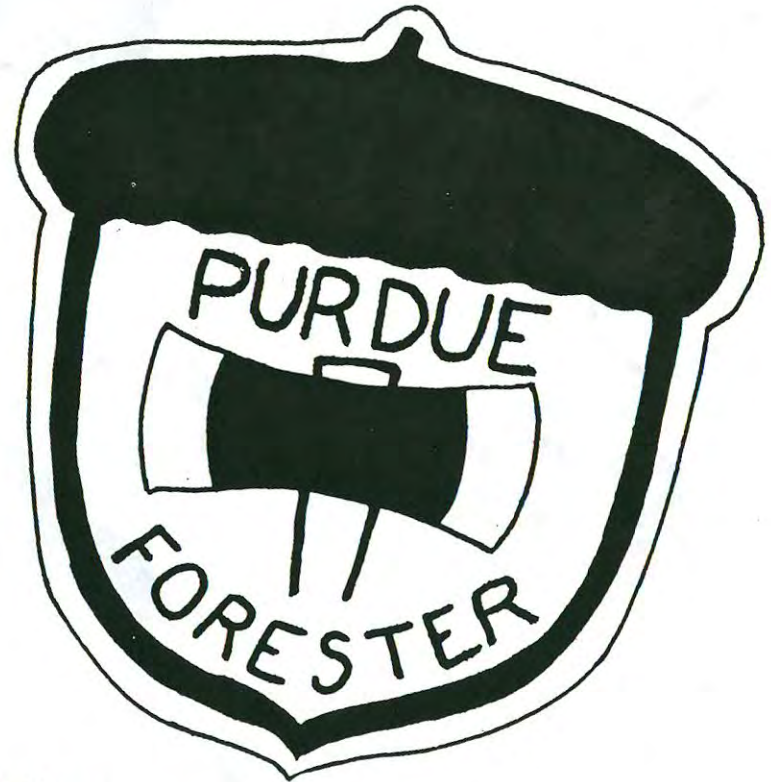


D4-1947



R. E. Mumford
**OAK
LEAVES**



*Published Annually by the Forestry Club
of Purdue University
West Lafayette, Indiana*

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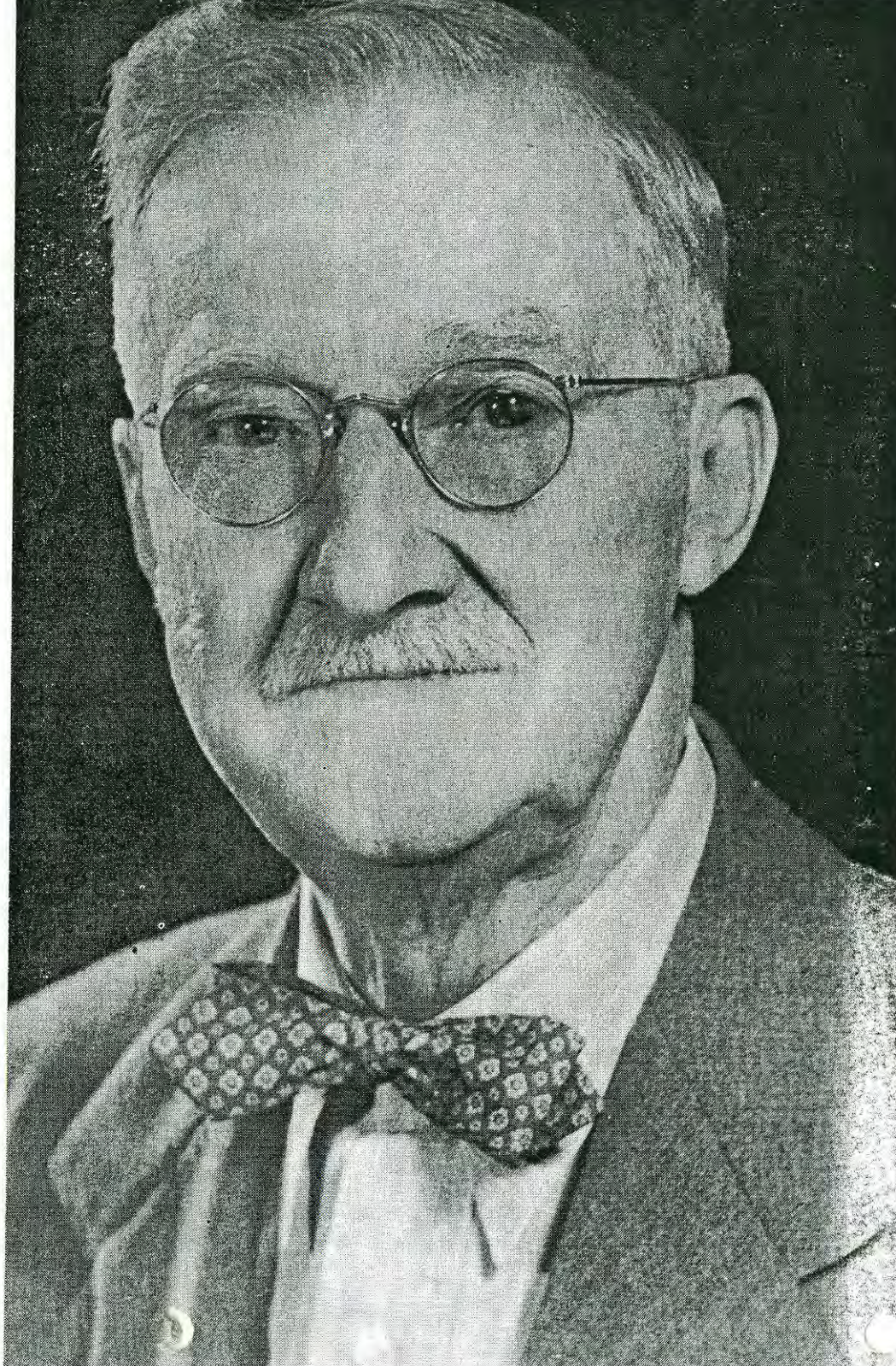
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Dedication

To Charles C. Deam, the one whose forestry interests have had such an important influence on Indiana Forestry, the students of the Purdue University Forestry Department dedicate this first issue of the forestry annual "Oak Leaves."

He was born August 30, 1865, on a farm in Wells County, Indiana, and spent his early life on a farm. After finishing high school he started to work in a drug store in Bluffton. In 1891, with only \$80 in cash, he acquired a drug store, but during the next year he worked so hard that his health failed. When doctors advised him that he must spend time out of doors in order to regain his health, he decided to study plants. So began his botanical career. Since then, he has traveled and collected plants in every county and township in the state and has built up the finest herbarium of Indiana flora in existence today. He has also developed his own arboretum at Bluffton, which contains hundreds of specimens of trees, shrubs, flowers, and grasses. His botanical activities have not been confined to Indiana but have included travel in Central America, Florida, Ohio, Kentucky, Tennessee, and other states.

In 1909 his friends persuaded Governor Marshall to appoint Deam state forester. He served in that capacity from 1909 to 1913, as acting state forester in 1917-1918, and again as state forester from 1919 to 1928. During this period of service to the State of Indiana, he did much of the pioneer development work. His early reforestation experiments on the Clark County State Forest have contributed greatly to the solution of Indiana's reforestation problems.

His interest in the protection of woodlands from livestock grazing took active form in 1921 when he secured the passage of Indiana's classified forest tax law, of which he was the author. At the present time, over 2,000 farmwoods are entered under this law, which prohibits livestock grazing and requires the owner to keep his woods productive.

He is also the author of many scientific papers, bulletins, and books. *Trees of Indiana*, first published in 1911, has since been revised and reprinted. In 1924 came *Shrubs of Indiana*, and in 1926 *Grasses of Indiana*. His outstanding contribution, *Flora of Indiana*, appeared in 1940.

In 1920, Wabash College conferred upon him an honorary A.M. degree. DePauw University presented an honorary Sc.D. degree to him in 1932, while Indiana University gave him an honorary LL.D. in 1939.

His life long interest in the welfare of Indiana's forest resources; his decades of studying the Flora of Indiana; his work as State Forester of Indiana; his counselling and guidance to many students; his inspiration and assistance given to many foresters; and his four score years as an active citizen of Indiana show evidence that we who follow some of the trails that he has blazed sincerely appreciate his work.

D. DenUyl.



Foreword

As an educational institution, Purdue is literally bursting at the seams. In spite of the permanent buildings erected during the 30's and the temporary structures built in recent months, our nearly 12,000 students crowd everything. This condition, we share with all other state supported educational institutions. In forestry, we are more fortunate—at least for the present.

With the understanding and support of the administration, we have been able to keep our forestry enrollment within bounds. This year, we have had a few over 200 students. We hope we may not greatly exceed that in the immediate years ahead. This effort on our part is not due to any pessimism about employment opportunities in the future. Rather our staff strongly believes the more nearly we can maintain a student-teacher ratio of 20 or 25 to 1 the better the instruction we shall be able to give.

The new curriculum in wood utilization technology inaugurated a year ago has attracted some twenty students. It would be more accurate to say we have permitted these students to select this curriculum since only those who have demonstrated in their freshman year an interest in this field as well as the ability to handle the mathematics, physics, and chemistry are encouraged to undertake this work. We expect in the near future considerable addition to our present laboratory space. Also we hope to acquire in the coming year the additional machinery to complete our instructional and research needs.

Several graduate students are with us this year. As you will remember, we are now offering graduate instruction in a few fields of forestry. These young men are working on problems in hardwood production and use which fall within these fields of interest.

Last summer for the first time since 1941, the Forestry Summer Camp was again in operation. You will find a detailed account of the camp elsewhere. We are now planning a camp for fifty students this next summer. We shall have ten new student cabins, each capable of accommodating four students. There are also three new staff cabins. In spite of these improvements, it looks as though we shall still have to use a few tents to handle the overflow.

Year by year planting and improvement of our two forest properties go forward. In another year or two, the Cunningham Forest will be completely planted. Since acquiring the tractor and truck for the forest properties, we have gone into the logging and cordwood business, and our operation is in the black.

Elsewhere in this Oak Leaves, you will find additional information about the school, the students, and staff. Your school is making progress. Since its establishment, it has come a long way and the future looks even brighter.

E. R. Martell, Head
Dept. of Forestry.

Forestry Faculty

Doc. A. M. Herrick

Graduated from New York State College in 1934, and a year later received his M.F. in Management and Silviculture. He then accepted a position with the Texas Division of Forest Protection. Later he went to Georgia where he taught Management, Mensuration, and Forest Improvements. It was in 1937 that "Al" came to Purdue to teach Mensuration. Since that time he has joined the Agr. Exp. Staff, obtained his Ph.D. in Management from Michigan and written several articles for trade journals and many extension bulletins.

Prof. D. DenUyl

Upon graduating from Michigan State in 1922, he accepted a position with the forest service until 1925, when he entered Cornell for advanced work. In 1926, he went to Missouri as a District Forester in charge of nursery and extension work. In September of 1928, he came to Purdue and began teaching management, mensuration, and protection. For some time now, "Dan" has been halftime teaching and working halftime with the Extension Department with experiments in farm woodlot management, wind breaks, and forest plantations.



Prof. Burr N. Prentice

"Prof" received his A.B. at Syracuse University in 1912 and his M.F. at New York State College of Forestry the following year. He worked for a year as Field Agent and Ranger in the Nez Perce, Flathead, St. Joe, and Coeur D' Alene National Forest. In 1914, he came to Purdue as an instructor of forestry in the Dept. of Biology. Since that time he has advanced through Assistant Professor to a full Professor in 1927. From 1926 to 1940 Prof was made the head of the Forestry Department, which was moved over to the Ag School. He is now teaching three courses.



Doc. E. W. Stark

Graduated from Purdue with a B.S. in 1932, he went to New York State College where, in 1934, he received his M.F. and spent the next four years as a member of their staff, working towards his Ph.D. In 1938, he went to Idaho, as an assistant professor, to teach Wood-Tech. Then, in 1940, he transferred to Lufkin, Texas, to organize and head the Forests Products Research Lab for the Texas State Forest Service. 1943 saw him returning to Purdue to teach Wood Tech. and Utilization.

Doc. C. M. Kirkpatrick

Doc obtained his B.S. from the School of Science here in 1938. Then in 1940, he won his Master of Arts in Zoology from Wisconsin. He joined the staff in 1941, and a year later was granted a leave of absence to return to Wisconsin and obtain his Ph.D. in Zoology and Wildlife. During the war, he served as a T-3 with the Armored Medical Research Laboratory, at Ft. Knox, Ky. As a member of the Forestry Staff, he has, besides teaching Wildlife, done considerable research on the physiology of game birds.

C. I. Miller

Won his B.F. from the University of Michigan in 1938, at which time he accepted a position with Potlach Forests, Inc., of Idaho. During this time, he also obtained his M.F. from Idaho. He joined the U.S.M.C. in 1941, rose to the rank of Major, and was discharged in 1945. He joined the staff this past year to teach Mensuration.





Prof. T. E. Shaw

"Ted," who had his education interrupted by the First World War, is a graduate of Penn. State, class of '21. For two years after that, he was Assistant District Forester at Johnstown, Penn.; but he returned to Penn. State and taught until 1928, at which time he went to Harvard for his M.F. in silviculture. It was in 1930 that Prof. Shaw came to Indiana, as an extension forester. He held this position until he became state forester in 1942.

Prof. Howard Michaud

Graduated from Bluffton College, Bluffton, Ohio, in 1925 with an A.B. in Biological Science. In 1930 he received his M.A. in Zoology from Indiana University. For the next 13 years he taught Biological Science at Ft. Wayne, Indiana; and during the summer, was a naturalist with the State Parks. Eleven of those years he was chief naturalist. The year before coming to Purdue, in 1945, he was editor of bulletins on conservation and wildlife published for high school pupils.



Prof. R. Brundage

Upon winning his B.F. in 1925 from New York College of Forestry, he accepted a position with the Forest Service in the West. He returned to New York in 1927 as forester for the Rockville Light and Power Co. In 1930 he was awarded his M.F. from Michigan and, in the fall of the same year, came to Purdue. Here he has, besides teaching, made extensive studies in marketing and utilization research.

J. L. Van Camp

Upon graduating from the University of Toronto, with a B.S. of Forestry in 1922, he was employed by the Dominion Forest Service of Alberta until 1927. From 1927 to 1932 he was Forest Pathologist of the Division of Dominion Forest Service. In 1933 he went to Michigan State College as an instructor in silviculture and nursery superintendent until 1936, when he came to Purdue as assistant and associate extension forester.



Miss McDowell, the senior member of our Forestry office staff, has been with us since the summer of 1935. In her official capacity, Miss McDowell serves as secretary to our department head, Dr. Martell. She also has charge of all the paper work pertaining to the Forestry School and performs special extra-curricular activities for the Forestry Club. These include, among other things, the selling of dance tickets and club emblems and keys and the stenciling of song sheets.



Office Staff

Mrs. Hall, the freshman worker on the office staff, began her job in September of 1946. She is the stenographer for the office; and as freshman member, she gets her share of work from all sources. There are reports to be typed; exam stencils to be cut; and Mrs. Hall, too, is often stopped in the middle of her work by some future forester inquiring about tickets to the Foresters' Ball or Club membership Cards.



