Program

One major contribution to date has been on wood properties. We now know the variation patterns within trees for several species and are sure that a sample at breast height represents the characters of the whole tree-at least for specific gravity, cellulose yield and probably for tracheid length. We have found little effect of site on wood properties within a given geographic area, but have found definite differences among geographic areas. For example, green wood of lobiolly pine weighs about 500 lbs, per cord more in the Goastal Plain of South Carolina than in the Goastal Plain of North Carolina weighs approximately 250 lbs, a cord more than lobiolly in the Piedmont of N. C.

Our studies, along with others throughout the world, have shown that specific gravity, tracheid length and cell width are fairly strongly inheritedhus, if seed from high specific gravity trees are used, the seedlings produced will have a somewhat higher specific gravity than those grown from "ordinary" seed. Tracheid length appears to be the most strongly inherited of properties, indicating that relatively large gains may be expected by using seed of parents with long tracheids.

Other studies have begun to yield information on inheritance of tree growth and form. For example, hole straightness in holbolly scenar to be strongly controlled, and real improvements will be obtained by using straight trees for seed parents. (The Australians have shown outstanding results on gains from selecting for straightness; i.e., they have quadrupied the number of "acceptable" stems by using seed from straight trees only. Height growth, gum yields, linb angle, disease resistance, and several physiological and adaptive characteristics all seem to be inherited strongly enough to be of value in silviculture. Quite suprisingly, diameter growth has shown a "usable" inheritance pattern, showing faster-growing seedlings will be obtained by using seeds from the larger trees in the stand.

Numerous studies have been made on the relationship of several wood characteristics within a tree. For example, it was found that tracheid length is quite independent of specific gravity—thus, you can have a tree with high specific gravity with either long or short tracheids. Additionally, tracheid with seemed to be independent of length or wall thickness. Lobiolly trees were found having tracheids with thin walls that were long and narrow, ideal for newsprint or high grade papers. Other lobiolly trees were found that had long thick-valled tracheids that will give good yields in the manufacture of graft paper.

Many kinds of research are underway by graduate students. As examples, the following results were obtained from various student research projects:

(1) Straight loblolly trees had about 6% of the total merchantable volume composed of the very undesirable compression wood, while moderately crooked trees had up to 15% of the volume compression wood. Very crooked trees had over 50% of the volume compression wood.

(2) There is much variation in loblolly pine, most of which is among individual trees. Only a small portion of the variation is between sites or geographic areas. Though small, these differences are still considerable; as previously pointed out, wood specific gravity for example, decreases materially as one goes from south to north.

(3) The selected superior trees produce as much seed as check trees in the same stand, contrary to the long-standing notion that the fastest growing trees produce the least seed.

(4) Based on research and some 100,000 commercial grafts, field grafting is feasible for seed orchard establishment over a wide range of latitude and is quite reasonable in outs. Nursery bed grafting is even better. The best and most efficient over to use is a polyethylene (poultry) bag covered by a kraft bag.

(5) Sweetgum does not self easily; i.e., when pollen from a tree is put on flowers of that same tree, very few seeds are formed.

(6) Yellow poplar gives much better sound seed set when crossed with a tree from some distance away than is obtained from normally-collected seed, which may be largely selfed because the bees go from one flower to the other on the same tree.

(7) Sweetgum wood varies greatly among trees, and has a rather high specific gravity, making it quite good for pulping. Yellow poplar wood also varies a great deal from tree to tree, but has a much lower average specific gravity than sweetgum.

(8) It is possible to make pollen of a pine radioactive by injecting P<sup>a</sup> into the stem. This enables studies of pollen flight characteristics to be made to find out how far pollen flies, how wide an isolation area needs to be left around a seed orchard, and how far clones in an orchard need to be separated.

(9) There seems to be considerable geographic variability in growth and form of sweetgum, yellow poplar and Virginia pine, as well as in loblolly pine.

(10) Wood of pond pine is similar to loblolly in several important characteristics. Very excellent specimen trees of both pond and Virginia pine have been found and established in seed orchards. Their growth, form and wood qualities are similar to the best loblolly pines.

(11) Cellulose yields vary greatly among trees, (i.e., a pound of wood from one loblolly tree may produce as much as 7% more cellulose than a

pound of wood from another tree) but no genetic pattern has been observed as vet.

(12) It is possible to estimate the wood properties of a group of small trees from their limbs, but the relationship is not good enough to use for individual trees where considerable accuracy is required.

#### Future of Tree Improvement

Tree improvement silviculture will become more and more important as more information becomes available about the effects of environment and genetics on important tree characterisits. Genetics is already a part of silviculture in the South-use of seed from seed orchards is one practical use of genetics in forestry. All forestry studies are long term, and tree improvement is no exception, so answers will come solvyl. It bears repeating here, as was stated in the opening paragraph, that forestry will advance only as fast as the forester takes into account the biology and growth of the individual tree. The tree improvement approach is intriguing and interesting; it is new and untested, leaving almost unlimited chances for discovery and development.

# Curriculum Revisions

After careful study, the faculty proposes the following changes in the curriculum in Forest Management with the twofold aim of strengthening the curriculum in the basic sciences and providing flexibility to permit a limited amount of specialization.

Forestry education has required introductory studies into many fields but has not provided training in depth in any one area. In addition to increasing the requirements in mathematics, chemistry, and physics, the requirements in professional courses have been reduced to the minimum one which will still meet accrediting requirements. Recognizing the increasing complexity and diversity of the positions open to graduates, each student now selects an option at the beginning of the junior year and follows a prescribed program in that option. Seven options are outlined which will meet the needs of most students in the department. Students desiring specializations not outlined may work out an option with the approval of the advisor, department head and dean, or the outlined options may be modifield with similar approval. Not outlined is an Honors Program for superior students which will permit substitution within the core curriculum.

One hundred forty-two credits are required during the eight-semester program, plus ten for the sophomore summer camp.

#### **Option** Requirements

Forestry Management Forest Mensuration Forest Management Science Watershed Management Forest Biology Forest Recreation and Parks Forest Wildlife Management

## The Hofmann Forest Report

## by

## J. V. HOFMANN

#### Manager, North Carolina Forestry Foundation

Development of Block 10 is now under way. A canal and road have been completed from the west boundary on the South side of Highway No. 17, and parallel with the Highway, to the Morton road and another canal and road are almost completed from the Grant's Creek loop road north to Highway No. 17.

Canals and roads will be constructed wherever conditions require drainage and access on Block 10.

Oil operations have closed on the forest, largely because of financial problems of the operators, All leases have expired. Some drilling is in progress on the Coastal plains which may furnish more information.

The CFI plots were remeasured in 1961 but compilations are not complete. Indications are that satisfactory growth has occurred in the production areas and restocking is improving in all areas. The planting and seeding area of 1961 is restocking although some areas are too wet for reproduction.

Canal and road construction continues with the result that the entire forest becomes more accessible and improved for timber production.

The forest has been wet nearly all year which was favorable for fire protection. However, a fire was started by careless controlled burning by one of the farmers, adjoining the forest, on April 4, 1962, on a severe fire weather cycle. The fire burned more than 400 acres in Block 10 and was a serious threat to large areas. Combined efforts of two "boondocker" fire trucks and about 50 men from the Marine Base; the fire trucks and the large tank truck of the forest, fire plows from Weyerhauser Company and the forest; the Forest Service scouting plane and water bomber plane all exerting every effort for about four hours, held the Morton Road and stopped a vicious blaze after fighting many spot fires which crossed the road and fire lines.

An experimental area of 80 acres has been located in the pocoin area north of the Quaker bridge Road to study the effect of various methods of treatments on the growth of pond pine and lobbolly pine. The area is divided into 16 plots to be treated by fertilizing, discing, burning and combinations of these methods. Drainage is underway at present and it is planned to complete the treatments for planting in 1968. The results should supply a guide to the best method of restocking the open areas.

THE LIGHT of friendship is like the light of phosphorus, seen plainest when all around it is dark.

-Crowell

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# A New Program in Forest Pathology at North Carolina State College

by

## ARTHUR KELMAN

## Professor of Plant Pathology and Forestry

Protection of forest trees against disease and also of wood products against decay has recently assumed a new importance. According to the Timber Resource Review of the U. S. Forest Service, disease now ranks above fire and insects as the major threat to the growth and continued productivity of forest areas in this country.

Experiences in Europe indicate that native disease problems formerly of minor importance in natural stands become serious under the practices that are essential in the management of plantations. Most of the forest areas of importance in North Carolina and the south are now under management or will be in the near future. Furthermore, plantations with trees of uniform age and genotype generally are more likely to be affected by epidemics of native and introduced diseases than are natural stands. Unfortunately, relatively little information is available that will serve as a basis for evaluating potential damage or in developing controls that can be incorporated in management practices. In particular, practical controls are urgently needed for two important disease, fusiform rust and annosus root rot, that now threaten southern pines.

