

may be peculiar to just one oak—the Lobata, but feels it is a pretty general condition of all the trees in the Westlake area. Other trees, Agrifolia, sycamores—80 to 90 feet tall—that he has transplanted here also have shown the same rooting tendency, ideal for transplanting.

“I would advise anyone attempting a massive transplant,” Peterson said, “to give consideration to the soil condition where the tree is found. Look for wildings high in creek banks. When you see a tree where it doesn’t have to go very far to water, and in loaming soil, you will find a more fibrous root system rather than a tap root.”

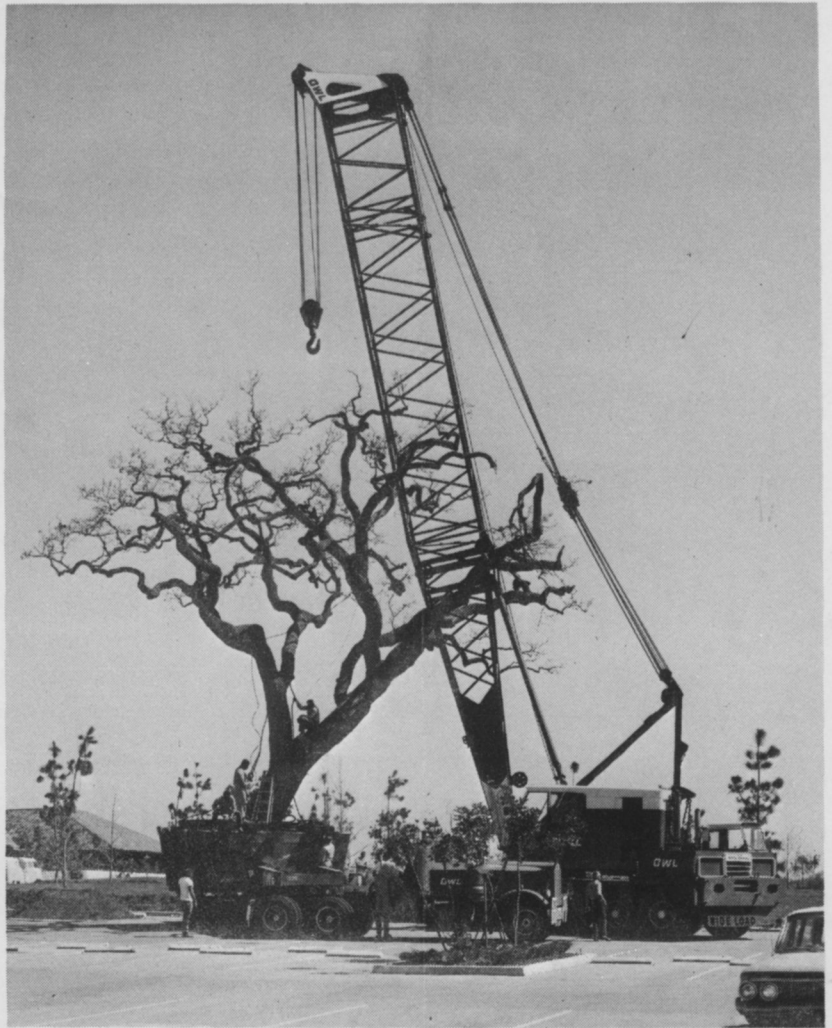
Move Planned for March

The big move was slated for March 1968. The Lobata hadn’t started leafing out yet, but the buds were starting to swell indicating all was fine.

Kaspar Burgi wheeled in a 115-ton Owl Crane and special low-boy next to the tree, jockeyed into position. Workmen built special skids under the big box so the lifting could be done on these rather than upon the box; other workmen wrapped 15 strands of No. 8 gauge wire around the box for additional strength.

Then the crucial period began, lifting the tree from the hole, putting it on the truck, transporting it to its new home in front of the Westlake Inn, and setting it in place. It had been decided, because of the size of the tree to set it away from the building rather than in the planter as previously intended. The base had carefully been prepared, a 20 x 20-foot hole, 15-feet deep, filled with approximately 5 feet of base rock. Now it waited for the tree.

Could they do it? No one to their knowledge had tried a transplant of this size before. There were so many things to consider. And should one crack develop in the soil area, chances were they had lost their tree.



Once transported to new location in front of Westlake Inn Restaurant, workers prepare the giant 300-year old, oak tree to be lifted by a 115-ton crane into new setting. Moving of the 50-foot high tree made landscaping history.

Huge chains were hooked around the skids, the giant hook dropped in place. The front end of the crane rose four feet off the ground as the tree came up.