Miss Foster, our librarian, has been working for the Forestry Department since May, 1942. She has charge of the reference library in the Horticulture Building. Miss Foster is also secretary to the Extension Foresters, and she too carries her share of the overload of paper work from the Forestry Office.

Since her desk is located in the library on the first floor of the Hort Building, she frequently doubles as a server of information to freshmen and visitors inquiring as to the location of certain offices and rooms.



Production and Utilization

Two Courses of Study Offered in Forestry

by I. W. Carpenter

In keeping with the rapidly changing times, the forestry curriculum at Purdue has constantly been revised and improved.

The new production curriculum is no more like the curriculum which was in effect prior to 1941 than the new laminated woods resemble hand sawed boards.

Botany 3 and 4 have been substituted for the old Biology 1 and 2. Now the freshmen foresters learn the basic principles of plant life rather than "the sex life of an amoeba." The traditional "gripe" courses, English 1 and 31, are given to the freshmen, thereby getting them out of the way at the beginning. There are two new and interesting courses, Forestry 2 and 3, taught by the head of the Department, Dr. E. R. Martell, and staff, which give the Frosh an idea of what to expect from forestry and what the profession expects of its members. The remainder of the revamped freshman year contains the old Purdue standbys, such as: chemistry, math, and military training. Surveying and engineering drawing have been moved from the freshman year to the sophomore year.

In the sophomore year, the student now gets his first taste of forestry in such courses as dendrology and regeneration along with such elementary background courses as: organic chemistry, physics, geology, agronomy, plant physiology, surveying, and en-

gineering drawing.

After completion of the sophomore year, comes Summer Camp, which, as before, is held at Clark County State Forest. Professors Herrick, DenUyl, Miller, and Spencer give the foundations of practical forestry: mensuration, silviculture, and surveying to the neophyte foresters.

For the junior year, the typical forestry courses of mensuration, silvics, protection, wildlife conservation, wood technology, forest economics, and logging are given.

The senior year has been spiced up; and now in addition to the hours of management and utilization, there has been added such valuable courses as elementary accounting, American history, and current economic problems. Electives are now offered in place of the time consuming six hours of thesis.

Changes in the production curriculum are only part of the modernization plan in effect at Purdue today. Purdue now offers a completely new curriculum in wood technology, or utilization. The new utilization program puts emphasis on mathematics, chemistry, and physics as applied to forest utilization. Professor Stark is offering many new courses in wood preservation and utilization in this curriculum. A minimum of 10 weeks industrial employment, prior to graduation, in some branch of the wood conversion industry is a requirement for graduation in the utilization option. This employment, in some manner, replaces the

(Continued on page 53)



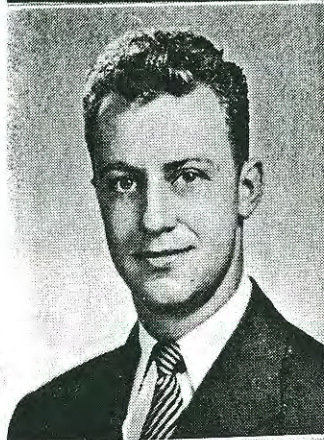
Robert G. Caster

Forest Production
Xi Sigma Pi; Cary Hall Council; Junior Prom Committee (Jr.); Forestry Club.
Experience: Checker, White Pine Blister Rust, Coeur D' Alene National Forest, Idaho, Summer '45. Supt. of White Pine Survey Camp, Coeur D' Alene National Forest, Idaho, Summer '46.



John C. Cooper

Forest Production
Forestry Club; Foresters' Ball Committee.



Harold R. Curson

Forest Production
Sigma Chi; Forestry Club; Oak Leaves Staff.
Experience: U. S. Forest Service, Blister Rust, Summer '45 and '46.



Barbara M. Cuppy

Forest Production
Women's Athletic Association; Forestry Club (Honorary Member).

G R A D U A T I N G S E N I O R S

Richard J. Gavit

Forest Production
Wrestling Team '42; Forestry Club; Phi Kappa Tau.

William T. Johnson

Game Management
Forestry Club.

Maurice E. Reed

Forest Production
Forestry Club; Xi Sigma Pi.

Harry A. Treadwell

Forest Production
Xi Sigma Pi.

William G. Carnes

Forest Production
Student Senate; Fraternity Affairs Office; Forestry Club.



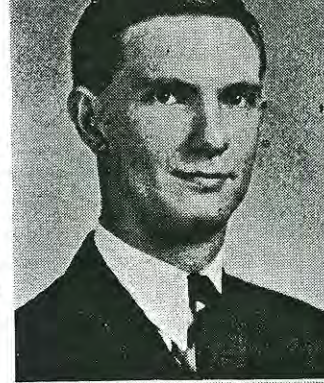
Donald J. Degroot

Forest Production
Forestry Club; P.I.A.; S.C.A.



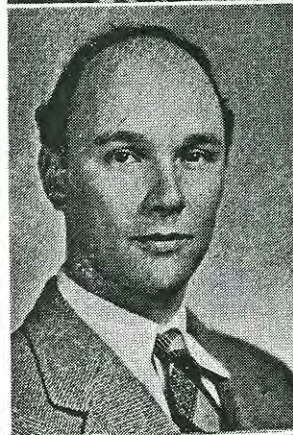
Ralph E. Miller

Forest Production
Xi Sigma Pi, Secretary-Fiscal Agent (Sr); Forestry Club; Phi Kappa.
Experience: White Pine Blister Rust, St. Joe National Forest, Idaho and Fire Suppression Cabinet National Forest, Montana.



Howar S. Weaver

Forest Production
Purdue Agriculturist; Cary Club; Alpha Phi Omega; Forestry Club; Foresters' Ball Chairman Decorations (Sr); Oak Leaves Staff.
Experience: Senior Naturalist, Indiana State Park Naturalist Service; Leader in nature hikes, campfire programs and group games, McCormicks Creek State Park Summer '46.



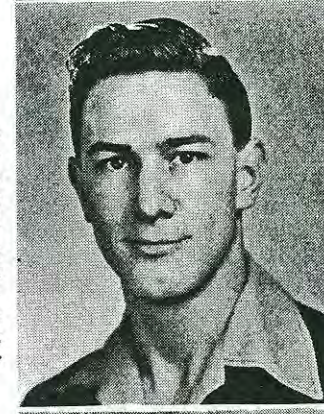
O. Warren Lake

Forest Utilization
Xi Sigma Pi, Pres. (Sr); Forestry Club; Foresters' Ball, Ticket Chairman (Sr); P.M. O.; I.M. Basketball (Sr); P. C.F.
Experience: U. S. Topographic Survey, Summer '41; Band Sawmill, Summer '46.



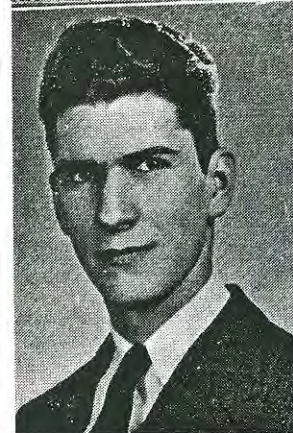
Ellis Murphy

Forest Production
Exponent, Editor (Jr); Limp Rivet, Man. Editor (Sr); Dolphin Club, President (Jr); Gimlet; Iron Key; Who's Who in American Colleges and Universities; Forestry Club; Purdue Zouaves; Activities Council; War Council; Fraternity Presidents' Council; Sigma Delta Chi, President (Jr, Sr); Oak Leaves, Editor (Sr); Phi Kappa Tau.



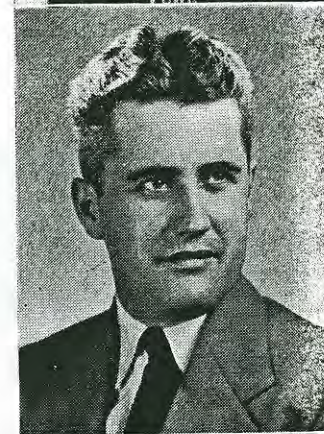
Robert C. Weber

Forest Production
Reamer Club; Alpha Zeta Censor; P.I.A.; Xi Sigma Pi Forestry Club; Outing Club S.C.A. Board; Camera Club
Experience: White Pine Blister Rust, Coeur D' Alene National Forest, Idaho, Summer '45; Surveying and Cruising Work, Southern Forest Exp Sta., Nacogdoches, Texas Summer '46.



Donald V. McVey

Forest Production
P-Men's Club; Alpha Zeta; Track (Fr, Jr); Basketball (Fr, So, Jr); Forestry Club, Pres. (Sr); Phi Sigma Kappa.
Experience: Timber survey, U.S.F.S., Oregon, 1946.



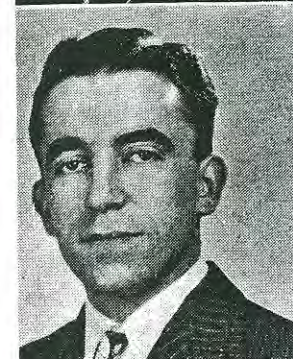
Donald E. Sloan

Forest Production
Purdue Agriculturist; Xi Sigma Pi; P.C.F.



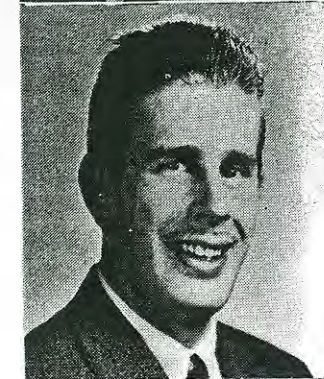
Thomas F. Hendrix

Forest Production
Forestry Club; Sigma Nu.



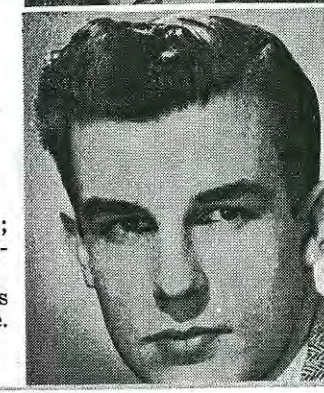
Philip C. Meinzer

Forest Production
I.M. Football (Fr), Basketball (Sr); P.C.F.; Oak Leaves Staff; Forestry Club, Vice President (Jr); Chairman "Field Day" Committee (Jr); Chairman Foresters' Ball Committee (Sr).
Experience: White Pine Blister Rust, Clearwater National Forest, Idaho, Summer '42; Naval Construction Logging Outfit in South Pacific.



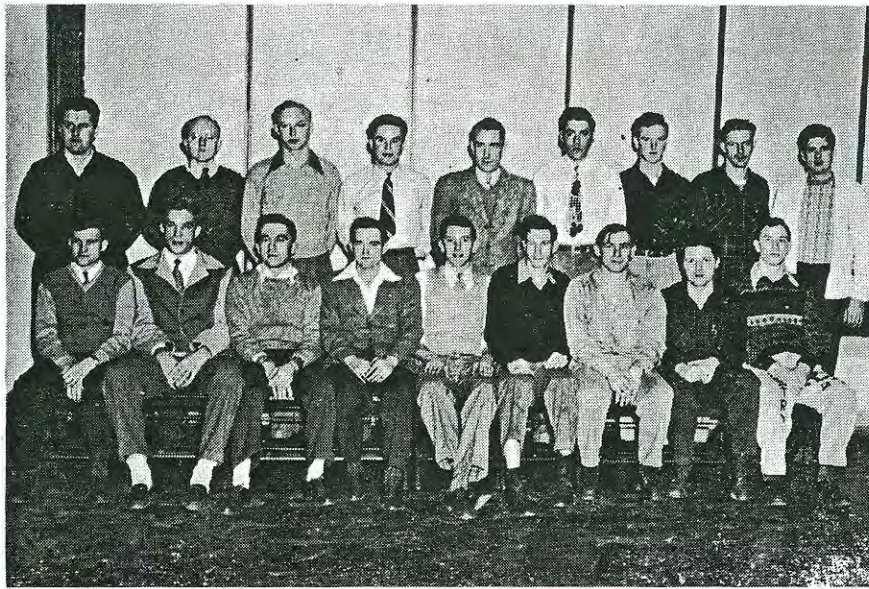
Eugene P. Van Arsdel

Forest Production
Alpha Zeta; Forestry Club; Originator of the Barber Boycott.
Experience: Timber Sales Work, U S. Forest Service.



Dale L. Singleton

Forest Production
Forestry Club; Xi Sigma P



Seniors

by Phil Meinzer

If nothing more, it can be said that the "Class of '47" will constitute the largest class graduated since the early part of the late World War II. The war practically denuded the Purdue campus as far as foresters were concerned, not only here but at forestry schools throughout the United States. Due to the lack of an annual increment of young foresters to the professional ranks during the war, there should be a considerable back-log of attractive jobs for those who are interested and can find them.

The class consists of twenty-three members, one of whom is Barbara Cuppy, the first woman student to be graduated from the Purdue Forestry School. The majority have majored in the Production curriculum mainly because the new Utilization curriculum was not offered when quite a few started in school back in 1939 and 1940.

Truthfully though, we are a versatile crew. Maurie Reed and Phil Meinzer gained some rough logging experience while in the South Pacific; Bob Caster, Harold Curson, Dick Gavit, and Ralph Miller have spent summer vacations in the National Forests of the Northwest; while Bill Johnson worked in Missouri, Bob Weber in Texas, and Warren Lake and Howard Weaver in our own Hoosier state. Our home states range from Illinois and Indiana east to Pennsylvania, thence south to Tennessee and Georgia with our local environments varying from the farm and small village to the town and big city.

Two of our classmates who left at mid-term are now working. John Cooper with the Belcher Lumber Co. in Centerville, Alabama and Tom Burger with the General Box Co. in Prescott, Arkansas. Their letters lead one to believe in the good opportun-

(Continued on page 51)

Motion Study In Woods Operations

by C. I. Miller

Inst. in Mensuration and Logging

Frank Gilbreth once said, "There is no waste of any kind in the world that equals the waste from needless, ill-directed, and ineffective work, and the resulting unnecessary fatigue." Because this is true there are few studies that may be made in woods operations that show promise for greater returns than ones for the elimination of needless work and the transformation of ill-directed and ineffective motions into efficient activity.

This country has been so rich in human and timber resources that it has not been many years that the importance of waste elimination in woods work has come to be realized. The material element was given the first consideration; and in the comparatively few years that the subject has received attention, considerable advances have been made in the closer utilization of wood.

The human element is only now beginning to receive attention. Studies to find and perpetuate the least wasteful methods of labor in woods operations are just beginning to receive study.

But in other fields of human activity, considerable advancement has already been made in this direction, i. e.,

in motion study. Techniques have been developed that have resulted in substantial savings.

In the large mass-production industries where considerable control may be exercised over work methods, the rewards of motion study efforts are well known. But in small industries and certain other activities the possibilities for savings through motion study are not so generally recognized. Two examples will serve to illustrate the savings that may be effected in types of work that have been considered by many as unresponsive to improvement through motion study.