Fusiform rust is a native disease that has increased in severity with the increased plantings of the susceptible slash and lobbilly prines on sites previously occupied by the more resistant longleaf pine. Fust infections on young seedling result in premature death; tem infections of larger trees result in windthrow damage, deformation, and eventual death. Although studies on the disease including aspects of control in nursrier have been completed in other areas in the south, more knowledge of methods of reducing lasses in infected stands is required. Information is albo needed on the relative resistance of progeny of selected superior seed trees to this rust disease.

Recent preliminary surveys of plantations in the south revealed that annosus root rot is causing damage over a wide area. In one survey annosus root rot was causing mortality and predisposing trees to windthrow in 73%, of thimmed lash pine stands that were surveyed. Previously it had been recognized as a cause of root and butt rot of white pine in the Biltmore plantations in North Carolina. At present this disease is considered to be the most serious disease of planted confires in Europe where it has caused great losses. Research data to serve as a basis for possible control measures for annosus root rot are not available for North Carolina or the south in general.

The Division of Forest Disease Research of Southeastern Forest Experiment Station in Asheville has had an excellent record of research in forest pathology. Under the leadership of Dr. George H. Hepting, Chief of the Division of Forest Disease Research, good progress was made in solving many of the pressing problems of the past. However, forest pathologists of this division are responsible for forest disease problems in the entire southeastern United States and cannot direct their research efforts solely to problems that are of primary concern in North Carolina. The expanding needs for research also have created a problem in the south and other areas as well because of the lack of qualified and well trained forest pathologits. Within the past two years, more new appointments in forest pathologits, Within the past two years, more new appointments in forest pathologits. Within the has the bene made in the previous 10 years. With the exceeding of Duke University, graduate programs in forest pathology in the south have been virtually non-existant.

In view of the need for more forest pathologists as well as the necessity for an increase in research, a new graduate program and research project in forest pathology was initiated at North Carolina State College in July 1, 1961. Previously investigations had been made on the role of plant parasitic nematodes on the growth of southern pines, on certain root roots and foliage diseases in nurseries, and on cone and fusiform rusts. However, these projects were supported on a limited basis and supplemented by grants.

Under the new program, candidates for both the Master of Science and the Ph.D. degrees will have an opportunity for training in Forest Pathology with a minor in Genetics, Plant Physiology, Solis or Forest Management. With the operating of the new Forest Service Research laboratory in the Research Triangle, students will have opportunities for research guidance and contacts with those staff members of this laboratory who will receive appointments to the Graduate Faculty at N. C. State College. In addition, the Department of Plant Pathology with 27 staff members, 21 graduate students, and 18 technical aids will provide facilities and professional experiences that are not equalled a other schools in the south and at few institutions in this country.

It is well recognized that certain forest tree diseases present some of the most difficult and challenging problems in the entire field of plant pathology. The School of Forestry at North Carolina State College can now look forward to a new and important role in training and research in forest pathology as a pair of its expanding program.

POWER-To have what we want is riches; but to be able to do without is power. -George Macdonald

WAYFARERS-I expect to pass through this world but once. Any good thing, therefore, that I can do or any kindness I can show to any fellow human being let me do it now. Let me not defer nor neglect it, for I shall not pass this way again.

-Stephen Grellet

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# Exotic Forestry in New Zealand

by

## BOHUN B. KINLOCH, JR.

From the fir-flung island Commonwealth of New Zealand, 1300 miles southcast of Australia, are forthcomings some activities and statistics that are varique in the world of forestry. Surrounded by the vast expanse of the Pacific Ocean and Tasman Sea, the conntry enjoys a climate that is marked by abundant reliafall, moderate temperatures, and absence of escaonal exteremes which all contribute to a long and productive growing season that is pratically ideal for growing everything from livestock to exolic forests. It is the latter activity that has been demanding increasing interest and intensity of development in recent decades. Long noted for one of the world's primary producers and exporters of pastoral and agricultural (cops, on which the contomy has the perate value production of wood from exoic forests: can exceed that of the traditional primary produce.

Although exotic trees have been planted in New Zealand for over a century, the largest impetus came in the mid-1920's and 1930's in two large scale planting waves. The total acreage of exotic forests is now just under 1,000,000 of both government and privately owned land. Plans are to double this figure by the end of the century and triple it by 2025 to meet anticipated demands for domestic and export consumptions. The number and variety of species is large and comes from all parts of the world, though North American types feature most prominently. For example, in the 9,000 acre Rotochu state experimental forest, there are juxtaposed on succeeding plantations such unlikely bedfellows as Douglas fir, several southern pines, eastern white pine, Mexican patula pine, Corsican pine, Monterey pine, and Ponderosa pine-a veritable international museum of conifers. In another state forest is found an extraordinarily vigorous stand of California redwood with an understory of maple and native "pungha", or tree ferns, which themselves grow to heights of 20 to 40 feet. Close by is an impressive stand of European larch. There have been relatively few plantations or research activity in exotic hardwoods, with the exception of certain species of

Although there is a rich variety of essoic confirms, by far the most importain in both extent and commercial value is Montery pine (*Pinus valuata*, Don). This unusual pine, native to a narrow strip of coastal California where it is of little commercial importance, has in recent times been established as a commercial exoit in many parts of the world including South Africa, Chile, Australia, and presently occupies over 90 per cent of the exoit forest area of New Zealand.

Growth rates in New Zealand of any organism, from tree to trout, can only be expressed in superfairies. Many, if not most, of the various species of flora and fauna that have been imported here seem to have reached their environmental and ecological utopia. This is partially the result of importing species of an inherently vigorous nature and partially the result of the ideal ten months, for at least Montercey pine, together with an absence of virulent climatic and moisture conditions which give an effective growing season of and destructive pathogens.

The yield and growth rate of Monterey pine is particularly spectacular. On optimum sites, stands of Monterey pine can atain a height of 120 feet in 20 years. Individual trees over 150 feet high and 25.30 inches d.b.h. at 90 to 35 years of age are not at all uncommon. Average per accer growth and yield figures at age 30 for about 150,000 acres of Monterey pine on one of the largest private industrial forestry companies are as follows:

> Growth M.A.I. (height, after age 5)-5 feet M.A.I. (diameter)--0.6 inches M.A.I. (volume)-325-375 cubic feet Basal area-230 square feet Yield 8.000-12.000 cu. ft./acre

A comparison of Monterey pine with our more familiar loblolly at age 30 reveals the following:

Monterey pine (site class I)

|                       |       | Loblolly pine<br>(site index 90) |
|-----------------------|-------|----------------------------------|
| Average height        | 125   | 74                               |
| Average diameter      | 18    | 10.4                             |
| Volume (cu. ft./acre) | 9,500 | 3.840                            |
| Basal area/acre       | 230   | 198                              |

Again, however, many individual trees have been found that far surpass the average. M.A.I.'s in height up to 9 feet, diameter up to 1 inch, and cubic foot volume per arc in excess of 400 are recorded. State and private foresters are presently searching their forests for these elite individuals for grafts for future seed production and subsequent planting.

No other extensively planted exotic can equal the vigor of Montercy plac, but a few others are nevertheles outstanding. Douglas from on optimum sites grows to a height of 128 feet with a M.A.I. of 350 eubic feet per are at age 50. The author observed one small stand of redwood 59 years old (which, curiously, was one of the only succesful plantations of this species in the country) whose average diameter was estimated at around 3 to 4 feet.

Spectacular as these statistics are, they nevertheless do not nearly approximate the full biological potential of the fores: sites for cellulose production. This is due to the fact that aside from the original plantations, the exotic forests have never, until very recently, been managed. They have grown up with virtually no thinnings due to a chronic labor shortage that was accentuaed during the war years with consequent huge losses from competitive mortality. Under intensive management with regular and systematic thinnings, which are currently being undertaken, there is no telling what the full yield potential will prove to be.

Inevitably, the question arises as to why New Zealand turned originally to exotics for their lumber and fiber requirements. The answer is not hard to find. Originally covered with an abundant and rich forest flora consisting largely of various podocarps, beech, and the giant Kauri, of commercial importance. New Zealand followed in the path of so many "virgin" countries, including our own, of wastelul and destructive logging with little regard for regeneration or the growing stock of the future. The rather short-sighted objective of the early settlers was to clear land for agriculture and passure, often by deliberately burning thousands of acres of virgin forests, with the inevitable result that they found themselves facing the prospect of a timber famine in the not too distant future if drastic steps were not taken. Although conservation of the indigenous forests has been practiced now for some time, it was too late and too little. In contrast to the exotics, the native trees, while of excellent quality, are slow to regenerate naturally (or even artificially), are very slow growing for the most part and require rotations of from one-and-shaft to three centuries.

Wildlife abounds in the New Zealand forests in the form of deer (red, fallow, virginia, and several other species), quail, pheasant, wallabie (a close relative of the kangaroo), oppossum, and, on the upper slopes, chamois and thar. All of these, like the trees have been imported in many cases to the country's (and especially forester's) extreme regret. Deer and oppossum are causing severe damage to the forest in some areas, particularly the upper protection forests, and far from being conserved or managed, are being destroyed as fast as possible by professionally employed hunters or by poisoning. However, with abundant forage, extensive wild and rugged terrain, and an absence of natural predators, it presently seems safe to say these animals will be around for a good while to come. So what has become, in many instances, the foresters' nightmare, has become the sportsman's paradise. Needless to say, there are no daily or seasonal limits, and trophy heads of twelve to eighteen points and more from the handsome red deer are there for the taking (and an awful lot of climbing). The fisherman is no less at home here. Rainbow and brown trout of five to six pounds are a normal catch, the record being 16 pounds.