Critical Moment

Slowly, carefully, the boom turned. Even the most minute movement of the crane was enough to send the tree swaying violently because of the tremendous weight in the tree’s top. The lowboy sank 4 inches into the earth as the tree settled upon it. Quickly, big chains were fastened to the box to tighten it down.

Then came the slow crawl, up over the unimproved road, towards the highway. Anxious faces moved alongside the big tree. Though the road had been

prepared as smoothly as possible, each tiny dip sent the huge tree swaying dangerously. Would it fall? Would it remain upright?

It remained. And the box and soil area remained intact. Peterson and Cowan grinned with joy. It took two days to complete the job of moving, setting the tree in place, and backfilling.

The backfilling material was loam, 40 percent clay. Previously, Peterson had been using native material for his transplants, but in this instance chose a mixture.

“Just a little more insurance,” he said.

Of course, the tree was watered during backfilling to eliminate air pockets. Soil Drench and approximately 5 gallons of vita-
(Continued on page 41)



ELANCO

Balar

Grander

Professional use

orses

Stop crabgrass with pre-emergence Balan. You can afford to pour it on.

**It's easy on the budget and easy
to apply. Balan makes
big area coverage a breeze.**

CRABGRASS KILLING POWER! Now you can stop crabgrass economically before it starts. Balan packs more crabgrass killing power in each pound of active ingredient, so it goes further at less cost.

Apply Balan early and you won't see unsightly crabgrass clumps or the dead brown areas they leave in the fall. Maintain a thick, green turf by keeping weed grasses from competing for moisture and nutrients. Get long lasting control of crabgrass, goosegrass, foxtails, and—all other annual weed grasses for \$15 to \$30 per acre. Balan is recommended by many golf course superintendents and industrial and institutional grounds superintendents across the country. Stop your crabgrass problem with Balan.

SO ECONOMICAL YOU CAN USE IT EVERYWHERE. Balan costs \$15 to \$30 an acre to prevent crabgrass. Southern warm season areas require the heavier application rate. Certain extreme warm season areas may require two applications of Balan to provide year-around control. Even so, Balan goes easy on

a modest grounds maintenance budget. And it gives you so much. You can count on dependable performance from Balan because it's waterproof, won't leach away under heavy rainfall or irrigation. Another consideration: Balan contains no poisonous arsenic, mercury or lead to create a hazard when used around public areas.

PLUS A CONVENIENT GRANULAR FORMULATION. You'll find Balan easy to handle, easy to apply with your present equipment.

Granules pour smoothly, won't clog. Isn't it time you took the completing step in your turf-care program? See your turf supply and equipment distributor.

Balan™

ELANCO

(Balan™—benefin, Elanco)

One of Elanco's dependable
weed-control crew.

Your first 100 square feet are on Elanco!



Free sample! A 4½ ounce shaker tube of Balan Granular. Enough to keep 100 square feet of turf clean of weed grasses for months.

Return the postage-paid card today. We'll send you full details on Balan, the name of your nearest distributor, and your free sample. Apply the sample evenly over an area approximately 10' x 10'. Do this shortly before crabgrass and other weed grasses germinate. See how your turf grows thicker, healthier without having to compete with weed grasses for sunlight, nutrients and moisture. Balan makes the difference.

OTHER MEMBERS OF ELANCO'S DEPENDABLE WEED CONTROL CREW:

TREFLAN®—dependable, long-lasting pre-emergence herbicide to control weeds and grasses in nursery stock or established ornamental shrubbery and flower beds.

DYMID®—versatile pre-emergence herbicide to control weeds and grasses in ornamentals, dichondra or ice plant ground covers. Particularly effective against certain winter germinating weeds.

ELANCO PRODUCTS COMPANY
A division of Eli Lilly and Company
Indianapolis, Ind. 46206, U.S.A.





Ken Voorhies

Ken Voorhies At Columbine CC
Finds Directors Appreciate

Budget Control

BUDGETS may make or break a golf course superintendent. Few professionals are subject to more pressure for more favors from clientele than are superintendents. Seldom does a day of the season pass that some good, solid club member does not offer a suggestion for betterment of the course.

A firm budget and the information at hand to put a dollar cost on any maintenance item or course change can solve a lot of problems which involve improvements. Ideas or notions, as the case may be, can be placed in perspective. Solid suggestions, with the proper dollar cost, can be submitted to the greens committee or directors for consideration. Committing these to action then becomes a matter of extra funds, or limiting of some current item to fit them into the existing budget.