Example 1: Until recently, saw cutting of framing studs, rafters, and floor joists, used in the manufacture of prefabricated wood garages and two to four room bungalows at Well Built Manufacturing Company, Somerville, New Jersey,¹ was thought to be as efficient as anyone could expect. But it did not satisfy Well Built's owner or the working supervisor of his 30 employees. Consequently, they made a detailed study of this job. From this study, they developed a new method that achieved the following results:

1. Over-all cost of cutting studs,

rafters and joists was reduced from \$300 to \$90 for a 30,000 foot carload of lumber.

2. Waste in lumber was reduced from 10 percent to less than 0.1 percent.

3. Handling costs were halved.

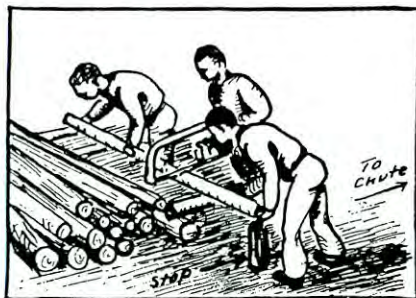
Example 2: In 1942 the Vermont Agricultural Experiment Station² made a study of the activities of a farmer in doing the barn chores for his 22-cow dairy. As a result of this study, changes were made that reduced the time spent on chores from 5 hours and 44 minutes to 3 hours and 39 minutes daily, a saving of 2 hours and 5 minutes. The travel was reduced from 3¼ to 1¼ miles daily, a saving of 2 miles.

Let us then consider in general terms what motion study consists of, and how it might be used in woods operations. Motion study consists of dividing a job into the most fundamental elements possible, presenting these elements in graphical form of analysis, studying these elements separately and in relation to one another, and from this study building methods of least waste. It is what we might call the method of science. To apply this procedure one must be willing to revise any fond beliefs he held before the study on how the work under consideration should be done. Indeed, even after one has developed an improved method, one must realize that better ways may still be found. It should be understood that motion study is only a step in applying scientific management to woods operations, but a good first step.

There are several possible approaches in the application of motion study to woods work. From the work done to date, however, it is felt that a definite procedure is indicated. The first step in this procedure is to prepare a process chart that will graphically

show the different steps involved in doing the work required to take the timber from stump to truck. This chart will show all the elements of the operation such as felling, limbing, bucking, bunching, skidding, etc., in their proper sequence along with a brief description of each element. The chart permits a detailed study of the logging operation as a whole and will suggest possible eliminations, improvements, or rearrangements of the elements. In addition, the effect of eliminating elements or rearranging their order can be clearly visualized by means of this chart.

The next step after improvements have been made with the aid of the process chart is to study each element individually. Various analysis techniques may be used depending on the type of element to be studied. However, a specific example will illustrate the usual approach.



The job we will consider is the cutting of 4-foot bolts with a power chain saw.³ Figure 1 shows the job lay-out. Two men handle the 16-foot logs while the other man operates the saw. The handlers roll the wood forward and hold it while the sawyer cuts off the bolts. They then toss the bolts down a roller chute that carries them to the river.

Most observers would be of the opinion that this job is being done as efficiently as could be expected.

A careful study of the situation,

however, shows us where the losses are and how much they amount to in terms of production. A glance at the summary shows that for each log (4-bolts),

Overall time =
 $.67 \times 3 =$
 2.01 man-minutes 100%
 Idle time =
 $.22 + .39 + .15 =$
 .76 man-minutes 38%
 Productive time =
 $.45 + .28 + .52 =$
 1.25 man-minutes 62%

If we use \$1.00 per hour as the men's wages and \$0.15 per hour as the cost of operating the saw, and add a personal and fatigue allowance of 15% on time, the method is costing per log:

$$\frac{\$3.15 \text{ (total of hourly rates)}}{77.9 \text{ (logs bolted per hour)}} = \$.040$$

With this information before us, we should shake away any preconceived notions of how the job should be done and approach the matter of finding a better method with an open mind. We can best do this by using a list of check questions. These questions are applicable to most problems of this nature, and it is rare that solutions cannot be found from answers to one or more of them. So let us next look at the check questions:

1. Can one or more additional saws be handled by the crew? This is a distinct possibility, and one that might bring about greater economy. However, we shall assume that only one saw is available and go on to the next question.
2. Can previous or future work be done during idle periods? As far as major work such as skidding or river driving is concerned the answer is no. Regarding this specific job, there should be more useful work and less holding between

cuts. This should be closely checked under motion economy.

3. Can another helper be used, or do we have more men in the crew than are necessary? It appears that there is a surplus of men in the crew.
4. Can cutting time be reduced by increasing saw speed or changing the design of the saw? In some jobs this is extremely important, and is a question that usually requires considerable technical background to answer correctly. We shall assume that no change can be made.
5. Can an improved machine model or design be substituted? This is important when other machines are available. It is often the case that a company does not purchase a more recent or improved model because of the initial investment, when an investigation would show that disposal of the present machine and purchase of the new one would be the most economical course. We shall assume that the present machine is satisfactory.

6. Can the principles of motion economy be applied? These principles,⁴ 22 in all, were worked out by Frank Gilbreth. Although not all of these principles are applicable to every job, they do form a basis for improving the efficiency of manual work. They will help us increase productivity in our example.

Figure 2 is a set-up suggested by asking the above questions. The skidway is built at right angles to the bank, and a length of roller-chute is slanted across in front of the sawyer to receive logs rolled from the pile. The chute is slanted toward the bank so gravity will aid in taking the bolts away. The logs are prevented from

(Continued on page 43)

Juniors

by Conrad Shelland

Striving hard to prepare themselves for the final year, the junior class is holding its own in both the scholastic and activities fields. Comprised mainly of men who have had their school work disrupted by the war, they have set a hard pace for those who follow.

The ages of the junior class run from high in the twenties to the "young seedlings" of the group still in their teens. Besides those of us dating the "Purdue Coed," there are proud "papas" among us who never seem to have enough time for the innumerable tasks a man going to school, with a family, is supposed to do. It may be said, however, that these men, despite their complaining and drooping shoulders, still manage to pull down the "five-point" indicies.

Summer camp last year was a mixture of juniors and seniors, with no distinction made. At camp, we learned that a lot of things, previously thought

difficult to do, became easy with practice—and at camp we got plenty of practice. In surveying, there was plane table work, Polaris, and other new features of this field. In mensuration, in Sec. 35, we learned to climb 100% slopes with our arms full of abney levels, compasses, tatum, increment borers, fragile lunch sacks, and assorted other articles designed to impede movement. In all, although there are many gripes and derogative remarks about the lovely rolling country just out of the thriving community of Henryville, Indiana, there are few who would not admit that they enjoyed summer camp.

This summer the twenty-eight members of the junior class are following one of four prevalent schools of thought.

However, whatever the boys choose to do this summer, the class of '49 will be close to forestry and ready to take over the senior activities of next year.



Forest Practice In The Lone Star State

by E. D. Marshall

Eugene D. (Gene) Marshall received his Bachelor of Science Degree in Forestry from Purdue in 1934. In 1938 he received his Masters Degree from the University of California.

Gene's work has carried him to many different localities. He did soil research work for the Central States Forest Experiment Station. He was Assistant Professor of Forestry at the University of Arkansas and also Assistant Forester in Arkansas.

Gene also did work for Forest Experiment Stations in North Carolina, Kansas and California. Nearly all of his jobs were in the research field.

He is a senior member of the Society of American Foresters and active on regional committees. He is also a family man, married in 1936 and with four children now.

Gene is now Chief of the Division of Forest Products Research for the Texas Forest Service, located at Texas A. & M. College. He is in charge of the largest state-operated forest research laboratories in the United States.

Texas derived its name from *tejas*, meaning "friend," "friendly," or "allies," and was used by several confederated Indian tribes as a greeting and by early Spanish explorers as a general designation of all Indians in present-day East Texas. The flag that waved over the Texas Republic and is still the State flag has a lone star on a red, white, and blue background, and from this Texas has been nicknamed the "Lone Star State."

When the word "Texas" is mentioned to out-of-state people they usually have visions of cattle ranches and cowpunchers — and they are amazed when they realize the extent and value of forest products. A comparison of values based on the 1940 U. S. Department of Agriculture cen-

sus report and revised forest survey figures to the same year reveal:

Livestock

(beef and dairy cattle) \$399,304,000

Forest growing stock

(timber and cordwood) 280,073,000

Cotton (lint and seed) 192,924,000

The values for livestock and cotton are on a statewide basis, whereas the forest figures are based only on the 11,000,000 acres of commercial timberland in East Texas and does not take into account the millions of acres of scrub hardwoods and cedar in other parts of the State, which provide fuelwood, fence posts, some lumber, and other products for local use and sale to outside markets. It is also worthy to note that cotton production is on the decline in Texas. In East Texas there

is a growin realization that timber is a good crop for abandoned and depleted cotton lands and that greater production of cellulose per acre per year is possible by growing pine instead of cotton.

Beginning in East Texas with the commercial Pine-Hardwood area and progressing westward across the non-commercial forest areas, we find the following approximate acreages:

Pine-Hardwood Belt11,000,000 acres
Post Oak Belt 5,000,000 acres
Cross Timbers Belt 5,000,000 acres
Cedar Brake Belt 5,000,000 acres
Mesquite Belt50,000,000 acres
Total76,000,000 acres

In addition, there are several hundred thousand acres of mountain forests in West Texas — mainly on the upper reaches of the Chisos Mountains (Big Bend National Park), Davis Mountains, and Guadalupe Range.

All in all, then, Texas forests comprise an area equal to more than three times the total area of Indiana.

It is interesting to note that, of some 1200 varieties of trees in the forests of the United States, there are over 150 varieties of trees in Texas of interest to the forester. The reason for this large number of tree species in Texas is apparent when we realize that Texas is a cross-roads for four of the six main forest regions of the United States. These four regions are the southern pine forest (in East Texas); central hardwoods, (the post oak and cross timber belts of east-central Texas); semi-tropical forest (in the Rio Grande Valley region of Texas); and Rocky Mountain forest (the timbered areas in West Texas which are a continuation of the southern Rocky Mountain region).

Beginning in West Texas and going eastward, let's briefly examine the production and utilization phases of the different forest areas.

Mountain Forests

Oak shinneries and various species

of Juniper dominate the mountain forests. Douglas-fir, Mexican white pine, ponderosa pine, limber pine, pinon pine, and cypress occur in very limited quantities. Of special interest is the latter species which is common to the swampy areas in the South, yet at 7000-7500 ft. elevation in the Chisos Mountains in the Big Bend National Park, cypress is growing quite well. The trees in the mountain region are valuable mainly for protection of the soil and as game habitats. There is no commercial timber operations of any importance in this region.

Mesquite Region

The mesquite area, comprising some 50,000,000 acres in West-Central and South Texas is of primary interest to ranchers. They are interested in economical methods of mesquite and brush eradication and utilization of this raw woody fiber so that greater carrying capacities will be possible. Much of the mesquite area consists of deep rich soils which, when properly managed for pasture, will support one animal unit (one cow or equivalent) per two acres. When mesquite has taken over the area, it may require from twelve to one hundred acres to support one animal unit. The annual loss to the ranchers of Texas because of mesquite invasion on grassland areas is estimated at \$30,000,000.

Some hundred years ago, very little mesquite was growing in Texas. However, mesquite is now growing as far north as Oklahoma. This invasion has been brought about through overgrazing and grass fires combined with the fact that the beans (mesquite is a legume) are carried and dropped by cattle.

Past uses of mesquite have been mostly for fuelwood and fence posts. Present utilization research is interested mainly in chemical conversion processes because the trees are short, crooked, and oftentimes defective. The wood is hard and beautiful — the

grain being similar to mahogany — and may present possibilities for limited use in commercial woodworking shops.

Although in the northern part of the mesquite range the dominant species is mesquite, in the southern part of the mesquite range we find it associated with cactus and other species, the names of which may be missing in your vocabulary. These include cats-claw, huisache, mimosa, baretta, pistache, black persimmon, anaqua, sloe, Mexican ash, guajillo, and others. It is also interesting to note that, in the Rio Grande Valley region of Texas, the two hardest woods in the United States occur. These are guayacan, (*Guaiacum augustifolia* (Engelm.) A. Gray) and Texas ebony (*Pithecolobium flexicaule* (Benth) Coulter). The softest wood in the United States, corkwood (*Leitneria floridana* Chapm.), grows near the mouth of the Brazos river.

Cedar Brake Region

Swinging east of the mesquite belt, we find the cedar brake area of West-Central Texas. This consists primarily of mountain cedar (*Juniperus mexicana* Spreng.). Red-berry juniper (*Juniperus pinchotti* Sudworth) is probably the second most common cedar in this area.

Many millions of fence posts have been sold from this cedar brake area and this has constituted the main use of mountain cedar. In addition, there are four small cedar oil mills in this area which could probably satisfy the entire U. S. annual demand of 600,000 pounds of cedar oil by running at full capacity. Both the leaves and wood provide commercial grades of oil which is used principally as a carrier and fixative in perfumes and soaps, deodorizing of leather, insect repellent, furniture polish, and — because of its high refractive index — as an immersion oil in microscopic work. Camphor,

equal to that of the Japanese variety, may be obtained from cedarleaf oil.

In both the cedar and mesquite areas, considerable clearing is taking place, primarily due to benefit payments from the Agricultural Conservation Association (formerly called the AAA). Special bulldozers, rakes, root-cutting machines, tree shears, etc., have been developed as well as chemical means of control using kerosene, sodium arsenite, etc.

In both the Cedar Brake Region and the Mesquite Region, there are areas where the trees should be left for protection to the soil and to game.

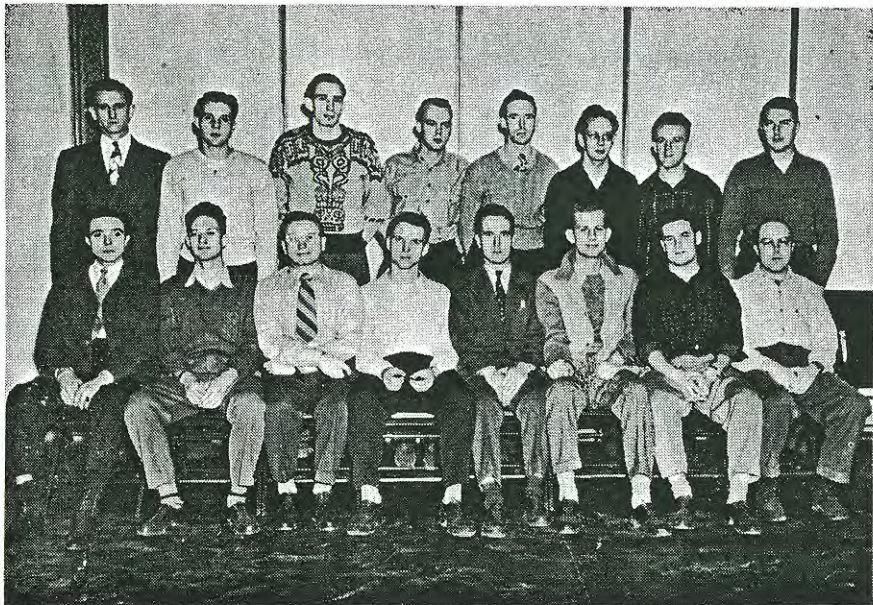
Cross Timbers and Post Oak Regions

The Cross Timbers Belt consists primarily of scrub hardwoods in North-Central Texas. The original name of "cross timbers" dates back to early explorers who, in their travels from east to west across the state, crossed alternating patches of forests and prairies and so affixed to these forests the name "cross timbers."