Being such a relatively recent development when considered against the span of a forest rotation, there are still many managerial and silvicultural problems to be solved in the development of New Zealand's exotic forests. Most of the plantations have scarcely been through one rotation; and optimum spacing, thinning cycles, and length of rotation are as yet incompletely worked out. One of the most pressing problems is the shortage of labor. both professional and unskilled. For example, the largest privately owned forestry company with 176,000 acres has only about five graduate foresters. When one considers that every acre of Monterey pine that goes into quality sawtimber production has to be hand pruned due to the tree's branchy habit and lack of self-pruning, the need for a large labor force becomes apparent. Then, there is the ever imminent threat to the health of the forest. The same environmental conditions that promote such vigorous growth and high vields of wood are equally favorable to the establishment of some introduced pathogen, similar to our chestnut blight, that could easily reach epidemic proportions, especially in the extensive mono-species culture that now exists. Nevertheless, the future of exotic forestry in New Zealand appears very bright, and it would not be at all surprising to find this country on a par with Scandanavia in the production and export of forest products in the next half century.

# Here and There

by

## DR. R. C. BRYANT

During the fall semester the writer had the good fortune to be able to observe current foresty practice in Germany and Switzerhand. The trip was planned in cooperation with the Forestry Attache of the German Embassy in Washington and included visits to thirteen forest districs, two autsreits, and eight schools for forest technicians and forest workers. Most of these were in the three German "states" of Baden-Württemberg, Bavaria, and Hesse. From one to several days were spent on each forest district in company with the resident Forstmeister discussing current problems of forestry and observing field operations.

Although the historical development and emphasis in management has been different in Germany than in the United States, many of the problems that now concern American foresters are similar to those facing German foresters. Damage from animals, insects, and pathogens is acute in many areas: pressures of increasing recreational use of forest land are requiring more attention; forest labor reservoirs are being drained by the lure of factory jobs with better pay and more pleasant working conditions: markets for some species, especially beech, have declined forcing revisions of management thinking; and there is a continuous search for more efficient means of production. Perhaps the greatest difference observed in the solution of these and similar problems is the apparent conservation of the German forester. There is a weight of tradition, custom, and experience which appears to restrain many innovations in procedures or techniques. There are indications, however, that this attitude is changing under the stimulus of the common market and rapidly increasing commission in the common market and rapidly increasing commissions in procedures of the solutions.

The intensity with which unit forest areas are managed is the most striking characteristic of most European forestry. Stands are fully stocked with species best suited for the particular site, cultural operations are performed as needed and on schedule, and at harvest each tree is processed into products yielding a maximum return with practically no waste. Transportation systems are well established and maintained and permit ready access to all stands. Silvicultural systems look just like the textbook examples and are a thing of beauty to the forester's eves.

Integrated with forest management is a highly developed system of game management: and almost without exception. Cerman foresters place as much stress on good game crops as timber crops. Red deer, stag, wild boar, fox, rabbits, and game birds are a frequent sight as one travels the forest. On many districts populations of deer and stag are maintained at levels that require special techniques to keep damage to forest stands to an acceptable limit. Usually reproduction of broad leafed species and several confirms must be fenced until they reach heights above the reach of the animals, and frequently the use of repellants on seedlings is necessary.

The administrative organization on a typical forest district includes a Forstmeister, five to seven Revier foresters each in charge of a portion of the district, one or two wardens, and a permanent crew of woods workers often with a complement of women for the seeding and planting jobs. For each of these levels here is a system of education and training. The Fortmeister is an university trained man. The Revier forester, whom we might class as a technican, attends a twoyear forest school, the wardten a six-months school, and the laborers schools of shorter duration. The end result is a well-trained group, each man having his own responsibilities and each contributing to the optimum production of goods and services from each unit of forest land.

How far we in America can approach the level of management that has been reached in Europe only time can tell, but a comparison of the two current systems convinced the writer that America can be proud of the progress she has made and is making in good forest management.

# Method of Least Squares

#### by

## TOM HUFFMAN

"Now that you have reached the point at which you are ready to become managers and foresters, you should take one last look at the most important aspect of technical forestry-the method of least squares. You know the formula for the short cut method is:

#### RgOKENEX2 Ace of Hearts

#### "Hit it"! "\*Censored "Damn, I'm busted"!

"Suppose the owner wants a working plan for the two million acres of bottom-hand hardwood that you're converting to pine. Where do you start? Well? Hell no, my dear sirt O.K. Jubenville, how did Dr. Perry use the formals to find the resultant torso of a four-legged, cross-eyed, brown-haired, fuzzy tip moth and a black-eyed, forked-tongued, bark kentie? Well. does anytodw know?"

"Dr. Bryant, on my district we used the formula to calculate the rate of growth of lichen on igneus rock."

"Sirs-dammit-you should be able to tie together all of what you've learned these past four years! I wonder just why half of you are in forestry anyway! I don't see how I can give any of you a good recommendation! Hell, I guess you can sell shoes!"

"Uh, Dr. Bryant, how do we use the formula?"

"Well, there is no simple answer. It's a function of supply and domand, certainly."

"But Dr. Bryant, when do we use the formula?"

"Certainly this is a function of management. You've got to keep in mind the public and try to maintain good public relations. Well, let's more on to contracts. I just wanted to clear up any questions you might have had about the least squares method. You'll be able to regurgize it later. We'll have a quiz next meeting. Just study over all we've had in lecture, and check over your textbooks."

Blackjack, anyone?

# A Summer In Alaska

by

#### BILL CRAIG

I was filled with great expectation as 1 flew north from Seattle to Alaska last summer. The DcG landed at a god/forsken airport that appeared below through a hole in the thick clouds. Soon afterward, I was aloft in a PFW flying board for the twenty-minute flight to Ketchikan, the third largest town in the state with about 10,000 people. I stepped from the plane, and walked up the dock in the rain which is so common to the Alaskan panhandle. I soon found that there would be a seven-hour layover before the 40-mile flight to Hollis where the Forest Service research camp was located.

A walk around town soon convinced me that land is hard 'o come by in Ketchikan as most of the houses are perched very close together on the steep mountain side. The bastling town is known as the salmon capital of the world, and once was the jumping of point for many of the hardrock gold miners. Finally, in a water-logged condition, I retreated to the airline office to await the flight. When the time finally came, we dimbed into an old Gruman Goose. The pilot managed to get the plane off the water, and then we had a real ride through more airpockets than 1 care to remember. After landing at three or four small logging operations and isolated communities, the plane taxied up to the dock at the metropolis of Hollis.

At one time Hollis was a gold mining town of about 400 people, but now the town serves as a logging camp for the Ketchikan Pulp Company. The company is working on a timber sale of over six billion board feet on the southern end of the 16 million acre Tongass National Forest.

After a five-minute boat trip, I finally arrived at the small island that was to be my home for the next fourteen weeks. The ten-man camp consisted of three professional foresters, a cook, and six college students. The tem porary staff was housed in a 60 foot house boat, while the foresters lived in houses.

Both watershed and forest management research were being conducted at the camp, with the former receiving the major amount of attention. The majority of the watershed work was directed at determining the effects of the logging operation on the streams, and thus on the spawning grounds for the salmon. Several of the projects were in cooperation with the University of Washington. Most of our time was spent sloshing in the creeks taking sediment samples, taking discharge measurements, digging holes, and building log jams. However, there were a few dry jobs such as analyzing sediment samples, and checking the numerous weather gages.

The choice jobs dealing with forest management were the regeneration studies. The plots were located about 1500 vertical feet above the road in a mile square clear cut. When you finally found the plots, which were referenced to a stump in the clear cut, the seedlings would be as thick as dog hair. However, the research projects did not have a monopoly on the choice jobs. The maintenance problems were most enlightening: ranging from painting the under side of a house boat to spilling paint off a roof, onto the regional supervisor's hat.

Much of our free time was spent catching, smoking, and canning the

salmon that came up the streams to spawn. With the exception of the rain, which we soon became used to, the climate was perfect with the temperature in the low 70%, and several soorchers when the mercury hit 66. All the trials and tribulations of the job were repaid many times over by the majestic senery, supreme fishing, and the good meals from the cook shack.

## The Seniors' Spring Semester Siesta GRAHAM MOORE

For fity-four seniors in the School of Forest Management at N. C. State College, the 1962 apring sensers was the last one. It was the senseter in which we were supposed to jell all of our previous three-and-one half year's learning. To help, the jelling process along, the professors assigned us a small cruising job at the Hope Valley Forest. We were divided into fourman crews, and each crew cruised a part of the forest. Some of the crews needed boats to do their cruising, but since they couldn't get boats, they made fish and turtle counts instead. I am not sure that I would want to buy Hope Valley Forest on the basis of the senior's cruise data, but we had fun roaming the fields booking for arrowheads.