For Ken Voorhies, 10-year veteran superintendent at Columbine Country Club, Denver, Colorado, a routine record system

has been the answer. His budget for the coming year can be firmed up within hours, using the past season's records as a base. Most important, Columbine directors appreciate an accurate accounting of funds, broken down by the job. Further, they know that estimates of improvement costs or changes in maintenance will prove reliable.

Records Are Routine

Of particular interest is the fact that Columbine's superintendent has been able to develop such a system without becoming a slave to records, a timekeeper or an accountant. He uses a time clock system and some simple forms on which he records daily work. These daily work records are totaled by pay periods monthly and then by season. The end result is a dollar cost and an hour figure for each job and for each type of maintenance or course change.

Columbine is one of the top 20 courses which is still operated

under a budget of less than \$100,000 annually. This includes no tournaments, no capital improvements, no new construction. When these are planned as is the case practically every year, past time records show what cost these will entail, almost to the dollar. For example, the recent PGA tournament held at Columbine required 8744 extra hours of labor for grounds and maintenance crews. This was in addition to the regular 24,000-hour yearly workload for the course. Normal labor rates for the area are now about \$2 per hour. Simple multiplication pinpoints costs, for extras or regular work.

The time card is used in conjunction with a time clock. Men punch in and out. However, the time card contains a chart for date, job code, and total hours spent during the day for each type of job.

Jobs Are Numbered

Job codes are simply numbers which are used to speed up the



CCC bookkeeper, Mrs. Mildred Longsine, aids in tabulating records for monthly reports to club officers, and for budget use.



An employee, Oliver Hutchinson, punches time card at Columbine CC maintenance office. Card includes form for specifying date, jobs, and time.

record system. Codes begin with watering which is No. 11, mowing greens is No. 12, mowing fairway, No. 13, etc. These records are utilized in making final monthly and yearly totals, allowing easy comparisons of variations by year and season. The Columbine Club's fiscal year is Nov. 1 through October 31. Once October hours are posted, a detailed report is prepared and this is used to set up a budget for the new year. This is practically automatic since detailed work and cost records are easily available. Plans for the new year have already been discussed with directors and cost estimates made which then become a part of the proposed budget for the new year.

Records also work to facilitate changes or operational improvements. Voorhies, who checks his course by golf cart four times daily during the playing season, says maintenance can be studied with records in hand. This per-

Labor distribution for Columbine Country Club is tabulated for 1967. Voorhies uses his monthly totals to lace season's work in perspective for evaluation. Note that he can ascertain precisely the hours and types of work done in connection with the 1967 PGA tournament at Columbine.