Main use for this timber along with the scrub hardwoods in the Post Oak Belt has been for fuelwood and fence posts. Some lumber has been produced from these areas. More recently, head stock for barrels, ties, and pallet stock have been produced. Probably the most promising commercial possibilities for this low-grade hardwood are for pulp and paper and for laminated flooring similar to that developed and produced by TVA, Knoxville, Tennessee, as well as other new types of flooring being developed elsewhere.

U. S. Forest Service survey figures (1940) available for the Post Oak Belt show 32,691,000 cords of hardwoods; 477,300 cords of pine; and 180,400 cords of cedar. The presence of localized areas of pine and cedar in this hardwood belt is of interest. In this region near Bastrop is the so-called "Lost

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Sophomores

by William F. Miles

The sophomores this year are fifty-eight strong. Twenty-four of us will get our sheepskins in June of '49 and the rest will secede from Purdue in February of '50.

We're a motley crew ranging from the meek in character and dandy dresser to the rough in character and in dress. In size, we range from Ray E. Smith, at 5 feet 5 inches and 145 pounds, to "Shorty" Van Dyke, at 6 feet 11 inches and 155 pounds. Some of us are married or engaged, and the rest are free. The greater part of us are Uncle Sam's proteges, but some didn't get the chance to become such individuals.

Normally we would have entered college either in the fall of '45 or spring of '46 to be a sophomore now, but that isn't the case with all of us. Some of the gang started school as far back as the fall of '41. During the present decade everyone knows that

there are many 'Heroes of World War II' (personal opinions of course) among us, which would account for this lapse of time, but in the far future years when we have all become famous and our histories are being dug into, this stretch of years might not be so clearly explained.

Possibly the most outstanding of us is Louis Simmons in view of the fact that he is a negro and as far as anyone has been able to ascertain, is the first colored person to major in the field of Forestry. He is a gay and jovial fellow on friendly terms with everyone.

The sophomore year is the one in which all except those majoring in Wood Technology and Utilization finish the Chemistry and Math courses required and start the subjects which seem to us to apply more directly to Forestry. Such courses are, Artificial and Natural Regeneration, Dendrology, Agronomy (Forest Soil), and Forestry Geology.

Purdue Research Work 18 Years In The Field

by D. DenUyl

The suggestion of the Editor was for me to put into words the forestry work that I have done in the past 18 years at Purdue University. In so doing I am including some forestry department history in which both alumni and students are interested.

Joining the University staff in September, 1928, as an instructor in forest management, forest mensuration, and forest protection, and at the same time being assigned three Experiment Station projects, Woods Management, Tree Windbreaks and Forest Nursery, to keep me busy, I realized that there was much forestry work to be done. I soon learned that Forestry instruction had started in the School of Science in 1914 when Professor Prentice came to Purdue. Then in 1926 a Department of Forestry in the School of Agriculture was started under the direction of Burr N. Prentice. When I joined the department in 1928 the staff consisted of Prof. Prentice, and F. Franklin, who were doing all the teaching work, and W. L. Neubrech, who was working on Marketing of Forest Products.

After struggling with the heavy teaching load and getting the Experiment Station work started, I soon learned that forestry summer camp was to be included. So in June, 1929, F. Franklin, E. Carson, Agricultural Engineering Department, and I found ourselves in camp with 27 students, which included all classes from Freshmen to Seniors. The weeks at summer camp with the "old Red barn" as

headquarters, proved to be interesting ones. Returning to the University in the fall, the Experiment Station project work just having been started, plans were made to relieve me of summer camp duties so that Experiment Station work could be done during the summer months. So in 1930, in cooperation with the Central States Forest Experiment Station, a study dealing with the relationship of livestock grazing to the farmwoods was started. This cooperative work continued for 10 years; and since that time, parts of the project work have been carried on by the Purdue Agricultural Experiment Station as part of Woodlands Management research. As field assistants, I have had the following men working for me: J. C. Baker '31, M. C. Smith '31, Wm. Medesy '31, E. D. Marshall '34, Joe DeWees '34, Mace Raymond '36, C. E. Darrell '38, M. Riddeford '39, Leslie Glasgow '42. This project work has provided valuable information on the farmwoods—such as why protection from livestock grazing is necessary and what happens when grazing is excluded from the farmwoods. Early results, published in 1932, proved to be useful during the CCC years when considerable attention was directed toward protecting the woods and management of woods. Then, too, a four-year experimental study of cattle grazing in the woods showed that livestock could not maintain themselves on the meagre forage that woods produce. These experiments

showed that the forage value of the woods was nil and that woods are not suitable for pasture purposes.

In connection with the grazing studies, it was possible to secure information on the growth and development of Indiana farmwoods. Sample plot re-measurements have provided information on the actual growth of timber and what tree reproduction is becoming established in protected farmwoods. Each tree on all the sample plots has been measured three or more times during the past 15 years. These remeasurements, together with woods history and annual observations of the plots, provides information about native hardwood stands that foresters can use. They have shown that unmanaged stands produce about 150 board feet per acre per year, stands given some management will grow 200-300 board feet annually, while the better woods are capable of producing 300 board feet per acre per year and that with proper management woods could produce 400 board feet annually.

Now back again to 1928, when the forest tree nursery on Harrison Street was getting started. Many of you will remember those seeding and planting classes and probably wondered many times why that fellow DenUyl spent his time growing trees. Two major purposes were set up for that project, (1) to study some forest tree nursery problems and (2) to grow trees suitable for planting, particularly for windbreak plantings. Some of you used the area to carry on your Senior thesis work, which many of you remember was required, but since 1940 has not been necessary.

Many forest nursery problems were investigated. It was soon apparent that many species were not suited for planting in Indiana, that the nursery soils require skillful management to retain their productivity, that Christmas trees could be grown at a profit, and that cultivation of newly planted

windbreak trees was needed. Many other details of forest nursery practices were worked out, but with the advent of the CCC program and its accompanying machines to speed up nursery production, the experimental nursery gradually assumed less importance and now serves in a very minor way.

One of my most important projects has been the one dealing with tree windbreaks. In this field of research many valuable contributions were made about the uses of trees for protective purposes. This project was well under way, and windbreak influence studies were providing something to work with when the Prairie States Shelterbelt Project came along. This gave to the studies being conducted here at Purdue on the farm windbreak problems an importance that served to carry the results of my work to many other states and even to England and Australia. More recently, some of the basic information dealing with windbreaks for muck soils was adapted by the War Department for use in their food production programs in places where windbreaks were essential to crop production.

Publications such as *Tree Windbreaks for Indiana Farms*, *Windbreaks for Protecting Muck Soils and Crops* as well as *Journal of Forestry* articles have served to make the more practical aspects of the problem known to many interested in trees for protective purposes. Although the project has been on the inactive list since 1942, nevertheless protective type plantings still occupy an important place; and many requests still come in for that kind of information.

Many of you will recall some of the tree planting trips that were made during your school days at Purdue. Those plantings have grown; and frequently, the farmers on whose farms the trees were planted recall the tree-

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Freshmen

by Jim Bowman, Crankshaw,
and Bob Alexander

We in the freshman class of 1946 have the opportunity and incentive to be a truly unusual class. The number in our class, which is 89, exceeds that of any previous group of freshmen in the school of forestry. Through the diversified experiences which men in the service are subjected to, a large percentage of us have obtained a much more sober and realistic understanding of our goal in life than is typical of younger and less experienced freshmen.

Although we have been on the campus for about eight months, we still know very little about the field of forestry and what is expected of us when we are graduated. Our only direct contact with forestry subjects has been through Doctor Martell in a one-hour, twice a week lecture course. In this course, he has impressed upon our minds the fact that we are in forestry, not to get rich, but to serve in a pro-

fession which constitutes our most essential and widely utilized natural resource. We are in forestry, not because we have heard that there are positions to be had upon graduation, but because forestry is the field in which we have chosen to work for the good of our country and ourselves. The men who work only for the money they receive at the end of each pay period derive little satisfaction from their jobs; we believe the forestry profession will give us more than just our amount of money each week. It will give us a chance to do work in a line that will affect those who follow us. Those who work in factories see only the finished job on their part of the assembly line; we will be able to watch our work grow and learn that the job we do will in some way help our country over some of the rough spots in future years.

Though we freshmen are in college to absorb as much as possible out of our forestry subjects, the main reason for being here is to learn how to think.



SUMMER SADNESS -- 1946

Summer Camp Is Resumed; Surveying, Silvics, Mensuration Keep Summer Campers Jumping

by John Hall

Due to the war, it was necessary to discontinue all summer camp activity from 1942 to 1946. The courses formerly given at camp were substituted for on-campus classes. The set-up fulfilled all the scholastic requirements, but the good times and companionship experienced by living and working with fellow students and instructors were greatly missed by those boys in school during this time.

Camp activities began on June 23rd under the direction of Dr. Herrick. He was assisted by Mr. Miller, a new member of the Purdue Forestry Department. Their main job turned into keeping the camp supplied with food. Many miles were put on the new Ford pick-up chasing after provisions. Even though food was a real problem at times, no one went hungry (except Bonnell).

The camp had acquired that un-lived in look since the last foresters had been there, even though the Boy Scouts used it during the summer. The tent platforms were in such a state of disrepair that it was necessary to put eleven double-decker cots in one end of the study hall. The tent platforms worked very well in the fireplace, however, on cool days and to dry out clothing. The instructors were forced to live in one corner of the mess hall behind several tent flies dropped from the rafters. Several cabins were to have been built for the staff, but only one was ever completed. Mrs. Herrick and her youngest daughter moved

into it immediately.

We took a sightseeing tour over the forest the first day in camp. This was to enable anyone who got lost to find their way back to camp. No one got lost this year so we placed an X on the side of the instrument house to commemorate the fact. We were roughly introduced to the 'Clark County' road and bridge system. The ride to and from the Lost World in the old bus, with Dr. Herrick at the wheel is comparable only to a rolly coaster. After our orientation trip, we were turned over to Prof. Spencer for five weeks of surveying.

The first few days we checked our pace, worked with an Abney level, trailer tape, staff compass, and hand



compass. We were soon running level circuits, prolonging lines, making several kinds of maps, and when there wasn't anything else to do, working computations.

During our surveying operation, one party found a family of racoons. The mother coon abandoned one little fellow, so Bob Hitt took over where the mother coon had left off and raised a very reputable young coon. Bob had scars to prove it, too.

About this time, an old fellow, Cy Lawson, wandered into camp and said he was going to 'learn' us how to file a saw. This old-timer claimed to be the world's best saw filer, and I'll agree with him. It took nothing less than the world's best to get the saws we had filed back into cutting shape—and he did. He also had a large collection of jokes and "quaint" expressions that were used around camp long after he left. We finally went through the gruelling exercise of shooting Polaris

at night. After Prof. Spencer used up most of our coffee and sugar, he decided to leave, so we regretfully said goodbye to him.

Prof. Den Uyl was the next to take charge. He had us laying out plots, running strips, taking height and diameter measurements, computing volume per acre, etc. We learned about as much silviculture as is possible in a week, and had an enjoyable time doing it.

Every week-end we would lose Bell, Madden and Blain. They would come trudging back into camp just in time for breakfast Monday mornings full of weird tales but would never be too sure of just where they had been.

Dr. Montgomery, of the Entomology department, spent several days in camp. He had us all running around with killing bottles, turning over old boards and breaking up dead logs, looking for all sorts of bugs.

Some of the fellows organized a



baseball team and played teams from surrounding towns. They proved they could play ball even if they were foresters. No one ever mentioned Scottsburg though after the game there.

Of course, the female population of Henryville had been discovered long ago. Bob Elrod had some relatives living in Henryville and, through them, several acquaintances were made. Our boys exhibited such magnetic personalities that every night a car load of boys from town would drive out and take foresters into town. When the



evening's merriment was over, the foresters were again taxied back to camp.

Our last four weeks in camp were given over to the field techniques of mensuration. We were instructed as to how to use the increment borer, several types of hypsometers, calipers, scale sticks, and volume tables. We spent one morning scaling logs at a saw mill in Scottsburg. It turned out to be a bigger job than most of us expected.

We took several other interesting trips. One was an all-day trip to Louis-

ville, where we went through several wood utilization plants. We also visited Churchill Downs. It was very quiet there, however, because it was during the off season. We saw how baseball bats and golf clubs are made at the Hillerich and Bradsby Co. We spent the afternoon wandering through the Wood Mosaic veneer mill and watched the fascinating process of peeling and slicing the veneer and then saw it glued into beautiful designs for panelling and furniture. It turned out to be a very interesting and educational trip.

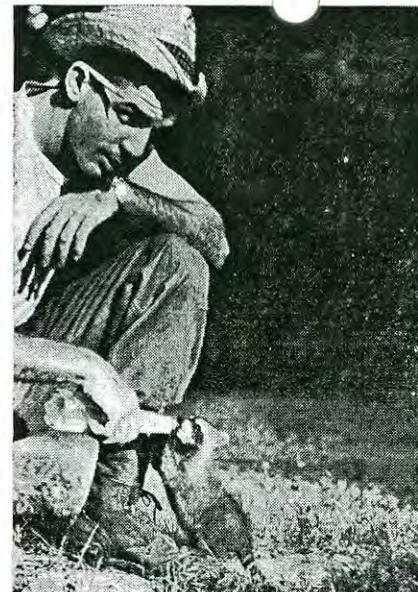
Several days later we went through a very modern band mill at New Albany. They also had a veneer mill and just across the railroad spur was a plywood plant which we inspected.

Soon after we took these trips we began our major project of the summer, cruising Section 35. To those of you who have been to camp, it is the area surrounding the Fire Tower. We used the line plot system of cruising and made a contour map at the same time. We worked in parties of three or four men, and it took on an average of a week and a half to complete the job. One party enjoyed the work so much they hurried and finished once so they could go back and do some of it over again. The majority of the parties were satisfied to do it only once, however. We worked all day in the field and worked on computations and maps at night. We even carried our lunch to the field so we wouldn't have to take so much time off for dinner. The last party finally finished, and the fellows started leaving for home after they turned in their equipment and cruise data. The end of a very enjoyable summer was coming near. All that remained to do was to close up camp and pack all the equipment back to old Purdue.

As I look back over the last few weeks, there were several things to remember: Connie Shelland awaken-

ing with such a start he tore out through his ingenious entanglement of mosquito netting and became completely entangled in it; Russ Mumford coming back into camp with a string of fish and knowing that as soon as he had a few more there would be enough in the ice box for the whole camp, and we would have fried fish; the enjoyable swimming in Frankie Lake during the week and watching the mob of people that would come in out of the hills for miles around on Sundays, eagerly awaiting the news that the local tavern had received its weekly allotment of brew which would last all night if there weren't too many to find out about it.

I think we can all say it was an experience we heartily enjoyed, and one we will remember a long time.