The cruising job was just one of the things that the profs planned for us. We made trips to South Carolina, Virginia, Bladen Lake, lovely Hofmann Forest, and other forester's resorts. We also took a few courses on campus. Dr. Miller tried to teach us something about cutting cycles, regeneration, pruning, thinning, and other practices in silviculture. In nawres to a fellow classmate's question, we learned from Dr. Miller that wind doesn't affect airplanes as it does trees because trees aren't made to fy.

In forest management, Dr. Bryant did a good job of proving to us that we have very little about the subject. In fact, most of us sorred very lightly on the first test. (A low score of 50 won the pool in which some twenty individuals entered. What did you do with the money, CaldWell?) All loope is not lost, though, because Dr. Bryant left us with the knowledge that foresters might make good shoe salesmen, and I guess everyone will always were shoes. Dr. Bryant didn't always ask hard questions, though, and occasionally he gave us some answers.

Photogrammetry was an interesting, but difficult, course. Later in life, it will surely prove very valuable. A few of our more crosseyed students seemed to have a hard time seeing stereo, but once a person learned how, amazing sights were to be seen.

Alas, I believe some of our fellow students were fortunate enough to have Dr. Perry's silvics course in the spring. If I can remember correctly, they learned some strange and wonderful things about forest genetics. For example, a cross of a wall-eyed, bowlegged, mean, and ugly man with a blond, sweet, pretry, and nice wirt resulted in a sonderegger pine.

All in all, the spring semester was pretty enlightening, and if my observations are correct, no one did much hard studying. At the time of this writing, very few hoys had jobs. As a result, there should be a flood of application letters to the local shoe companies. Of course, dear old Uncle Sam is coming to the rescue of a few of the more fortunate individuals.

A G. M. Production

## Random Shots



Tom's method of Least Squares

Single student



Tryout for M & O!

Married student



NOTA BENE: "Bruin-snatching better than Swilling Suds?"

Will it bite?



Who did it Manning?

Jimmy floaters



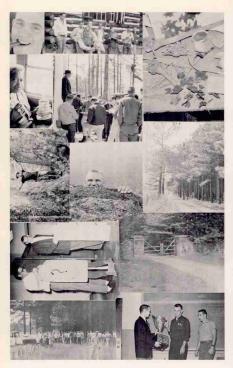
Enos?

No, Chandler Eakes!



ZX# . . . \*\*&% 0#

A Lodge patient





land management, timber sales



administration, personnel relations





## **Today's Forester**

## **Building the Future**

Unlike his predecessor in the woods, whose iob began and ended with "fighting fire and logging the mill," today's industrial forester is a man of many responsibilities and a manager in the truest sense of the word.

In addition to planting, growing, protecting and harvesting continuous crops of trees over vast areas, the modern forester is also charged with the purchase and sale of land and timber, labor relations, wildlife management and the development of recreational sites.

As an expert in the wise utilization of our natural resources, he is often called upon to share this knowledge with others. The time he spends in the public interest, promoting conservation and good forest management, helps build a brighter future and a better standard of living for us all.

That he performs so many tasks so well is a tribute to the forestry schools of the nation, and to the caliber of man attracted by the challenge of growing trees for a growing America. We are proud to have more than 300 such men managing our southern woodlands.

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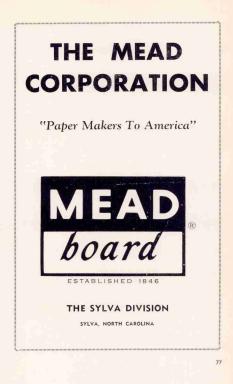
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Raleigh, N. C.

King Size Regular Size



## Treasurer's Report 1960-61

## INCOME

| 170 members @ \$3.00           | \$510.00 |
|--------------------------------|----------|
| Contributions Hofmann Portrait | 102.00   |
| Contributions Slocum Fund      | 205.00   |
|                                | _        |

Total \$817.00

## EXPENSE

| Postage, annual letter and PINETUM       | \$ 70.00 |
|--|----------|
| Secretarial Help, Alumni Roster and news | 20.00    |
| 170 copies PINETUM @ \$1.40              | 249.20   |

Total \$339.20

### \$510.00 \$39.20

BALANCE \$170.80

## DISTRIBUTION OF BALANCE

| Hofmann Loan Fund | 121.78 |
|-------------------|--------|
| Hofmann Portrait  | 49.02  |
|                   |        |

\$170.80

## STATEMENT OF ACCOUNTS:

| Hofmann Loan Fund                    | 2500.00 |
|--------------------------------------|---------|
| Slocum Fund (Prior balance \$478.82) | 683.73  |
| Hofmann Portrait (total disbursed)   | 00.00   |

## Alumni Section



## Hofmann Portrait

The forestry alumni of North Carolina State College have presented to the college a portrait of Dr. J. V. Hofmann, former director of the college's School of Forestry.

The presentation was made at the Hill Forest with a request by the alumni group that the portrait be hung in the main forestry building at State College in honor of former head of the Forestry School.

G. E. Jackson of Washington, N. C., president of the alumni association, made the presentation, and Dr. Hofmann's grandson, Jimmic, did the honors of unveiling the portrait.

Jackson, speaking at the unveiling, said that no other individual has "had more influence on forestry in North Carolina than has Dr. Hofmann. North Carolina has been made a better place to live, work and play because he came our way in 1929."

The portrait was financed through funds contributed by members of the alumni group. The painting was completed by Mrs. Mildred McMillan Rumley of Washington, N. C.

Dr. Hofmann came to North Carolina in 1929 and began what is now the Forestry School at State College. Soon thereafter he started a program of land acquisition on a self-liquidation basis in order that the Forestry School would have an adequate forestry program.

An 80,000 acre tract in Onslow and Jones Counties is named in honor of Dr. Hofmann.

In 1948 Dr. Hofmann retired from his duties at State College only to take on other positions as treasurer-manager of the lands of the North Carolina Forestry Foundation.

Just this year the University of Minnesota conferred on Dr. Hofmann the honor of being the outstanding alumnus of that institution for 1961.



## CLASS OF 1931

Top Row (L-R)—J. O. Artman, J. S. Cartwright, C. F. Phelps Second Row (L-R)—W. T. Buhrman, C. H. Shafer, D. B. Griffin Third Row (L-R)—N. B. Alter, H. J. Loughead, H. A. Foreman, W. B. Ward



- James J. Dee and son-1950
- 2. Back-Kirk and Jane Waring
  - Front-Walter and El zabeth 5. Doug House's children-1947 6. Debbie-1957

"The Pacified Forester"-Jack Kelley-1957 4. Karen and John Tester-1955

"The Masten Crew"-James C. Masten-1951

## N. C. State Alumnus Named Man of the Year in Forestry

Robert W. Graeber was presented with the Man of the Year in Forestry Award. This award was presented by Dr. J. V. Hofmann on behalf of the Society of American Foresters to Graeber for achievements in bringing forestry to the people of the state.

Mr. Graeber was born in Rowan County, North Carolina, and is a graduate of N. C. State College. He graduated with high honors in the class of 1911.

After graduation, he was employed as a County Agent in North and South Carolina from 1911 to 1290. He was a pioneer in interesting people in conserving their soil and introduced many procedures that have proven very effective up to heter seed; to improve the land with ferilizer; and general farming conditions. He was always looking ahead and began to interest the people in growing trees along with their farm program.

In 1925, he was appointed as Extension Forester with headquarters at State College in North Carolina. He worked with the County Agents and through them with farmers of the state, developing a program of better farm management, timber thinning, and forest planting in each of the one hundred counties in the state. He established monuments such as the complete planning of all waste lands in Clay County and in the John's Creek section of Jackson County where all eroded acres have been tied down with growing trees. He established more than 200 demonstration acres of how to handle timber on the farm wood lots.

In 1928, when the Board of Trustees decided to establish a 5chool of Foreury at N. C. State College, he assisted in the selection of a man to head this department; and that is where Dr. Hofmann had the pleasure and opportunity of meeting him. Mr. Graber exorted Dr. Hofmann around the state to let him get a better idea of the forestry conditions in North Carolina.

When the School of Forestry was established in 1929, Mr. Graeber registered in the first class and received his B.S.F. in 1980.

Mr. Graeber has trained County Agents to render practical assistance to farmers in all phases of Forestry. He knows how to contact farmers and interest them in the program work that he was trying to establish. When he retired from active duty in 1949, after 383/4 years of public service, he left a smooth working organization with 7 assistant extension foresters. Since retiring, he has kept busy on some consulting work and operating and developing his own timber lands in Guilford and Wake Counties.

Mr. Graeber is a member of the Society of American Foresters, a director of the Forest Farmers Association, a director and treasurer of the North Carolina Forestry Association, the Executives Club of Raleigh, and the Capital Grange.

## Alumni News

#### 1930

HOWARD, H. E., U. S. Forest Service, Personnel Officer, Washington, D. C. "No changes in job or number of grandchildren, Sorry I'm late with this." MORKISS, D. J., Chief, Mensuration & Planning, USDA, Washington, D. C. "Enjoyed your report of such substantial progress and rosey pleture of the future."