Standing: Bylsma, Perkins, Bell, LaShorne, Bonnel, Miller (Prof.), Ball, Shelland, Madden.

Kneeling: Larie, Deardorf, Goldsberry, R. Anderson, Mumford, Guthrie, Elrod, Blaine, Hall, DenUyl (Prof.), DeGroot, C. Anderson.

Jasper-Pulaski Squirrel Count

by W. T. Johnson

Oh for the life of a Wild Life man! He is the guy that gets paid for doing what the rest of us nimrods can only dream about in those fleeting moments of leisure time. The rabbits, pheasant, quail, ducks, squirrels and all the much sought beasties that live in the sportsman's dreams are the every day companions of the game manager. "Boy! That is the life for me," sez you — Sez me, "Hooley!"

Admittedly it all looks dandy, and maybe it isn't too bad but, believe me, the Wild Life man doesn't have a position, he has a job! If you don't want to take my word for it, then stick with me a little longer and come along on a field trip with Dr. Kirkpatrick's Game Management class.

The prospects for fair weather were good when we left the campus last Saturday. Our destination was the Jasper-Pulaski State Game Preserve (hereafter known as J. P.); our object was the examination of squirrel nest boxes in an attempt to find squirrel litters. Sounds easy, doesn't it? Stop and think a minute. Squirrels nest in trees—not on the ground, but high in the trees. Squirrel nest boxes are placed in trees. How do you get to them? You climb! You strap on a pair of steel climbing spurs, a safety belt and up you go. When the box is reached, it is a good idea to knock on the door and arouse anyone who might be sleeping inside, then climb a little more, fasten the safety belt, take the top off the box, and begin the examination. By reading signs, it is possible to

determine if and when the box has been used and; to a certain extent, who has been using it.

Let's get on with the trip. The first box was located, the tree was climbed, and the box examined. Strictly routine—the box had been used, possibly by squirrels, but not recently. It contained only a small nest of grass, leaves, and twigs. Box number two was found, the tree climbed, the box slapped and nothing happened. Our investigator peered inside and informed us that the nest was occupied. Squirrel? Nope, raccoon! Of course, those who were on the ground could not see in the nest box so, for proof of our investigator's statement, it was suggested that he remove the coon. That may sound simple also, but a full grown 'coon that has been rudely awakened from pleasant dreams in a warm nest does not like the idea of being evicted. However, after a reverent silence, a few moments of profanity from both climber and coon, brother coon came flying through the air. He landed at our feet with a thud and waddled indignantly off through the marsh.

About that time, our investigator informed us that there was still a raccoon in the box. This statement definitely needed proof; and coon number two soon followed coon number one's aerial route. The ground crew, out of curiosity, captured coon number two when he hit the ground and, after a scientific examination, released him

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Blaine, V.-Pres.; Guthrie, Sec.-Treas.; McVey, Pres. 1st Semester; Makey, Pres. 2nd Semester

Forestry Club

by John G. Guthrie

With the gradual return of normal conditions, the Purdue Forestry Club has resumed some of its old customs and activities which the lack of time and manpower, prohibited during the war. Although the club had been inactive during the war, the return of old students and the enrollment of many new freshmen, most of whom are veterans, has given the club a vigorous start into the post-war era.

The Forestry Club is a semi-social organization designed to promote the characteristic informal, friendly, atmosphere of the Forestry School. The bi-monthly meetings and periodic gatherings have adequately served this purpose.

At the end of the September-November, 1945, summer session, there were only six students enrolled in forestry

school; however, the November term saw the return of 52 forestry students to Old Purdue. The veterans were returning. The spring term of '46 found many more enrolled. This time was spent in reorganizing the club activities and acquainting the new students with the club aims and traditions.

In May of '46 the annual Field Day was revived with all the trimmings. A baseball game, tug of war, chopping, sawing, pacing, and cruising contests were held with separate class competition. The Freshman Class won the day's competition, while the Seniors ran a close second. It was readily apparent that the club days of old were on the way back, and we began to plan for the first post-war "Forester's Ball" in '47.

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Freshmen Win Again!

by Robert Hitt

The war was over! The gang was back! And another Purdue Forestry Club Field Day was at hand. The day dawned a bit on the gloomy side, but, about noon, some sixty Foresters had assembled for the trip out to the Cunningham Farm. Van Arsdale arrived in time to offer a ride to any daring individual and had a few comers, much to everyone's amusement. On the way out he had a total of two flat tires and finally had to finish the trip from the half way mark via Prof. Prentice's car. Incidentally, the bus got a little lost too and went about two miles down the wrong road before they got straightened out.

The afternoon started out with various contests under the able leadership of Reed and Johnson. Let's see now—if my memory is correct the Freshman Class just about ran off with all the honors that day with such "beefy" guys as Bylsma and Bonnell to be anchors on the tug-o-war contest. But, you should have seen that sorry bunch of foresters try to saw and cut wood. Good Gosh!

Every once in a while you could see Doc Martell and Dan DenUyl running around to beat all get out, but I guess from all reports they were both sure "hurtin'" for the next few days with "achin' backs" and sore muscles.

And boy what we didn't know about trees—The identification contest sure proved that. Some of the gang also got in on a compass course that caused quite a bit of head scratchin'! Oh, let's mention here that Kinder didn't want to be in the wood chopping contest, but lo and behold he won the

darn thing! Which only goes to prove that—

As the afternoon progressed, everyone occasionally got a good sniff of the chow that John Hall and Tom Makey were wrestling up over in the vicinity of the woodpile. Since it was spring, some of the fellows even brought along some of the weaker sex. (You married fellows are excused because we know in your case the little woman made you take her along.) Gosh but they were sure good influences especially when we wanted to tell the umpire off.

Well it was getting along in the afternoon by now and everyone seemed to agree that a good game of softball would be in order. That was one great mistake because it was there that so many of the sore backs and aching muscles originated. And fellows you should see Prof. DenUyl pitch—ball that is. Wow.

A person can't realize just how important food is to the average fellow until he has seen a bunch of hungry men come running as we did when Hall and Makey yelled "Come and get it." And gosh did it ever taste good! Hamburgers, potato chips, hot beans, pickles, coffee, and ice cream and cookies.

Then to make a fine day just right; the cloudy overcast skies that had threatened us all day held off until the last bit of the supper had been cleared up and the bus loaded. Then it came down in buckets full. By this time, however, a happy bunch of Purdue Foresters were already on their way home.

Xi Sigma Pi

by C. Ed. Langton

Xi Sigma Pi, forestry honorary fraternity, was founded at the University of Washington on November 24, 1908.

The objects of Xi Sigma Pi, as stated in the constitution, are to secure and maintain a high standard of scholarship in forest education, to work for the upbuilding of the profession of forestry, and to promote fraternal relations among earnest workers engaged in forest activities.

The fratrenity existed as a local honorary society at the University of Washington until 1915 when a new constitution which opened a wider field was adopted. An executive council was formed as the governing body of the fraternity, and the original chapter at the University of Washington was designated Alpha Chapter.

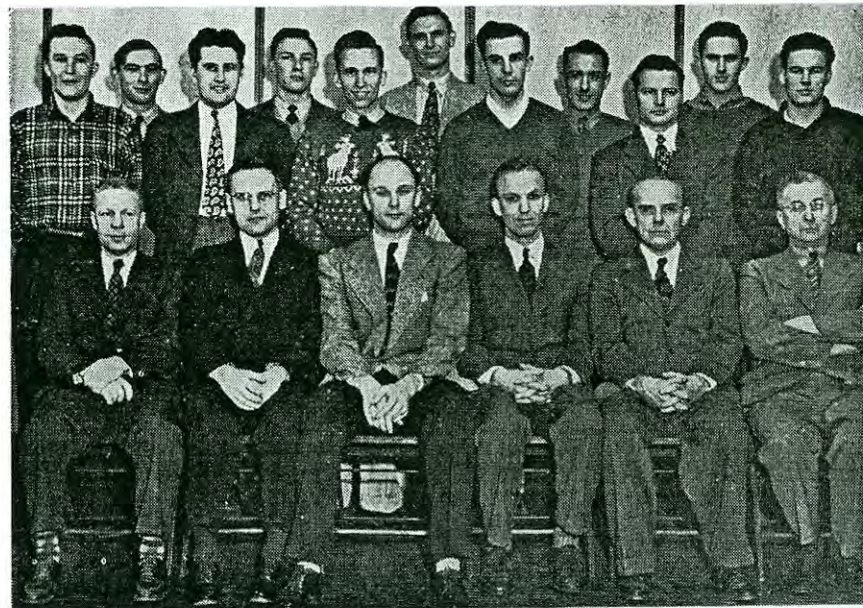
During the next years additional chapters were established throughout

the United States. Thus the fraternity, since it has chapters stretching across the United States is truly national in character. The fraternity has been developed slowly and carefully, new chapters being added from time to time only after careful consideration for the general good of the fraternity.

The governing body of the fraternity consists of an Executive Council composed of a Forester, an Associate Forester, a Secretary, Fiscal Agent and a member from each chapter who are elected for a term of two years by the delegates at the biennial conventions.

The intention of Xi Sigma Pi is to honor the student who is doing good work in forestry and who has a personality that would tend to make him successful in forestry work. The fraternity aims at stimulating scholar-

(Continued on page 57)



Swedish Fiddle Highlights Woodchoppers' Ball

by Howard E. Weaver

On the night of January 11, 1947, Purdue's foresters held their first Forester's Ball since 1942; and they more than upheld their tradition of having a good dance. While helping decorate the ballrooms of the Union Building the afternoon prior to the dance, the author overheard two men talking out in the corridor. One of the gentlemen, upon seeing the greenery and the students hard at work, said, "I wonder what's going on tonight?" His companion replied, "Oh, the foresters are having a dance tonight! It should be a good one." We have that reputation, and the gentleman was right—we did put on a good dance.

Amid evergreen cuttings and small pines, Purdue's foresters, wearing their fanciest plaid shirts, danced with their girls to the sweet swing of Wayne Karr and his orchestra. Karr provided more than sweet music. He

had a vocalist that was poured into her black satin gown. Prof. Ted Shaw, the dendrologist with the glabrous head, was heard to say, "They're really wearing them low this year!"

The backdrop featured Paul Bunyan and his mighty blue ox—Babe. It was quite a job to reduce old Paul, who was so large even at the start that he required several states for being born in and his giant blue ox onto an area 16x24 feet. Paul wore a black and white plaid shirt that opened at the neck, exposing a bit of his red flannels; his beard was black; curls of smoke came from his pipe and on his head was a red cap.

Babe was almost sky blue and he had his black nose, red eyes, and white horns. Paul and Babe watched the dance from over the top of a mountain, and behind Paul was a full yellow moon.



ship in forestry and bringing together in good fellowship those students who have shown exceptional ability. The fraternity stands for clean scholarship

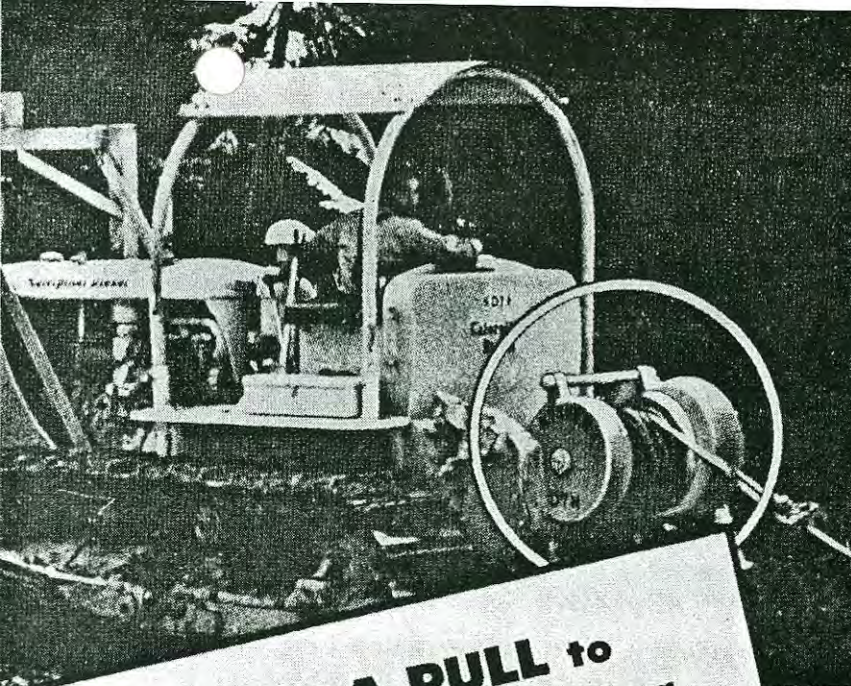
This year's ball had one novel feature that was unique among the balls of the past. A Swedish fiddling (wood sawing) contest was held on the bandstand during the intermission. Four couples, none of whom were foresters, whose ticket number was called in a drawing, competed for prizes by sawing through 8-inch logs with a crosscut saw. Several of the contestants had never handled a saw before, and it was entertaining to the audience to watch them struggle with the large saws. The winning couple sawed their way to victory with an exhibition of sawing that would have been hard to beat. Dr. Martell presented prizes to the winners and all contestants. The men's prizes consisted of a fancy red plaid wool ski cap, a wool scarf, two pairs of wool socks, and a flask of after-shaving lotion. The girls' prizes consisted of a pair of sixty-six gauge nylon hose, a babushka, a gold-plated compact, and a sachet.

This year's ball could not have been the success it was were it not for the wholehearted cooperation given by all the foresters and faculty, the Purdue Exponent, and the Student Union Committee. "Shorty" Meinzer, chairman of this year's ball, was assisted by Don McVey, president of the Forestry Club. "Shorty" and Don kept the log rolling. One of the hardest workers of all was Warren Lake. Warren did an excellent job handling the ticket sales and finances. The dance this year netted the Forestry Club a little over \$175.00.

We were pleased to resume the annual Forester's Ball with a successful dance, for few students on the campus had ever heard of the Forester's Ball. We have overcome the difficult beginning, and we can work for a bigger and better ball in 1948.



The combined scent of resinous pines and chanel No. 5 were mixed at the Forester's Ball. Although Paul Bunyan couldn't make the ball, by midnight, there were many bunions on the toes of the dancing woodchoppers and their squaws.



H Y S T E R

Forestry Alumni

William A. Medesey

William A. (Bill) Medesey received his Bachelor of Science Degree in Forestry from Purdue in 1931 and in 1933 he received a Master's Degree from Yale. While at Purdue he spent two summers in Columbus, Ohio, working on windbreaks and shelterbelts with Dan DenUyl, of the Purdue Forestry staff.

After leaving Yale, Bill spent eight years in the Forest Service. He spent some time with the CCC program, then worked at the Shenandoah and Washington and Jefferson National Forests also acting as Department Superintendent at the White Mountain National Forest.

At the outbreak of the war, Bill joined the Army and served with the 1st Infantry Division in the ETO. He spent sixteen months in England and Scotland, three months in the North Africa invasion, over eleven months in the Tunisian Campaign, and almost two months in the invasion of Sicily. Bill attained the rank of Captain in the Field Artillery and was discharged in April, 1944, with the Purple Heart, Bronze Star, three Battle Stars, and four Unit Citations.