1931

ARTMAN, J. O., Staff Forester, Tennessev Valey Authority "Tve started collecting photos of 1931 grads. Hope to have a good representation to send you for the 1962 Pinetum. By the way, what's the dead line?" CARTWRIGHT, James B., Forester, Cooperative Forest Protection. USFS LUGHERAD, Harvey J., Consulting Forester, Self-Employed

"Non news," PHELPS, Chester F., Executive Director, Va. Commission of Game & Inland Fisheries, "Would be real giad to see any of the fellows I knew if and when they come through Richmond. This includes a fattening lunch?"

#### 1932

192 COOPER, William E., Executive Direct much, and want to contratility on on your style. I Manager your average and the robust contratility on on your style. I MANNEL, Aller H., Pet Cartter Project Forester, N.C. Div. of Forestry. SCHEFFER, George K., Janab Branch Chief, Rei, Die Manager Stratege Strat

#### 1933

HAFER, A. B., Consulting Forester, Self-Employed "N. C. State Foresters are getting so plentiful they may soon have an open season on them-dor't know what has junit to recommend. We still need more men in the woods, but occasionally I trip over one sleeping in the shade."

#### 1934

COUV, A. Bigler, Associate Preference of Newry, Louisians Statu University "Warren Thorongon, Ph.D. 1944, has the offer print act to mine here in the School of Participant Lattice and the status of the school of Participant Time scare that: There the feelings of most of the shanning in expressing pleasure and anisotration with the growth, progress, and status of the School of Powerty. More graduate—the bet tribute to any school."

#### 1935

BTYLN Maday R. Foretty Avinor (L300) hilliptics The handy and I are us a Yawa millionen to the Philippines. The Philippines would be hard to best for a pissant and interesting place to work. There are loss of things to see and you can't help liking the Philippine. The Philippines, State of Fordard Control out a satisfield desk drawer and recess what I found—I'm only boat 5 months hat with thing. Partic Documents Posterio Restriction only boat 5 months hat with thing. Partic Documents Posterion 2000 (State Posterion).

hare with this "ACKSNO, Gorbann Edda, Consulting Forester, Self-Employed ACKSNO, Carbonn Edda, Consulting Forester, Self-Employed information about the Forestry School and Faculty at N. C. State Collese, The field of a consulting forester is more innerstimation and system. There is more information Release the second second second second second second second second second "Old Grads" have a change to look around us and see the routh set forme of our labor. It was our placement of more inner to have Carliele Petti, Wall Scholin and Henri Inter and Margavet folm with me in sending our labor. The second Margavet folm with an in sending our labor. The first our labor in the in sending our labor is reacted to all the alumn, students and faulty of the Forestry Scholin Porest Utilization Research. "Older of five may enrol NCSC School of Forestry Next yard." "PIPPIN, James A. Duriter Forestry, N. C. Dept. O Conservation & Development

1936

1966 AJKER W. C. Woodland Conservations: Soil Cons. Service, USDA — Mail et R. C. Woodland Conservations: Soil Cons. Service, USDA — be did it for iso Jone. Timber and pulpewood are having a schlack here." HUBON, Stanas, Foreign Division, Consisting Corp. of America. WIBON, Yang, Service, Division, Consisting Corp., Soil Conservation, UTLEN, William H., President, Vice Freshoft, etc., Consultant Forester — What all the foreign the preceded this stathment, I bestaffetion, present with all the shore / verlage this preceded this stathment, The statistics to a shorting with all the labor / verlage this preceded this stathment, The statistics to a shorting main jetc-line labor (Jose a few time. Come on down, the water is fine."

#### 1937

BRIDGES, Jr., Willam J., Director ef Workhand, Urion Bas-Camp Paper Corp. DAVIS, Fault. Manager, The LN, Davis Go. GABI, Dav., Diricle Supersior, International Paper Go. We have S in College now: *Mer. Soft-Supply Co.* Work Part S in College now: Movement Supply Co. MAYERIER, Jr., Will, Land Agt. Carolina Power & Light Co.

1938

REMENY Millon Owner-Manager, Pulpwood Producers Go. HUTBARD, J. B., Administrative Forester, N. C. Forent Service SMITH. T. B., Director of Student Housing, N. C. State College "Vote yes on Nov. --one-half of a much needed appropriation for a 9 story dormitory depends upon approval of this hond issue."

#### 1939

BARKER, Jr., J. S., Chief Forester, Corbett Package Co., Corbett Lumher Corp. and Southern Box and Plywood Co. BEASLEX, Jr., W. L., Owner, Beasley Lumber Products FRYE, Jr., Joseph T., President & Gen. Mgr., Athens Bed Co. WRIGHT, Chester N., Owner, Wright's Publywood Agency

1940

BRAKE, Balph W., Inspector General, U. S. Army GIBBONS, William E., Well Procurement Supt., Tenn. River Pulp & Paper Co. "Everything arolin.", Med Procurement Supt., Tenn. River Fulp & Paper Co. "Everything arolin.", Med Tennet Tun out of wood so far. Regards to all." IARLEY, Ben R., General Manager, Turnell & Morgan Pulpwood Dealers "No changed".

NEGRO, John F., Soil Conservationist, USDA

#### 1941

HARER T. G., Word Mensuer, Halfes Tall Gompany, Inc. TRAUCIG, Don. V., Owere & Operators Red Springer, Lambe & Chip Co. "An always interacted in our Forestry School. In taking with Mr. C. H. Niederfor of Pershnan in our School: Talk to considered 1 & very rood one. I have the school in very much improved over the years 1 attended, but we enjoyed these days and feel for this reason 1 went into the inhance matterns." The still boling for a "Gaulieman's WiGGINS, Jr., John E., Forester for X. C. Soll Conservation Servise, USDA "Perhaps the institution of the newer".

#### 1942

PRUITT, Amitia A.: District Manager, Chambion Paper, Inc. Same del stande dainz the same Chambion Paper, Inc. "Same del stande dainz the same chambion paper, Inc. wood-both pulywood and awvimber. Right now involve in reinvestorying all cor-ceptring indice and the rot on all the 42 granz. We sure don't see many Static boys down in this area. Hunting and fishing still good in this country. Deer and tarkey begin-ning to multiply quite rapidly.

#### 1943

ETHERIDGE, Jim, Self-Employed, Pulpwood Dealer

#### 1944

HOLCOMBE, Robert A., Editor, Technical Publications, National Lumber Manufacturers

URLOWER, RODER AND BELLOW FERRING TOWNERS TO AND A CONTRACT AND A

#### 1947

HARDEE, Clay H., Forestry Advisor, Administration of International Development, USOM HOUSE, Douzles T., Pulywood, Dealer SCHREFYER, Jr., Charles E., Vice-President, Charles E. Schreyer & Son, Inc. "No change, just getting older;"

BLACKSTOCK, Clarence E., Forester, 1948 BLACKSTOCK, Clarence E., Forester, 1957 "We Absain with the Forest Service." DON'TTE, Richard C., Plant Manager, Plywood Division, Williams Furniture Corp. "Nothing unusual to report. Have one with, two boys, one dogs and an observation of the Service." PARSIL, N. E., I., Instructor, C. (WIL Eng., Dept. A & G. Goldeg of Teamson "Year neoresister was interesting and very much appreciated." "The neoresister was interesting and very much appreciated." "In and a pleasant visit with Dr. Maki and Dr. Kaufman (Porifa) when they tourned the Oranj. National Jones with Den of Souther Forestry Echology Tour His pour the Oranj. National Jones with Den of Souther Forestry School Tour His pour the Oranj. National Jones with Den of Souther Forestry School Tour His pour

SOLOW, Robert I., General Manager, Allegheny Lumber Co., Plywood Div.

19.49

ALTMAN, James A., Forest Engineer, American Pulpwood Association ALVIS, Richard J., Soll Scientist, USFS ROYCE, Stephen G., Research Forester, USFS GEDDES, R. B., Assistant District Forester, Fire Control, Va. Division of Forestry RASELL, Jr., T. M. District Supervisor, Gape Fear Dist., International Paper Co. RASELL, Jr., et al. (1998) A second statement of the s GEDDLL,

"Busy 11" "ranhing Washington Office Personal Officer, USFS SALZMAN, Frankling Washington Office Personal Officer, USFS SALZMAN, Tanni Cose State Schehl Baryland Nov, 11—hope we do it big," WILSON, A. D., Forester, Wythwile Sub-District, Ya. Div. of Forestry WINNE, Tom. Area Supervisor, Wood Frourement, Champion Paper & Fibre Co. YANCEY, Thomas E., Assistant District Forester, Forest Fire Control, Va. Div. of For. "Same place, same job with additional duties."

#### 1950

APPLEBY, PHILLIP E., Gapt., USAF BAREFGOY, Aldos C., Asat. Prof. of Forest Utilization, N. C. State College "It's good to be back, but we miss the fun we had oversens, too." BOYETTE, Robert E., Anat. Area Mar., Ricerd Paper Corp.