Bill was married in 1934 and now has a seven year old daughter. He is now Dean of Men and with the Forestry staff at the University of New Hampshire.

Gene Hesterberg, 1941, has accepted the position of Assistant Instructor in the Forestry School at the University of Michigan.

J. C. VanCamp, Jr., 1942, has received a fellowship at Yale where he is working on his Ph. D.

Murray Ridgway, 1937, is now with Brunswick - Balke - Collender Co. and likes his new job very well.

Pappy Meiners, 1942, is now with Gamble Bros. Co. of Louisville. He is in charge of materials for a new laminated whiskey barrel.

Robert W. Shaw, 1939, has accepted a position on the Staff of the North Carolina Forestry Department.

Joe Gandy, 1942, has accepted a job with the Armstrong Cork Co. and is doing research work in Lancaster, Pennsylvania.

Walter McCullough, 1941, is a new father as of November 10, 1946. It is a baby girl and has been named Sharon Ann.

J. B. Mason, Jr., 1941, is in the coal business at Crawfordsville. He says the coal strikes have been rather hard on business.

N. S. Kmecza, 1939, is with the Indian Service and is working on White Pine Blister Rust eradication.

Clint Sowards, 1943, who is working for Seagrams, at Zanesville, Ohio, very recently became a father. Its a girl and his first.

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Silviculturists Brave Winter Cold

by Bob Weber

At 8 a. m. on November 22, 1946, my olde forestry bus left Purdue University, loaded with 16 students of silviculture (16 embryonic foresters who attended Forestry 131). Guided in a northerly direction, the bus, with Prof. DenUyl navigating, wound its way into the depths (or heights) of windy northern Indiana.

The first stop came at the Swygert farm near Akron, Indiana. Here we were welcomed, first by a cold sharp wind, and secondly by the kindly Swygerts who took us into their home so that we could thaw our frozen corpuscles. At this point, everyone was wondering how binding would be Prof's ultimatum about note keeping—all of us being aware, quite aware that is, of the biting cold wave that had slipped thru a little early in the season.

Our first venture on the farm came

when we looked at the one acre Christmas tree plantation near Mr. Swygert's house. We were shown how the two species—Norway and white spruce—were trimmed so as to be very conical in shape. We also saw how Mr. Swygert cuts the trees off rather high, leaving a high stump to sprout and grow more trees. (Putting one over on Momma Nature, isn't he!)

The next visit was paid to the 30 acres of oak-hickory woods on the farm. This woods, classified in 1923, is producing an average of 175 board feet per acre per year of mostly fine red oak. The woods was once heavily grazed by sheep, but sassafras and cherry are swiftly repairing the damage done by these dislocated creatures.

(It would be an incomplete story if, at this point, I didn't mention that a

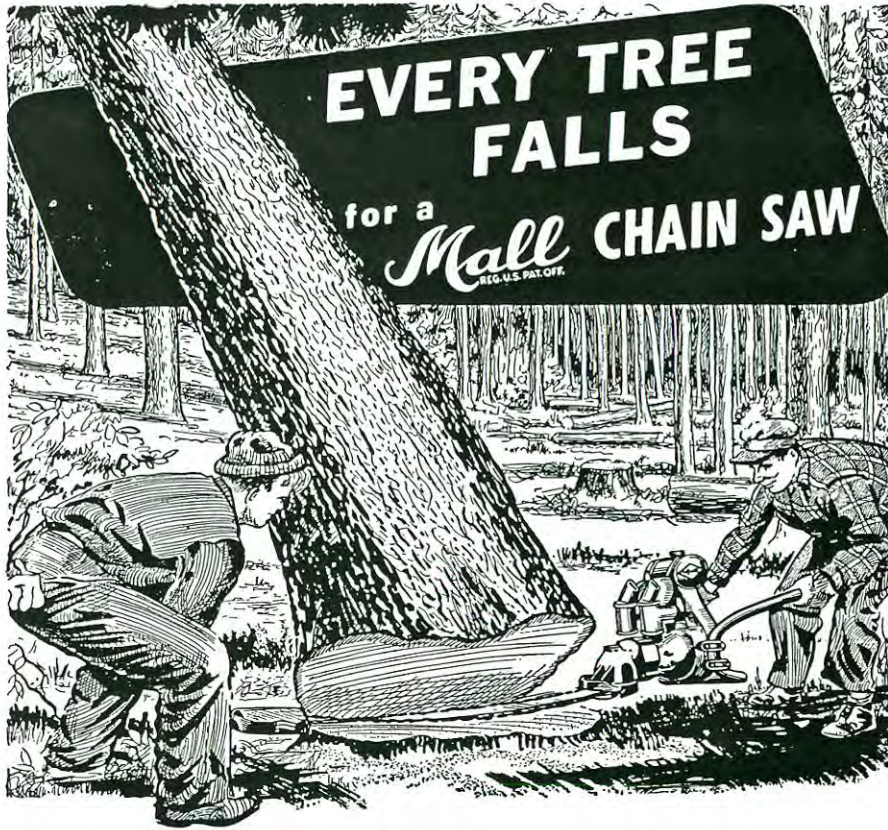
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Alumni Directory

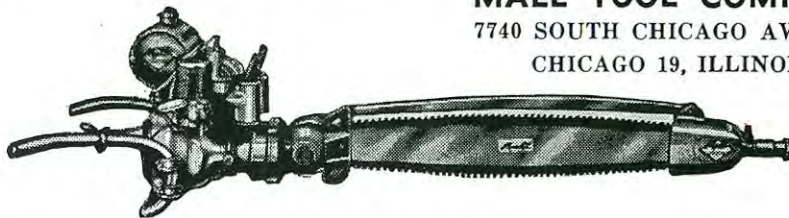
A		Brown, W. J.	1942
Abernathy, J. R.	1942	1229 Pontiac, Rochester, Ind.	
186 Kern Rd., South Bend, Indiana		Burger, T. E.	1943
Adsit, F. W.	1938	116 Marsteller, W. Lafayette, Ind.	
1228 Park Ave., Hamilton, Ohio		Burkhart, J. R.	1937
Agnew, T. W.	1931	Burkhart, R. L.	1937
133 W. Maple St., Libertyville, Ill.		705 S. Walnut, Seymour, Ind.	
Allison, G. R.	1936	Burns, B. H.	1940
R. 1, Box 440, Lansing, Mich.		7231 Coles Ave., Chicago 49, Ill.	
Anderson, L. H.	1940	Buysse, R. H.	1946
1507 Washington St., Michigan City, Ind.		2730 Fredrickson St., South Bend, Ind.	
Anshutz, H. C.	1935	C	
Wood Mosaic, Louisville, Kentucky		Caplinger, C. A.	1923
Arnold, R. G.	1941	744 Marn St., Baton Rouge, La.	
B		Chomyak, W.	1939
Baker, C. E.	1924 (Sci.)	154 S. 5th Ave., Manville, N. J.	
15 Conkey Ave., Norwich, N. Y.		Clark, H. K.	1940
Baker, J. C.	1931	Clark, J. V.	1939
Dodgeville, Wisconsin		Stockwell, Indiana	
Bartelt, W. E.	1941	Conner, A.	1937
1111 Main St., Huntingburg, Ind.		Box 257, Manistee, Michigan	
Baum, C. L.	1937	Cook, K. E.	1930
Beadell, H. A.	1931	Clark State Forest, Henryville, Ind.	
1104 W. Wayne, Ft. Wayne, Indiana		Corpening, C. D.	1946
Beaumont, R. A.	1939	40 G. D., Silsbee, Texas	
Blackwell, J. R.	1941	Cooper, J.	1947
409 N. 7th, Lawton, Oklahoma		609 Raymond St., New Castle, Pa.	
Blank, B. B.	1935	Cougill, C. E.	1940
410 Maple St., Miles, Michigan		713 S. Indiana, Auburn, Ind.	
Blinc, D. F.	1939	Craig, J. W.	1936
Milltown, Indiana		Leavell Woods, Jackson, Miss.	
Bohleber, C. F.	1925	Creech, F.	1935
410-14 Federal Bldg., Indianapolis, Ind.		313 Laurel Ave., St. Paul, Minn.	
Bonnett, C. H.	1940	Crumpacker, D. L.	1935
2340 N. 20th, Lafayette, Indiana		1149 Lincoln Ave., Louisville 8, Ky.	
Boynton, P. I.	1942	Cummins, E. S.	1938
944 Regent, Boulder, Colorado		339 Lee Blvd., Seymour, Ind.	
Brackman, O. W.	1941	Culmer, W. R.	1942
1935 N. Meridian, Indianapolis, Ind.		137 N. Washington, Mooresville, Ind.	
Britt, R. E.	1941	D	
Brown, C. A.	1938	Darrell, C. E.	1938
International Paper Co., Spring Hill, Louisiana		1157 E. Jackson St., Gary, Ind.	
Brown, G. E.	1936	Davis, R. B.	1933
1617 Maple Rd., Cleveland Hts., Ohio		Box 275, Peru, Ind.	
Brown, H. M.	1940	Degler, R. H.	1933
1903 Greenwood, Savannah, Ga.		Box 62, Owensville, Mo.	
Brown, J. J.	1939	Derra, P. A.	1939
1808 Coventry Rd., Cleveland Hts., Ohio		39 E. 9th St., Indianapolis, Ind.	
Brown, L. W.	1935	DeStefano, C. M.	1941
		1668 Presto St., Indianapolis, Ind.	

(Continued on page 47)



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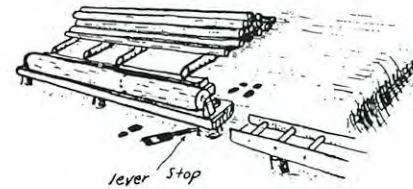


Motion—

(Continued from page 19)

gravitating during the cut by a simple lever-stop that protrudes between the rollers and is raised or lowered by a pedal operated by the sawyer.

A single helper stands as shown in Figure 2 and rolls down logs, slides bolts away, drags the remaining log



to the stop (aided by gravity), and holds during the last two cuts.

The summary now gives us these figures:

Overall time =		
.54 × 2 =	1.08 man-minutes	100%
Idle time =		
.08 + .23 =	.31 man-minutes	29%
Productive time =		
.46 + .31 =	.77 man-minutes	71%

The tentative cost per log is:

$$\frac{\$2.15 \text{ (total of hourly rates)}}{96.6 \text{ (logs bolted per hour)}} = \$.022$$

For every 1,000 logs cut this will mean a saving of \$18.

It remains now to go back to the woods and try out the new method. That is always the final test.

It will be noted that, in this entire program, the emphasis is upon the manner of doing the job, although time indirectly becomes a factor since the main purpose is to find a way of doing each task in the minimum time by making movement as easy as possible.

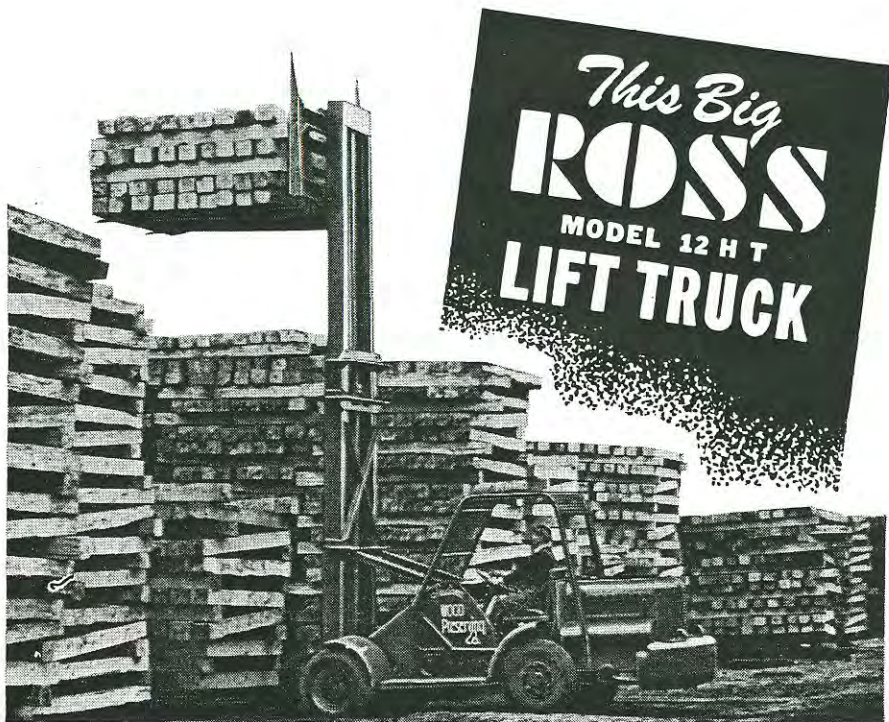
It must be admitted that some of the improvements made through motion study would be discovered through experience, but as it has been said, "Experience is a great teacher, but she charges too much for her lessons."

While a trained observer is necessary to conduct motion studies, he will not have much success unless he gains the full and hearty co-operation of the worker, and enlists him as a co-worker in the motion study from the moment the first investigation is made. It is important that the worker understands what is being done and why. The whole study becomes more valuable when the observed man (or men) does his best work and endeavors to help derive the best way of doing a job.

If the worker realizes that by such study it will enable him to produce more in the same space of time thus enabling him to earn more for himself and his family, he will cooperate. And further, it gives him an interest in his job that few other things can give. It is an interest that will find no end because "there is always a better way."

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- 3 Herrgen, Alan, "Work Simplification Techniques Applied to Logging," *Canadian Pulp and Paper Association, Woodlands Section Index* No. 851, June, 1946. Information for the example cited was taken from this article.
- 4 Barnes, R. M., "Motion and Time Study," *John Wiley and Sons, Inc.*, 2nd ed., 1940. See page 144 for Principles of Motion Economy.



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Texas—

(Continued from page 23)

Pines" area consisting of around 85,000 acres. Their presence in this hardwood belt some 100 miles from the regular pine-hardwoods area in East Texas has been the subject of much speculation. Recently, however, Texas Forest Service personnel in planes have noted a "bridge" of pines at spotted intervals from the Pine-Hardwood Region in East Texas to The Lost Pine Region which apparently provided the seeds which were carried by the wind and eventually found establishment in this favorable habitat near Bastrop. A small amount of eastern red cedar also occurs around Bastrop, which has supported a small cedar oil mill and small cedar saw-mills.

Pine-Hardwood Region

We now come to the commercial timber belt in Texas, the pine-hardwood region which forms the western extremity of the southern pine region. It consists primarily of second-growth and third-growth timber. Principal commercial species are loblolly pine, shortleaf pine, longleaf pine, red and white oaks, red gum, black gum, magnolia, cypress, elm, ash, and beech. The most widely planted species is slash pine which is not native to the state. Over 10,000,000 slash pine seedlings have been distributed from the State Nursery during the last 20 years and the present outlook is that, within a few years, planting of slash pine may reach 10,000,000 or more seedlings in a single year.

Total growing stock is estimated at 6,069,000,000 cu. ft. of pine and 3,490,000,000 cu. ft. of hardwood, or a total of 9,559,000,000 cu. ft. of all species. This represents around a 12 percent increase in total growing stock as compared to the 1935 survey, and most of this increase was due to an increase

in the pine growing stock. Good forest management is practiced on around 2,500,000 acres of the 11,000,000 acres in this region.