BOYETTE, Ebber E., Asti, Area Mer, Ricsel Paper Corp. "No was also otherwise and the second problem of the

#### 1951

COUNTRS, Charles, Les Lamber & Flywood Gorp. "Am still with Lea Lamber and Flywood Corp. in Windsor. The company has closed in lamber operation and expanded the physical Gorp." In Star and Barry We would STUTISON, Phys. Rev. B 1999 (2019) 1999

cnallenging-thoroughly enjoyed it." JERVEN, A. P., Consulting Forester, Self-Employed MASTEN, James C., Manager, Acne Wood Corp. "All of us are proud of continued growth and Academic achievements of the School of Forestry."

REID, Jr., James R., Prospecting Engineer, Superior Stone Company, SHILLING, Robert E., Unit Forester, International Paper Co.

#### 1952

CROOK, Jr., James D., Asst. Forest Engineer, Hiwasse Land Company DORWARD, R. E., Nursermen, Hiwassee Land Company HARRIS, Jr., H. G., Asst. Regional Forester, N. C. Div. of Forestry "Have become a father and moved back close to home since I hast answered the annual

HUGHES, Samuel M. Conservation Forester, Pulp and Paperboard Division, Riegel Paper

Co. "Thanks for your thinnly disguised dun for dues and herewith as per the enclosed note of eredit on my account with a local capitalist organization you may remove my name from the vast amorphous, institualate. Moribund, segment of last year. I hope your

words will have a like effect upon others in the type description. I enjoyed our brief or Kathan on the Oriensa ist Spotse, and an sorry I did not discover you and the statement of the orient of the statement of the statement of the Description of the statement of the

1953

ADAMS, Philip W., Land Bank Appraiser, Federal Land Bank of Columbia, BENNETT, Joseph W., Aast, District Forester, Hiwassee Land Go,

1954

ANDERSON, Jun. Concentite Turner, Halles Paper Co. BNOLD, Druce W., Britcher Parter, Halles Paper Co. "Still in Management in S. E. North Carolina," M. Weyenhaemen Co. "Bull in Management in S. E. North Carolina, "In Management Co. BERNO, J., Joseff Caroline, Tomitake Regional School, West Newbury, Mass. Booley with Heyry to hear of all the improvements. I hear song set the new balading: "A filter print has been added to the family: "A f

1955

CHAPMAN, John F., Timber Management Asst., USFS "See a few N. C. State characters services and while." COBB, Jr., Fields W., Graduate Research Asst., Dept. of Botany & Plant Pathology, Rennsylvanis State, University. madd Field are how November \$ 1051 They are ho

COBE of p. Fields W. Greatener Research Asst. Dept. of Botany & Fast Fastnonger, "A new member of the Faily," out Fields, was been November 3, 1911. They any her botan in the bit fails in the state and all Wife and hits meter, Cindle are also doing one of the state of the faily, "Out Fields, was been into a meter, Cindle are also doing on the state State and the state of the state of the state of the state of the state State and the state of the HARDY Jr. P. J. Peleven Dealer and Consulting Forester, Schrömiger Handler, Marken HARDY, Jr. P. J. Peleven Dealer and Consulting Forester, Schrömiger Handler, Marken HARDY, Jr. D. Liner, Bata 1933 of the state of the state of the state with the selection state. In the state of the state of the state with the selection of the state of the state of the state of the HARDY, Clifford J. Pendent, Lind The Consulting Forester, Schrömiger Handler, Marken PHEN, Clifford J. Pendente, David The State Consulting the state of the state HARDY, Uniford J. Pendent, Party The Consult The Jane State State PHEN, Clifford J. Pendent, Party The Consult The Jane State State HARDY, W. 1997, Note The state of the state of the state of the state HARDY, W. 1997, Note The state of the state of the state of the state HARDY of the state of the THENEL of the Note of the state of th

#### 1956

DOZIER William B., Consulting Foreier, Self-Simployed "Still one wife, one son, one Soy, Soy, Santa Comm. of Forestry, RILLIAM, Jr., Learner A., Duriter (Possier, Whiteley Datiet, USFS RILLIAM, Jr., Learner A., Duriter (Possier, Whiteley Datiet, USFS HILTER, Jr., Robert J., Studen, School of Posserir, Yale University Possier form planting trees in available for constant and the second HILTER, Jr., Robert J., Studen, School of Posserir, Yale University Will, Set Jr., Barrier, C., School of Posserir, Yale University Will, Set Jr., Barrier, C., Santastant, Data School, Market, USFS Will, Jr., James C., Cashifaction Markit, Dir of Possenski Mark, USFS

#### 1957

GIBBS, George S., Assist. District Ranger, USFS "##2 Son, Donaid Matthew Gibbs, born August 30, 1961. All's well with the Gibbs" in Florida, but am looking for some new scenery. Don't anticipate a move anytime

soon hot am hoping for a change to the monthline next. Keep up the field work of HUDSON, Jr., Sam T., Coupty Forester, Franklin & Grand Inie Ca, Bate of Vermont KELLY, Jack Sowari, Asath, Dariel Rauger, USE, Serrer minutes of L." PORWOOD, Ronald G., Anies, Forest Manager, N. C., Frison Dept, Rabieth PORWOOD, Ronald G., Anies, Forest Manager, N. C., Frison Dept, Rabieth PORWOOD, Ronald G., Anies, Forest Manager, N. C., Frison Dept, Rabieth PORWOOD, Ronald G., Anies, Forest Manager, N. C., Frison Dept, Rabieth PORWOOD, Ronald G., Anies, Forest Manager, N. C., Frison Dept, Rabieth PORWOOD, Ronald G., Anies, Forest Manager, N. C., Bate of Withhull Mort, The with its sheep herders, Our young one is getting biggers and more mitchlerous with and ranked for the state of th

"Still in school-4 years undergraduate and 4 years graduate is annual too much, even at a good school." WHITE, Jr., Miles J., Forester, Union Bag-Camp Paper Corp. "Am now in moy new home with a new baby girl. Have moved to the country and enjoy this country living. I am learning all the time and trying to get a better knowledge of forestry." Hope to see some of my classmatres when we have a reunion next Year."

#### 1958

BABDEN, Edward W., Supervice, Finishing & Manufacturing, U. S. Plywood Corp. "Glat to be lack in good de Va. Also closer to that Moribund segment of "no-handed", non communicative group known as N. G. State College School of Forestry Alumni. Looking forward to conducting a \$10.00 tour for visiting N. C. State students (and Prof.

Looking forward to conducting a 10.00 toor for visiting N. C. State students (and Prof. Control: floward) our moders plain. S. Robbe guarants Plantines, Kinara, Indonesia Torona and the state of the Ann, Jennifer and I, spent ny two-weaks local lasse enjoying the bright initia of shara of the state of t

where is all." When the state of the state was gind T was able to attend, Give the follows, or, small, or, HILLOUEN, T. O., Pessets, N. A. Cavilan Jello, Co. HILLS, Charles G., Canating Piercer, SaftSmplove RULES, Charles G., Canating Piercer, SaftSmplove ROBERTS, Janes P., Investment Incher, Baler, Weiss & C. SAWTHR, Jr., Gorge E. J., Area Forestri, Continental Can, Company, Inc. Married, Saft, J., Saft, SaftSmplove SaftSmith, Jr., Gorge E. J., Area Forestri, Continental Can, Company, Inc. "Married-Sept. 5, 1861." "Married-Sept. 5, 1861." WOOD, Thomas B., Service Forester, Va. Div. of Forestry.

1959

WORK, HOWARD, Jr., Arthur L., Manager, Moores Wholesale. LENNON, Tom, Forester, Recreation Planner, USFS "Dr. Maki, your final pitch was the best done job Tre ever seen, you should have been a preacher. Sounds as if the "Eleciding Hearts of Old West Rabigh Maxter, Aima," are going great gran."

LUPOLD, Hugh M., Consulting Forester, Milliken Forestry Co. "Enjoy work, getting married in June, and hope you get the new forestry school build-MCNATT.

If a DEFENSION of the second the first of the I'm still single."

Inst June, a picl." STURGILL, Jack C., Rome Kraft Co., Dawsonville, Ga. "I am always glad to hear of the progress being made in the School of Forestry. We are finally adquing the N. C. State philosophy-Clearent and plant-down this way." SUMMERVILLE, Kenneth O., Forestry Research Technician. School of Forestry, State Concerning School School

All Constraints, Remeth O., Foreirs Research Technician, School ef Forestry, State TAIOO, Christopher A. Li, (1):2012 URNR TAIOO, Christopher A. Li, (1):2012 URNR To real short, and the state of the state of the state of the state in the state of th

#### 1960

BASS, John Lawis, Private consulting work, James E. Hobbs BRAKE, Robert, Area Forester, Cheaspace Corp. of Va. "Note new address-moved into new home Oct. 10, 1961. Now living in heart of Va. Pine country, but as a horn "Flat\_Lander walking down bill is not too bad if you did not connect, out as a norn 'trat-Lander' walking down bill is a have to walk up on occasion." BOST, Ronald M., 2/Lt., Army Intelligence, US Army BRAMLETT, David L., Grandaute Student, N. C. State College BYERLY, Richard D., Senior Forester, Rome Kraft Co. "Howdo!"