Although the hardwood growing stock has remained about the same during the last ten years — the important point to emphasize is that the hardwoods have been "high-graded" leaving the more defective hardwoods of less desirable species in the residual stand.

We find that we have a common problem with the entire southern pine region: the utilization of low-grade hardwoods. In Texas, we include also those hardwoods in the Post Oak Belt, Cross Timbers, and Mesquite Belt. In fact, it has been stated that Texas has the largest hardwood reserve of any state in the Union. This tremendous cubic volume of wood is perfectly good chemical raw material. It also provides short, small, clear wood bolts for possible use in woodworking trades.

Utilization research on these hardwoods, as well as on the logging and milling waste available in the pine-hardwood belt, needs to develop new processes and techniques in an attempt to develop commercial products. These may include plup and paper, plastics, carbohydrates and protein livestock feed, acids, phenol, methyl and ethyl alcohol, charcoal, special types of flooring, new veneer cutting machines, improved bark peeling machines — particularly for hardwood bolts, improved saws for woods and for mill operation, tannin and other extractives, and a long list of other items. The Forestry Products Laboratory located at Lufkin, Texas, is attempting to solve some of these utilization problems in the state.

Several wood-using industries in East Texas may be of unusual interest to you. At Lufkin, Tex., is the only mill in the United States that produces newsprint from pine. The mill started

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Mills

Lawrenceburg, Indiana
Keokuk, Iowa

operation in 1940, largely because of the interest of the late Dr. Herty of Georgia. Other newsprint mills using southern yellow pine will undoubtedly spring up elsewhere in the South. The Champion Paper and Fibre Company near Houston, Texas, uses up to 20 percent hardwoods along with pine to produce paper for Life Magazine and other products.

At Marshall, Texas, the Darco Corporation produces activated carbon from southern yellow pine sawdust. Activated carbon is used in sugar refineries, in penicillin plants, to purify water, etc.

Most of the longleaf pine timber has been cut during the last 40-50 years but the stumps left behind are in demand by steam-solvent plants in Louisiana. The stumps are reduced to chips by hog and hammer mill machines; naphtha is used as a solvent to extract the resin; and the solvent separated from the resin for reuse. From the resin, various grades of rosin, pine oils, and turpentine are produced. The spent chips are used for boiler fuel.

According to the latest information available, about \$100,000,000 worth of forest products are produced annually in Texas. This is an equivalent of almost 2,000,000,000 board feet harvested per year — with lumber, fuelwood, plupwood, railroad ties, and veneer leading the list of the annual harvest. Other products account for less than five percent of the volume cut.

The greatest enemies of this commercial timber area are fire and ice storms. The latter is a matter of efficient salvage after the storm has passed. Forest fires are mostly incendiary in origin, but through education and legal action are being gradually reduced. Personnel operating two-way radio units in planes, cars, and ground stations together with lookouts and patrolmen are working

in unison to reduce fire damage.

In conclusion, it can be said that the forests, along with oil and cattle, play an important part in the economic and social pattern of the state. Over 80 professional foresters are employed in the state, with the demand steadily increasing.

Alumni Directory

(Continued from page 41)

Deweese, J. W. 1935
R. R. 1, Greenfield, Ind.
Dix, W. H. 1939
Sullivan, Indiana
Dudley, R. L. 1940
1809 Francis Ave., Elkhart, Ind.

E

Eager, R. F. 1937
514 S. 10th St., Lafayette, Ind.
Eckert, H. F. 1938
North Mills St., Jasper, Ind.
Edgington, E. 1916
1222 El Prado Ave., Lafayette, Ind.
Eliason, E. J. 1923

F

Fahrenheit, F. 1942
2912 Elmo Pl., Middletown 20, Ohio
Fix, W. L. 1943
County Ext. Office, Princeton, Ind.
Frienhehner 1943
104 Lincoln Forest Glens, Pineville, La.
Fuller, C. R. 1941
525 W. Los Olas Blvd., Ft. Lauderdale, Fla.

G

Gamso, N. W. 1938
415 W. Main, Winfield, La.
Gandy, J. A. 1942
P. O. Box 4352 Duke Sta., Durham, N. C.
Gilmore, D. L. 1936
Ginn, W. E. 1939
511 E. VanBuren St., Columbia City, Ind.
Glasgow, L. 1942
9 Coburn Hall, Univ. of Maine, Orono, Me.
Glazebrook, T. B. 1939
26 Coloma St., Placerville, Cal.
Guhl, R. 1932
531 17th St., Logansport, Ind.

(Continued on page 51)

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- APPALACHIAN POPLAR
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ROTARY POPLAR CROSSBANDING

Forestry Club—

(Continued from page 33)

Fall Term

At the beginning of the present school year, the administration of the club was voted into the capable hands of Don McVey, an air force veteran and a senior. The other officers of the fall term were Tom Makey, V.-Pres., and John Guthrie, Sec.-Treas.

In addition to the regular meetings, which brought several interesting and informative guest speakers, the main activities were the "Camp Fire Meeting," and the revived "Forester's Ball."

Many of the meetings have been enhanced by movies and lectures cognate to the professional interests of the members. Among the guest speakers were: R. L. Burkhardt, P. U. '38; Mace Raymond P. U. '39; Nelson Dangermond, Director of Recreation of Indiana State Parks; and Dr. D. F. Pfhendler, Assistant to Dean of Agriculture here at Purdue.

Camp Fire

A chill, crisp, evening of last October found the Purdue Foresters applying their woods lore to the task of finding their way to the site of the Camp Fire Meeting in Stuart's Woods.

The fire was started, and everyone scrambled for a place in the chow line. By the time the last members of the line were being served, the first served were back for "seconds." The wholly inadequate supply of food was consumed in short order.

With everyone around the fire and comfortably filled with good food, a feeling of jovial kindredship took hold, and the group fell into song. The songs were mostly typical of foresters and the song-fest ended with the rendition of a few numbers and chants not found in print.

Dr. Pfhendler, speaker for the evening, entered into the spirit by telling a few stories of his own. One which involved Dr. Martell was particularly

well received. Dr. Pfhendler then gave a very inspiring lecture on the subject of "Education." The group dispersed after this message. For many the evening was just beginning.

Forester's Ball

Anxious to revive the annual "Forester's Ball," the club began work on the now famous affair early in October.

Bob Hollowell, Warren Lake, John Hall, Eugene VanArsdale, and Bob Castor, under the leadership of committee chairman Phil "Shorty" Meizer, provided the nucleus of organization for the affair.

January 10, at the Memorial Union Ballrooms, was the date and place chosen. A lack of funds in the club treasury to back a good band was the main obstacle. This was overcome by advance ticket sales to loyal club members and the Forestry staff.

The ballroom was rustically decorated with pine and an immense caricature of Paul Bunyan with Babe, the Blue Ox, looking over his shoulder, produced an informal atmosphere which reigned throughout the evening.

A "Swedish Fiddle" contest was held during the intermission with novices from the crowd as sole participants. Appropriate prizes were awarded to the winners.

Spring Term

The spring term was begun with the election of Tom Makey, our able V.-Pres., to the presidency. George "Scotly" Blaine was elected V.-Pres. and Johnny Guthrie continued as the Sec.-Treas.

The first meeting of the new semester found the club voting in favor of printing a club annual. OAK LEAVES, becoming a reality, is the product of this new activity.

Some of the activities planned for this spring have not taken place at this writing. Foremost of these is the

(Continued on page 57)

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(Continued from page 47)

- Goldsberry, W. W. 1940
R. R. 3, Greencastle, Ind.
- Goodheart, W. 1942
747 Stocking N. W., Grand Rapids 4,
Mich.
- Grant, D. L. 1942
Apt. 145, 4117 21st S. W., Seattle 6,
Wash.
- Guyer, W. H. 1938
108 Orlando St., Greenville, Miss.

H

- Haines, H. C. 1936
Dept. of Forestry, U. of B. C.,
VanCouver, Canada
- Hamilton, J. W. 1937
919 S. Dunlap, Paris, Tenn.
- Hall, H. F. 1932
R. R. 11, Lafayette, Ind.
- Harden, C. F. 1934
1919 4th, Bay City, Mich.
- Hawkins, J. C. 1941
7230 Locust Ave., Gary, Ind.
- Hesterberg, G. A. 1941
Forestry School, U. of Mich.,
Ann Arbor, Mich.
- Hexamer, L. E. 1937
1404 Mahoning Rd., Canton, Ohio
- Hil'ebbrand, G. E. 1938
1350 Alter St., Detroit, Mich.
- Hoelzer, T. C. 1942
Ohio Boxboard Co., Rittman, Ohio
- Holley, Q. G. 1932
3953 W. 157 St., Cleveland, Ohio
- Holwager, J. O. 1935
Salamonie River Forest, Largo, Ind.
- Holmes, K. H. 1927
Maryland Ave., W. Lafayette, Ind.
- House, R. W. 1938
...Brazil, Ind.
- Howe, C. S. 1937
- Hughes, V. B. 1940
220½ South St., W. Lafayette, Ind.
- Huntzinger, H. J. 1933
464 E. State, Pendleton, Ind.
- Hutchins, W. 1942
1450 Morrison St., Madison, Wis.

J

- Johnston, M. G. 1937
Box 842, LaGrande, Ore.

K

- Karr, D. G. 1941
462 W. Orleans, Paxton, Ill.

(Continued on page 53)

Squirrel Count

(Continued from page 32)

to follow his room mate off across the marsh.

The next few boxes were rather difficult to find. We traveled along a beaver inhabited ditch, wandered through the thickets, skirted the edge of a marsh, and finally found our boxes. One box in this group was occupied by a sleepy little screech owl. In the very next box, we found our first litter of fox squirrels. There were two young squirrels in the nest, but one of them had met recent disaster. He hadn't been dead very long; blood was still fresh on his fur. No one was verbally accused of the deed, but evil glances were cast in the direction of the box occupied by the owl.

While one of our party was in the process of climbing a third tree in this group, he suddenly changed his mind and as quickly as possible retraced his steps to the ground. That box was occupied by a hive of bees!

And so it went through a series of some fifty nest boxes. That means fifty trees climbed plus a couple of miles of hiking which, to my way of thinking, is a good day's work. Yes, it is a great life.

Seniors—

(Continued from page 16)

ities present in the South for the young foresters who will take them.

A couple are planning on graduate work in California and Michigan, while another has accepted a position as forester for a Farmers' Co-Op in Illinois. The rest of us are still in the process of negotiating.

Upon our shoulders must rest the task of carrying on the tradition of our school, we are ready and willing and only hope that we can perform the work entrusted to our intelligence and initiative.

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Alumni Directory

(Continued from page 51)

Keefus, J. E.	1931
317 Davis St., Elkins, W. Va.	
Keegan, H. L.	1935
2104 Scott St., Lafayette, Ind.	
Kelsey, F. B.	1941
4131 Warsaw St., Ft. Wayne, Ind.	
Kemmer, P.	1940
Kennedy, G. E.	1933
Box 305 Hartford City, Ind.	
Kennedy, J. D.	1923
82 Florat Ave., Cortland, N. Y.	
Kintz, C. E.	1935
R. R., Colfax & Juniper Rd., South Bend, Ind.	
Klein, B. S.	1943
Kmeza, N. S.	1939
Red Lake Agency, Red Lake, Minn.	
Kuzmitz, V. J.	1938
Box 41, Madison, Ga.	
L	
Lane, P. H.	1935
Laughlin, C. F.	1936
R. R. 2, Anderson, Ind.	
Lear, W. L.	1932
6040 Pasteur Blvd., New Orleans, La.	
LeMaster, C.	1938
Waldron, Ind.	
Leslie, C. R.	1935
139 Parkview Hts., Knox, Ind.	
Lewis, P.	1932
Box 55, Ironton, Mo.	
Light, D. N.	1939
615 Central Ave., Lafayette, Ind.	
Liming, A. N.	1938
R. R. 3, Oxford, Ohio	
Liming, G.	1943
2222 Cherry Ave., Hoquiam, Wash.	
Long, R. B.	1942
Mc	
McCullough, W. C.	1941
1941 Netherwood Ave., Memphis, Tenn.	
McQueen, J. E.	1934
Box 235 Walker, Minn.	
McWilliams, J. S.	1938
Box 404, Jasper, Texas	
M	
Mackay, D. F.	1942
P. O. Box 153, Knox, Ind.	
Madden, W. E.	1940
R. R. 2, Brook, Ind.	

Production—

(Continued from page 12)

summer camp, although the production boys feel that you haven't lived unless you spend 10 weeks at Henryville, Indiana.

The Purdue University Forestry Department is now rated by the Society of American Foresters as an "A" class forestry institution. This rating was obtained by the establishment of a forestry library, the addition of a larger, more experienced teaching staff, and the acquisition of additional class room space.

At present, the teaching staff of the Department of Forestry numbers 11. Of this number, there are three Ph.D.'s, seven M.S.F.s, and one B.S.F.

The forestry library, which is located in the Horticulture Building, is well staffed by a full time librarian, and it is constantly being added to and improved. In addition to the forestry library, the school now maintains and operates a power sawmill and a wood treatment plant.

Purdue now offers courses leading to the M.S.F. degree. These courses are also available, as non technical electives, to juniors and seniors who want to specialize in some particular field of forestry.

At present Purdue University Department of Forestry is enjoying its largest enrollment since 1926. There are 217 undergraduate students and four graduate students enrolled. The staff is handling the problem very efficiently, and no doubt, Purdue will continue to progress toward her goal of having the finest school of forestry in the United States.