CAREDGAN, BIL Area Forester, Champache Corporation of Ya. COLLER, Thanke W., Asite D.H., Forester, N. C. State Div. of Porestry. RANFTON, Foreitze, USP8, all milling on the Forestry School, Hope that having any in the loop issues state up and threen on Watern Birk, My wife and I were blease with a spin-following the Barbard Barbard Barbard Barbard Mark School and School and School and School and School and Mark School and School and School and School and School Mark School and School and School and School and School and Mark Percent Regards to all school and School and School and School and School and School and Mark Percent Regards to all School and Sch

MILLER, Robert W., Henth Laskage Consultant, Henth Survey Consultants, Inc. "Entering environment of the standard sta TANNER, III, Charles A., Research Chemist, P. F. Glatfelter THOMPSON, John R., Technical Service Engineer, Ecusta Paper Div. of Olin Mathieson

Chemical Corp WALLINGER, R. Scott, U. S. Navy

"Thoroughly enjoyed the news in your letter, and I'm delighted that the long-awaited

fands for the new forestry building and facilities are about to, come through. Sorr I can't make the Role this year, but I hope to evid down to halsing before to how. About a week gas of received a very interesting effer from R. Regim-nuce black to turn end to the second se

#### 1961

BAKER J. J., Joning Ore, Ind LE, U. S. 1961 "Locate and "were bleady during is non, Grey, shortly after school was out. We're all doing fine and enjoying the Arroy. We're locking forward to 10m when we can become BALL, William Ivery Boroter, Armitose Cork Company, BIZZAID, Doo, Foreston, Armitose Cork Company, BIZZAID, Doo, Foreston, Armitose Cork Company, BIZZAID, Doo, How Foreston, Armitose Cork Company, BIZZAID, Bon, Foreston, Armitose Cork Company, BIZZAID, Bon, Lower Boroter, Armitose Cork Company, BIZZAID, Bon, Lower Boroter, Boroter, Armitose Cork Company, BIZZAID, Bon, Lower Boroter, Borote

meeting, Our jest we grive to all. Stop in to visit when you are in this neck of GUINSLEF, Duald L., Forester, N. S. Government HINGON, Thomas, Chenyiki, Bowakes Guavillan, Gorie JANGTON, J., Eckevel Herman, Boi Lu, U.S. Army "Naturally I wish the school all De direct in the constant of the school and DATE of the School Herman School and School Andreas and Hull of forest J have more than the school and De direct in the constant of the school and DATE of the School Andreas and School Andreas and Hull of forest J have and the school and the direct in the school and the school and the school and DATE Same M. School Andreas and School Andreas and Hull of forest J have and the school and the direct in the school and the school and the school and DATE Same M. School Andreas and School Andreas and Hull and Hulk School Andreas and Antropy and plant by foreign to set the school and the school and Back Cohumbia 8. C. NICE (Solid Andreas Andreas

## Alumni Directory

#### Class of 1930

| W. B. Barnes 6149 Primrose Ave., Indianapolis 20, Ind.<br>C. A. Bittinger Deceased   |
|--|
| G K. Brown 1516 Garfield St., Laramie, Wyo.<br>Deceased  |
| T. C. Evans, M.S. '31 276 Cumberland Ave., Asheville, N. C.  |
| N R. Harding Ga. Kraft Co., Director Wood Procurement, Route 5, Rome, Ga.  |
| S. G. Hile Deceased<br>H. E. Howard Apt. A-1003, River House, 1111 Army-Navy Dr., Arlington 2, Va.<br>J. N. Leader Bedford, Pennsylvania |
| D V Lephart W Vo. Puln & Paper Co., 230 Park Ave., New York 17, N. Y.  |
| D. J. Morris 6957 Fort Foote Rd., Washington 23, D. C.<br>R. L. Pierce, M.S. '31 851 Scott Street, Stroudsburg, Pennt.                   |
| H. G. Posey, M.S. '50 Alabama Polytechnic Inst., Auburn, Ala.  |
| J. W. Walters Point Pleasant, Pennsylvania   |
| F. F. Weight 40 Jackson Ave., Middletown, N. Y.<br>C. B. Zizelman 500 E. Broad St., Tamagua, Penna.                                      |
| Class of 1931  |
| N. B. Alter Chattahoochee Nat'l Forest, Gainesville, Ga.   |

26 Mississippi Ave., Silver Springs, Md. 110 Hilltop Lane, Norris, Tenessee Deceased H. E. Atfman J. O. Artman G. W. Barner J. A. Brunn W. T. Bahrman H. E. Altman 2804 Chafin Ave., New York, New York 5001 Kenwood Ave., Baltimore 6, Md. W. T. Buhrman 5001 Kenwood Ave., Baltimore 6, Md. J. B. Cartwright 11 Dartmouth Ave., Avondale Estates, Atlanta, Ga.

| H. A. Foreman Marihalls Creek, Penssy'auki<br>D. B. Griffin Bordo, N. S. Stark,  |
|--|
| Class of 1932  |
| W. E. Cooper         301 E. Franklin S., Bielmmond B. Yu.           A. G. Granibine         411 Gerräge Dr., N. E., Atlanta S. Ga.           J. J. Karat         100 E. Translin, S., Bielmmond D. Yu.           J. J. Karat         100 E. Translin, S., Bielmond D. Yu.           J. J. Karat         100 E. Translin, S., Bielmond D. Yu.           J. J. Karat         124 Brook Ave. Raisign, N. C.           G. Royer         136 Bronk Ave. Raisign, N. C.           G. K. Schaffer         1012 Springhrouck Dr., Breatur, Ga.           W. H. Winnin         U. S. Frouri, Service, Jackson, Mianisppi           Uather William         Beor 229. R. F.D. ±1. Morrow, N. C.   |
|  |
| J. C. Biakanay         1765 Sterling Rd., Charlotte, N. C.           V. J. Clark         2811 Barrentier, Raisely, N. G.           V. J. Clark         2811 Barrentier, Raisely, N. G.           A. B. Hafer         Consulting Porster, Ros 657, Laurinhurg, N. G.           O. W. Fortigreev         Ros 657, Laurinhurg, N. G.           R. J. Status         2813 Jarkows, S. G.           R. J. Status         2813 Jarkows, N. G.           R. J. Status         281 Jarkows, N. G.  |
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| H F, Biakap H H, Hangar H, H H,  |
| J. M. Stingley Deceased  |
| J. M. Stingley Decessed<br>W. H. Stitt Decessed<br>H. R. Wright Highlands, N. C.   |
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| J. A. Belton Unknown<br>H. C. Bragaw Deceased<br>J. S. Carmbell RFD #2. Sedley Ed., Franklin, Vé.   |

| J. A. Belton Unknown   |
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| J. S. Campbell RFD #2, Sedley Rd., Franklin, Va.   |
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| C. J. Cheslock Unknown   |
| C. J. Cheslock Unknown<br>W. L. Colwell, Jr. 182 Ardith Court, Orinda, Calif.                            |
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| W. J. Marshburn 206 Surginer Rd., Rockingham, N. C.  |
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| R. M. Nelson, M.F. 39 c/o Robert B. Tucker, 809 Philadelphik Ave., Chamberourg, Pa.<br>H. W. Ryder       |
| C. B. Shimer 1509 Webb St., Raleigh, N. C.   |
| C. B. Shimer   |

| I. W. Smith<br>P. L. Warlick<br>N. B. Watts<br>J. A. Whitman | Drawer 594, USDA, Soil Cons. Service, Orangeburg, S. C.<br>Unknown<br>398 Vanderbilt Rd., Biltmore Forest, Asheville, N. C.<br>207 Holladay Hall, N. C. State College, Raleich, N. C.<br>Atlantic States Forestry Co., Carthage, N. C.<br>Beccased |
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| W. M. Bailey   | Lynn Haven, Florida  |
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| W. L. Beasley  | Beasley Lumber Products, Scotland Neck, N. C.<br>2404 Glascock St., Raleigh, N. C.   |
| C V Dele   | 2404 Glascock St., Raleigh, N. C.<br>Unknown   |
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| D. P. Hughes   | Box 116, Colerain, N. C.   |
| R. S. Johnson  | MeNair Investment Co., Laurinburg, N. C.<br>Area Forester, W. Va. Pulp & Paper Co., Wineboro, S. C.  |
| J V Lyon   | Area Forester, w. va. Fuip & Faper Lo., Wineboro, S. C. Unknown  |
| H. C. Martin   | Unknown  |
| C. L. Page   | White Pond, S. C.  |
| C. H. Peterson   | Johns Manville Corp., Jarratt, Va.   |
| H. W. Plummer, Jr.   | Unknown  |
| Chester Reed   | Unknown<br>1851 Leavenworth St., Manhattan, Kansaa   |
|  | Unknown  |
| R W Shalley  | Deceased   |
| R. W. Slocum   | 1203 Maple Ave., Richmond 26, Va.  |
| E. W. Smith, III   | 309 Daisy St., Boise, Idaho  |
| J. J. Steele   | Box 152, Lenoir, N. C.   |
| H. P. Stollregen   | Deceased<br>Route #1, Harrisburg, N. C.  |
| E M Walker   | Box 768, Brookhaven, Mississippi   |
| C. N. Wright   | 224 McGhee Ave., Greenwood, S. C.  |
| P. B. Yeager   | Unknown  |
| M. M. Young  | Unknown  |