Markey, E. L.	1939
601 S. East Ave., Oak Park, Ill.	
Marshall, E. D.	1934
Texas Forest Service, Lufkin, Texas	
Marten, C. E.	1940

(Continued on page 57)

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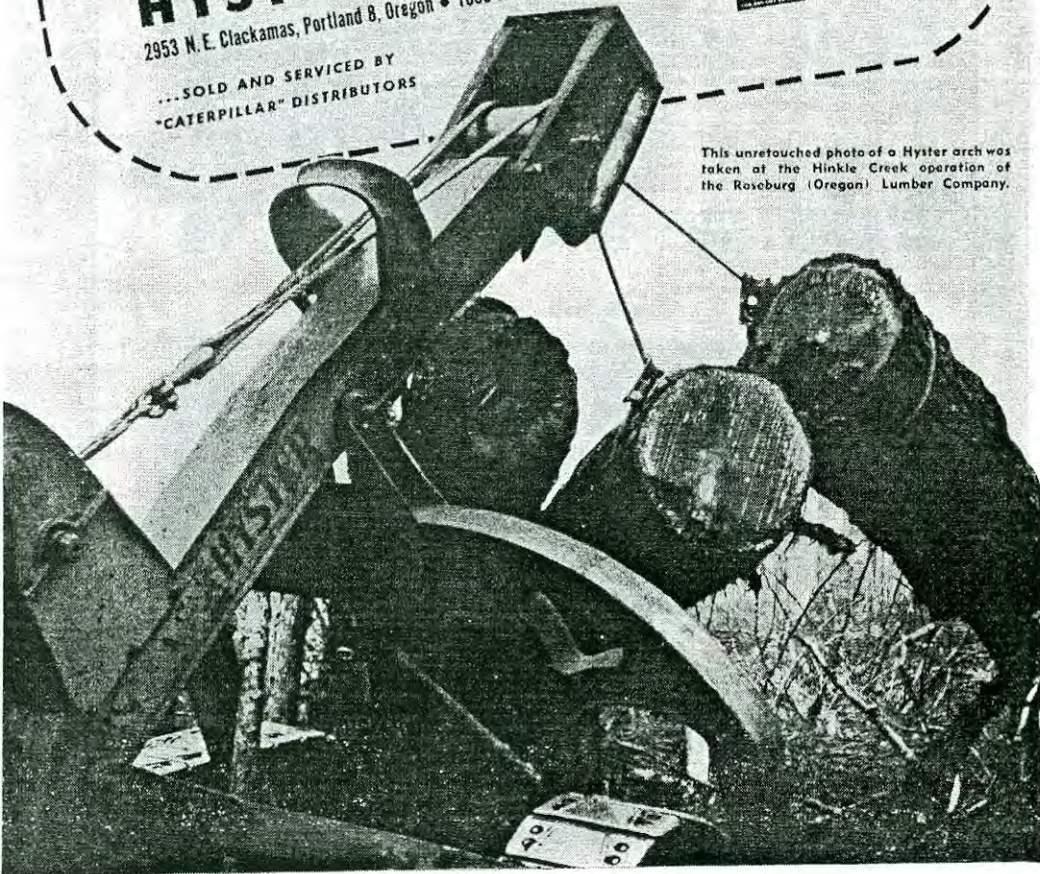
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This unretouched photo of a Hyster arch was taken at the Hinkle Creek operation of the Roseburg (Oregon) Lumber Company.



Research—

(Continued from page 26)

planting, "pie eating" project, while they enjoy the benefits of the trees that were planted.

The most recent study I have made was concerned with reforestation in Indiana. The study included all types of plantings, except the windbreaks. That study has revealed some interesting things about planting trees on worn-out soils. There are some good plantations growing but many have failed. The millions of trees planted during the CCC years haven't done too well, but such plantings have served to help make Hoosiers more tree minded.

The studies have shown that, to re-establish forests on worn out land, pines serve the purpose best since, through ecological succession, the native hardwoods follow the planted pines.

Now in 1947 as this is written, my experimental work consists principally of woodland management, a tree planting machine for the heavy clay soils of Indiana, and completion of the Trees for Reforestation studies.

Because of the large enrollment, my work load consists of duties at summer camp again, teaching Silvics, Silviculture, and an elective course in Reforestation problems; as well as Experiment Station work. So you see, the present and the immediate future seem very much like the 1928 beginning excepting that during the years 1928 to 1947 some contribution has been made to our forestry knowledge.



Silviculturists—

(Continued from page 40)

lovely red shouldered hawk flew over at tree top height for the pleasure of the wildlife addicts.)

Via cow paths and pastures, we crossed the farm and visited a young pine plantation on the other side. Here in this shallow-gully plantation, we found Scotch pine and white pine to be exhibiting very nice growth rates.

After lunch in Peru, the entire group (including our forestress—for shame!) settled down to some jolly drags on King Edwards which were furnished by two or three fellows endowed with generosity as well as the few extra nickels.

Near Peru, we looked at the Casebeer woods of both oak-hickory and beech-maple types—depending upon which end you were in. The recovery from severe grazing damage was also very encouraging here.

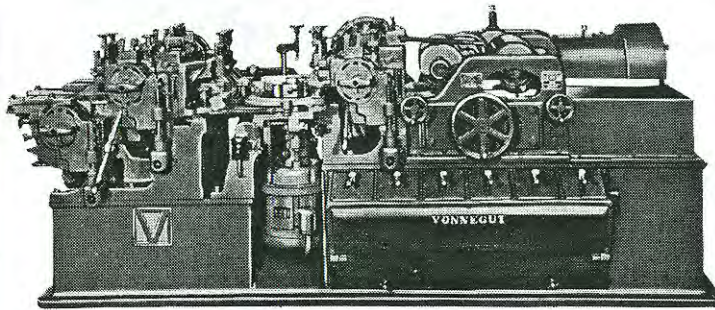
A large stump was encountered in the woods. Prof told us that the tree off this stump had made 2200 feet of lumber a few years ago. The missing tree was, however, survived by many other fine specimens of almost equal size, and many of them were ready for the saw.

On the west side of the woods, we saw very clearly the effects of wind exposure to the forest. An adjacent woodlot had been all but eliminated because of no protection from the wind.

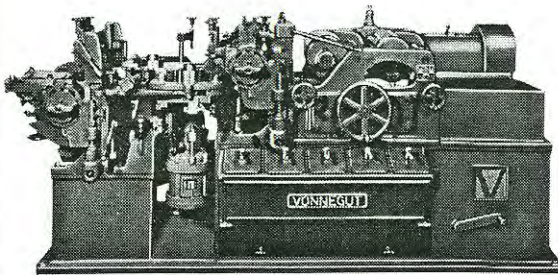
We wound up the day by noting the plant succession on the south, and open side, of the woods. In this exposure, we found briars overtaking the grass stage and mingled with the grass, the first trees of invasion.

It was a cold and tired silviculture class that rode back to Old P U in the fading light of a cold November evening.

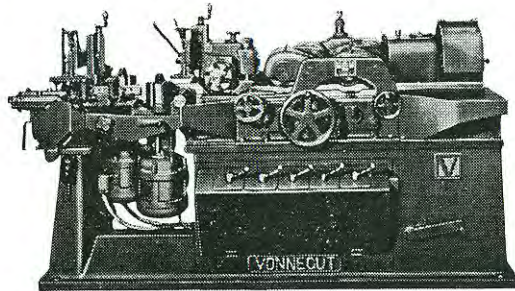
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Sincere best wishes for a successful future to the graduates of Purdue University School of Forestry.

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Forestry Club—

(Continued from page 49)

revival of the annual Forestry Club Banquet to be held on May 8.

The speaker for this gala affair is to be Prof. Shirley W. Allen, of the University of Michigan, President of the Society of American Foresters.

The club plans to present the senior with the highest scholastic index with an appropriate award.

The other major activity of this spring besides the regular meetings, which have brought thus far, Mr. Rudolph Grabow, of U. S. F. S., and Ed Stiver, Purdue '40, as speakers, is the annual Field Day scheduled for May 24. With the experience of last year under our belts and the strength in numbers which is now ours, we are looking forward to one of the most successful field days in the history of the club.

Xi Sigma Pi—

(Continued from page 35)

and its members, both individually and collectively, encourage forestry activities at the institutions with which they are connected. This is done here, by active participation in the projects of the Forestry Club and by special chapter projects for encouraging the development of leadership in school activities.

Kappa Chapter of Xi Sigma Pi was founded at Purdue on May 26, 1934, the charter members being Charles Geltz, D. DenUyl, B. N. Prentice, Ted Shaw, of the staff, and E. D. Marshall, C. F. Harnden, L. F. Baker, J. L. Ruby, J. W. DeWees, Farrell Creech, students. Since that time it has continually grown and participated in activities both on and off of the campus. During the war, with all the students leaving for the service, the Kappa Chapter was inactive except for the work of Prof. D. DenUyl who,

as Council Representative, acted for the chapter in that capacity during 1944 and 1945. The chapter was re-activated in December of 1946 and is once again getting into the swing of things. The present chapter officers are: Forester, O. W. Lake; Assoc. For., R. S. Prasil; Sec'y-Fiscal Agent, Ralph Miller; Ranger, Prof. Daniel DenUyl.

Alumni Directory

(Continued from page 53)

Manson, J. B.	1941
309 Wallace St., Crawfordsville, Ind.	
Martin, J. H.	1938
1712½ N. 13th St., Lafayette, Ind.	
May, L. J.	1939
1022 Manning Dd., Louisville, Ky.	
Medesy, W. A.	1931
6 Edgewood Rd., Durham, N. H.	
Meeker, H. F.	1940
409 S. Iron St., Centralia, Wash.	
Meiners, P. J.	1942
4601 S. Parkway, Louisville 9, Ky.	
Melcher, F. C.	1940
403 N. Bosart, Indianapolis, Ind.	
Menjenhall, C. T.	1936
B & O R. R., Albion, Ind.	
Miles, J. I.	1930
3052 Central, Indianapolis, Ind.	
Miller, F. J.	1931
Dist. Forester's Office, R. R. 1, North Vernon, Ind.	
Miller, R. S.	1942
1223 Huffman Ave., Dayton 3, Ohio	
Miller, W. R.	1941
Dept. of For. & W. L. Mgt., Storrs, Conn.	
Minton, J. R.	1936
Hunter Wilson Dist. Co., Oil City, Pa.	
Mitchell, J. N.	1931
Bureau of Entomology, Oakland 12, Cal.	
Moore, E. E.	1938
Morris, W. W.	1940
Myers, M. C.	1942
Box 104, Osgood, Ind.	
Myers, L. E.	1935
Marion, Ind.	
N	
Nichols, J.	1939
R. R. 1, Connersville, Ind.	

(Continued on page 59)

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Nicewander, W. 809 S. 28th St., Lafayette, Ind.	1933
P	
Pandel, C. R. 1442 E. 76th, Chicago 19, Ill.	1940
Park, E. R. Cary Hall, Purdue U., W. Lafayette, Ind.	1941
Parrish, A. T. Box 223, Albion, Ind.	1942
Patrick, W. K. 909 S. Grand, Buena Park, Cal.	1936
Patterson, W. G. Box 329, Charlotte, N. C.	1932
Perkins, C. A. 810 Rutherford St., Shreveport, La.	1925
Peterson, L. C. R. R. 2, Monticello, Ind.	1940
Phillips, James E. Box 784, Berlin, N. Y.	1937
Phillips, J. E. 405 Maple, W. Lafayette, Ind.	1942
Plumb, R. H. R. R. 3, Warsaw, Ind.	1940
Pope, C. L.	1946
R	
Rambo, R. W. Jasper-Pulaski Farm, Medaryville, Ind.	1938
Randall, L. R. Russiaville, Ind.	1930
Randel, W. C. 802 E. Main Cross, Edinburg, Ind.	1939
Raymond, M. E. R. R. 3, Lafayette, Ind.	1936
Reed, J. F. Dist. For. Office, Wabash, Ind.	1945
Reeves, M. C. Box 208, Washington, Ind.	1939
Rickel, L. A. U.S.F.S., Box 1, King City, Cal.	1934
Riddiford, M. S. R. R. 11, Lafayette, Ind.	1940
Ridgway, M. 621 S. 7th St., Charles, Ill.	1937
Rodarmel, J. R. 845 N. Dearborn St., Indianapolis, Ind.	1943
Romeiser, G. C. 527 N. 26th N., Arlington, Va.	1939
Roth, R. R. 3711 Grand Blvd., East Chicago, Ind.	1940
Royer, D. C.	1933
Ruby, J. L.	1934

S

Scatterday, J. W.	1938
Schaich, H. J. 415 W. Main St., Winfield, La.	1941
Schleichee, F. K.	1940
Schneider, L. A. 1218 Winterrowd Pl., Shelbyville, Ind.	1942
Schnell, R. L.	1993
Schreiber, H. H. 245 Cherry St., New Albany, Ind.	1940
Schreiner, T. 835 N. Bradley, Indianapolis, Ind.	1939
Schutz, L. A. 2620 W. 4th Ave., Hibbing, Minn.	1935
Schweidler, J. 515 State St., W. Lafayette, Ind.	1940
Scott, D. A.	1941
Scripps, C. L. 2527 Lawndale, Evanston, Ill.	1943
Seale, R. P. Wood Masaic, Louisville, Ky.	1940
Shackley, G. G. R. R. 1, Newfoundland, N. J.	1940
Shaw, E. W. 1305 Arch St., Berkeley 8, Cal.	1941
Shaw, R. W. 278 Woodlawn Courts, Bloomington, Ind.	1939
Shead, T. M. 495 Summer St., Boston, Mass.	1942
Shlaes, S. B. 3300 Lake Store, Chicago 13, Ill.	1939
Short, R. G. 1319 N. Oakland Ave., Indianapolis, Ind.	1940
Shrader, W. E. R. R. 1, Greentown, Ind.	1937
Shumaker, K. I. Harrison State Forest, Corydon, Ind.	1927
Sieber, H. J. 2015 Foster Ave., Brooklyn 10, N. Y.	1939
Sinninger, J. C. Physical Plant, Purdue U., W. Lafayette, Ind.	1939
Smith, M. C. Chicago Hts., Ill.	1931
Snyder, H. J. 107 W. 38th St., Anderson, Ind.	1933
Sowards, C. E. 236½ Adams, Zanesville, Ohio	1943
Stark, E. E. Forestry Dept., Purdue U., W. Lafayette, Ind.	1932

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Stiver, E. N. 1940
Agronomy Dept., Purdue U.,
W. Lafayette, Ind.

Suddarth, S. K. 1943
R. R. 9, Lafayette, Ind.

Swain, C. E. 1929
S. C. S., Milwaukee, Wis.

Swinford, K. R. 1937
Forestry School, U. Florida,
Gainesville, Fla.

T

Thomas, H. L. 1937
High St., Garret, Ind.

Tureski, S. J. 1939
2309 Marshall St., Little Rock, Ark.

U

Ullman, C. E. 1936
1916 Main St., Lafayette, Ind.

V

VanArsdel, E. P. 1947
2218 Carrollton, Indianapolis 5, Ind.

VanCamp, J. C. 1942
199 Edgewood Ave., New Haven,
Conn.

Vass, G. R. 1946
Box 308, Summerville, S. C.

W

Wagner, W. T. 1944
2703 Grasselli St., Linden, N. J.

Wallace, W. 1942
R. R. 2, Jasper, Ind.

Walters, C. F. 1938
2819 Muniford Hall, Urbana, Ill.

Weber, L. S. 1932
230 N. Mich. Ave., Chicago, Ill.

Whitney, E. F. 1936
800 North St., Logansport, Ind.

Whitsitt, R. F. 1931
S. C. S., Urbana, Ill.

Williams, J. G. 1940
1701 16th St., N. W., Washington,
D. C.

Williamson, D. 1946
Box 322, Montrose, Col.

Williamson, J. M. 1939
Box 571, Belton, Texas

Winchell, J. H. 1946
Div. Forestry, Linton, Ind.

Winger, H. S. 1941
303 W. Narrowway, Benton, Ark.

Winship, J. R. 1942
923 E. Wash. St., Mishawaka, Ind.

Woodling, W. H. 1940
Mengel Mfg. Co., Louisville, Ky.

Wortley, R. G. 1931
Deer Lodge, Tenn.

Wygant, N. D. 1932
208 Forestry Bldg., C. S. C.,
Ft. Collins, Col.

Y

Young, G. 1938
Young & Marble Mfg. Co.,
Lucedale, Miss.

Young, T. W. 1930
U. of Florida, Lake Alfred, Fla.

Z

Zuck, E. M. 1939
5612 8th Ave., N. W., Seattle 7,
Wash.

Zweig, R. L. 1940
Dist. Forester's Office, Salem, Ind.

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