| J. D. Atkins   | Unknown     |
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| R. L. Cain   | Unknown     |
| George Chaconas  | Unknown     |
| R. E. Davis 608 Poplar St., Can                              | ton, N. C.  |
| W. B. Dunn 8 Central Ave., Warrow                            | en, Penna.  |
| T. E. Gerber 444 North Wood Ave. Flor                        | ence. Ala.  |
| W. E. Gibbins 1120 Taylor St., Corinth,                      | Mississippi |
| R. R. Harley Roy 548 Elizabethto                             | wn N C      |
| B. S. Hays   | igh, N. C.  |
| J. W. Hilton<br>S. C. Ingram, Jr. 2441 Albro Blvd., Tucson 1 | Deceased    |
| S. C. Ingram, Jr. 2441 Albro Blvd., Tucson 1                 | 5. Arizona  |
| M. M. Kariman  | Unknown     |
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| R. K. Lee 312 Bola Dr., Alexat                               | ideria, La. |
| P. J. Lezier Box 13. Wrightsto                               | wn. N. J.   |
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| J. F. Needham  | othe, Ohio  |
| J. F. Nigro Millbro  | ok. N. Y.   |
| A. A. Novitt   | nd. N. Y.   |
| W. E. Odom, Jr.  | Unknown     |
| Lee Perks 54 Louisa St., Brooklyn                            | 18. N. Y.   |
| L. L. Perry  | Deceased    |
| C. H. Peterson Johns Manville, Ja                            | rrett, Va.  |
| Ernest Roberts   | Unknown     |
| W. O. Ryburn Equipment Co., Salisb                           | ary, N. C.  |
| A. W. Simmons  | Unknown     |
| R. S. Swanson Box 462, New                                   | ton, N. C.  |

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| Α. | . W. | . Brown  |     | Foreste  | r, Biltm | ore Sta | tion, J |         |         | Asheville,    |     |      |
| R. | E.   | Carey .  |     |          |          |         |         |         |         | Ur            | kno | wn   |
|    |      |          |     |          |          |         |         |         |         | abethtown,    |     |      |
| P. | М.   | Cromart  | ie  | <br>West | Lumber   | & Box   |         |         |         | Fayetteville, |     |      |
| E. | H.   | Ericson. | Jr. |          |          |         | 0       | ld Necl | Rd., 1  | Manchester,   | Ma  | 155. |

| C. E. Gill 911 Gracelyn Dr., Blacksburg, Va.<br>Michael Goral Unknown |
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| B. T. Griffith  |
| F. J. Hartman 12701 Valleywood Dr., Silver Springs, Md.               |
| T. G. Harris  |
| R. E. Huff Box 52, Mars Hill, N. C.                                   |
| R. H. Landon Deceased   |
| A. L. Jolly Virginia Forest Service                                   |
| Jesse Levine Unknown  |
| J. E. McIver, Jr. P. O. Box 372, Vidalia, Ga.                         |
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| T. F. Spiker, Lt. Col Clarksville Base, Clarksville, Tenn.            |
| D. F. Traylor   |
| J. H. Wiggins, Jr. 4232 Arbutus Dr., Raleigh, N. C., SCS              |
| S. L. Wilson 605 Camellia Circle, Florence, S. C.                     |

| W. A. Bland Box 257, Goldsboro, N. B. L. Cook 4814 W. Mtn. View Dr., San Diego 4, G | C.  |
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| R. S. Douglas Box 111 Clinton, N  | C.  |
| Paul Gawkowski Unkno<br>J. E. Hobbs Edenton, N.                                     | own |
| J. G. Hofmann Box 145, Roanoke Rapids, N.   | C.  |
| G. M. Howe 42 Normandy Place, Roselle, N.   | J.  |
| H. S. Katz 11 Wisner Place Middletown N   | v   |
| E. F. Leysath   | ont |
| H. S. Muller, Jr. Box 122, Kinsale,   | Va. |
| A. E. Johnson<br>A. A. Pruitt, Jr.<br>Box 283, Washington,                          | X.  |
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| J. T. Thurner St. Mary's  | Ga. |
| F. D. Williams 1226 Salem, Dr., Charlotte, N.                                       | C.  |

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| J. T. Maynard   |
| O. F. Martin 161 Ridgeland Way, NE, Atlanta, Ga.                  |
| W. H. Ogden   |
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| H. D. Packard Unknown   |
| E. H. Sayre Box 263, Tryon, N. C.                                 |
| J. L. Shoub RFD #2, Saluda, S. C.                                 |
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| H. L. Terry Box 2719, Raleigh, N. C.                              |
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| W. J. Ellis, Jr.<br>J. H. Hardee USOM, American Embassy, Port Av Prince, Haiti |
| Norman Hodul Box E-90-C. RFD. Holbrook Ave. Lake Ronkonkoma N V                |
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| B. D. Franklin Box 4103, College Station, Texas                       |
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| G. W. Smith, M.F. '58 Ricks Hall, N. C. State College, Raleigh, N. C. |
| J. L. Smith, Jr. P. O. Box 158, Mountain View, Arkansas               |
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| Fred West 124 N. Atherton St., Apt. 5, State College, Penna.          |
| B. M. Zuckerman Cranberry Exp. Sta., E. Wareham, Mass.                |

|  | son, Miss.<br>8, Oregon<br>gh, N. C.<br>a, N. C.<br>a, N. C.<br>a, N. C.<br>le, Illinois<br>ler, N. C.<br>le, N. C.<br>ler, N. C.<br>ler, N. C.<br>unknown<br>oy, N. C.<br>te, N. C.<br>te, N. C.<br>te, N. C.<br>te, N. C.<br>te, N. C.<br>st Africa<br>gh, Tenn.<br>gh, N. C.<br>on, N. C. |
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| T. M. Hasell, Jr   | on, N. C.  |
| R. L. Horne (11 Royster St., Snel  | by, N. C.  |
| H. G. Johnson 609 Joyner St., Greensbo<br>J. F. Johnson, Jr. 3722 Stratford Blvd., Wilmingt                              | ro, N. C.  |
| J. F. Johnson, Jr.   | on, N. C.  |
| W T Jones, M.F.W.T. '56 P O. Box 248, Green<br>W. G. Kelley P O. Box 4166, Richmon<br>S. H. Long 306 East K Street, Newt | vine, ria.   |
| C H Long 200 Date K Straat Naut  | on N C   |
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| R. E. Nielson 7730 Stockton Ave., Pennsauk   | en, N. J.  |
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| G. M. Blandchard Unknown  |
| H. J. Boger Laurell Lane, Black Mountain, N. C.                                   |
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| T. J. Ginn, M.F. '52 Unknown  |
| H. H. Gresham, L.P.M. '53 St. Regis Paper Co., McIntosh, Ala.                     |
| H. H. Gresham, L.P.M. 53  |
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| C. A. Jackson, Jr., L.P.M. '53 Route 1, Mebane, N. C.                             |
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| G E Lamb Unknown  |
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| J. I. Ledbetter Box 407, Badin, N. C.   |
| J. L. Leroy Consultant, S. C.   |
| S. E. Lewis Farm Management Forester, P. O. Box 463, Montesano, Wash.             |
| W. K. Lusk  |
| B. C. Meeker Unknown  |
| J. R. Miller  |
| J. R. Miller Peichhold Chemicals, 1521 E. Rowland Ave., W. Covina, Calif.         |
| R. A. Moore, M.S. '52 State Univ. of Forestry, Syracuse 10, N. Y.                 |
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| Stol         E. Ross         Stol         E. Main         St. Yu           H. A. Tate, Jr.         1465         Edgewood Dr., Elinabeth Gity, N. C.           W. V. Tata, Jr.         669         Bat 4. Jac         Regularized Dr., W. C.           T. G. Juppie, M.F. 752         Bat Mar 123. Oragabarre, S. C.         Stol         Stol         Stol         Stol         Negabarre, S. C.           D. Winggins, M.F. 752         Bat 0. Verchrook Dr., Thomasville, N. C.         Stol         Negabarre, S. C.         Stol         Stol         Negabarre, S. C.         Stol         Negabarre, S. C.         Stol         Stol         Stol         Stol   |
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| H. A. Tate, Jr. 1405 Edgewood Dr., Elizabeth City, N. C.  |
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| D. H. Smith         Bernis Hardwool Lumper Co., Robbinsoulis, N.C.           J. Thomas, M.W.T. '95         N.C. State College, Rakigh, North Garcina, K.J., State College, Rakigh, North, State College, Rakigh, North, State College, Rakigh, State Coll  |
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