COLUMBINE COUNTRY CLUB GROUNDS LABOR DISTRIBUTION—1967 200 ACRES

WORK NO. DESCRIPTION	Nov. 67 Hrs.	Dec. 67 Hrs.	Jan. 67 Hrs.	Feb. 67 Hrs.	Mar. 67 Hrs.	Apr. 67 Hrs.	May 67 Hrs.	June 67 Hrs.	July 67 Hrs.	Aug. 67 Hrs.	Sept. 67 Hrs.	Oct. 67 Hrs.	Total 67 Hrs.
11 Watering	55	69	0	33	93	540.5	743	774.5	1074	1307.5	703.5	201	5594.5
12 Mowing Greens	16	0	0	0	31	65	164	295.5	256.5	344	166.5	46	1392.5
13 Mowing Fairways	0	0	0	0	0	38	114.5	256.5	108	186	124.5	60	887.5
14 Mowing Rough	0	0	0	0	0	128.5	180.5	278	222	328	154	152.5	1443.5
15 Mowing Tees	0	0	0	0	26.5	79	101.5	248.5	89	132.5	41.5	20.5	739
16 Mowing Bunkers	0	0	0	0	0	19.5	7	66	41	232.5	15	14	395
17 Raking Traps	0	0	0	0	23	108.5	206	561.5	243	426	174	22.5	1764.5
18 Repairing Ball Marks	0	0	0	0	0	0	0	0	93	8	0	0	101
19 Fertilizing	12	24	19	32	146.5	12.5	8	34.5	28	28.5	1	1	347
20 Cutting Weeds by Hand	0	0	0	0	0	2.5	6	105	70	20.5	7	0	211
21 Cutting Weeds by Machine	0	0	0	0	0	55.5	35.5	416.5	65	149	7.5	0	729
22 Weed Spraying	0	0	0	0	0	5	0	91	5.5	0	0	0	101.5
23 Cleaning Ditches	0	0	0	0	8	0	0	46	3	16.5	0	0	73.5
24 Tree Work & Planting	125.5	0	62	0	10	38.5	20	66	8.5	12	0	0	342.5
25 Clubhouse	8	0	6	0	0	22	0	32	14.5	146.5	92	2	323
26 Yard Work	22	8	0	0	0	0	0	0	13	3	0	1	47
27 Shop Work	58	10	31	8	13	12	21	28.5	4.5	1	4.5	1	192.5
28 Clean Up Work	50.5	0	80	2	11.5	10	5	97	116.5	68.5	8	4	453
29 Cleaning Snow	6	0	41	12	0	4	0	0	0	0	0	0	63
30 Skating Rink	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Seeding	0	0	0	0	1	2	2	10	0	0	0	16	31
32 Sodding	0	0	0	0	0	39	253	70.5	25.5	29.5	50.5	69	537
33 Changing Cups, Ball Boxes, Towels and Markers	19	0	4	5	9.5	31	55.5	207.5	159	123.5	44.5	30.5	689
35 Raking Leaves	36	0	0	0	4	4	0	0	85.5	0	0	58.5	188.5
36 Top Dressing	0	0	0	0	0	17	23	0	107.5	146.5	46.5	0	194.5
37 Grinding Top Dressing	8	0	0	0	0	0	0	0	0	0	0	0	8
38 Aerifying	0	0	8	0	0	182.5	8	0	0	64.5	105.5	0	368.5
39 Capital Improvement	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Filling Laterals & Seeding	0	0	0	0	17	3	0	1	0	0	0	0	21
41 Tennis Courts Homeowners	0	0	0	2	0	0	0	0	0	10	0	0	12
42 Cart Paths	39	38	6	6	23	60	12.5	64	14.5	18	12	8.5	301.5
43 Private Carts	155.5	110	87.5	118.5	208	272.5	333	367.5	307.5	413	369.5	345.5	3088.5
44 Repair Water System	46	0	0	20	10	23	16.5	74	61	37.5	40.5	6	334.5
45 Water Pump Repairs	0	0	0	0	0	0	0	0	0	0	9.5	0	9.5
47 Painting	37	14	16	8	0	0	0	56	27.5	0	0	1	159.5
48 Fire Place Wood	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Closing Valves, Water System	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Hose & Sprinklers	0	25	0	0	0	15	0	0	5	0	4	10	59
51 Spraying Greens and Fairways	0	0	0	0	0	31	16	26	11	6	0	0	90
52 Christmas Lighting	0	8	0	0	0	0	0	0	0	0	0	0	8

(Continued in next column)



Dunes Hotel parking lot proved to be a handy location for aerial applicators. Late models of both helicopters and fixed-wing aircraft were exhibited.

2nd Annual N-TRIPLE A FLY-IN

National Aerial Applicators
Meet At Las Vegas, Nevada

THE National Aerial Applicators Association staged their second annual convention at Las Vegas, Nev., the first week in December. Despite the fact that this was only the second such event in the history of this youthful organization, they sandwiched a mammoth amount of business

into a well planned educational program.

The group is growing, which demonstrates that members are finding that pooling their efforts in an association is paying dividends for them. At this 2nd annual event, more than 550 persons were on hand, more than

300 being dues paying members. The remainder were exhibitors, wives, and press representatives.

Outgoing President Robert Phillips, Phillips Aero Ag Co., Ceres, Calif., reported on progress during 1968. He urged members to work with groups such as chemical companies, equipment suppliers, and research organizations who now recognize the association as vital to the industry. Phillips said he believes that the membership can strengthen itself through this kind of cooperation. More and more groups and organizations are becoming interested in working with the association. A prime example given by Phillips was the many chemicals which are now being tailored for aircraft.

On the business side, the applicators formally thanked the overflow number of booth exhibitors which filled all available space in the Dunes Hotel. In addition, exhibitors brought in 2 helicopters and 6 of the latest models of fixed-wing aircraft specifically designed for aerial application.

N-Triple-A leadership for 1969, left to right: William O. Marsh, president; L. H. Mills, vice-president; F. Farrell Higbee, executive director, Walter Ball, secretary; and Charles Stone, treasurer.



These, with the help of the highway patrol, were taxied into the Dunes Hotel parking lot and readily available to N-Triple-A members.

F. Farrell Higbee, executive director of the group was complimented for his effective work during the past year and two offices authorized for him, one at Washington, D.C., and the other at Loveland, Colo. Higbee in private conversation said that 23 state aerial applicator groups are now members and he sees several more state groups as strong possibilities during 1969.

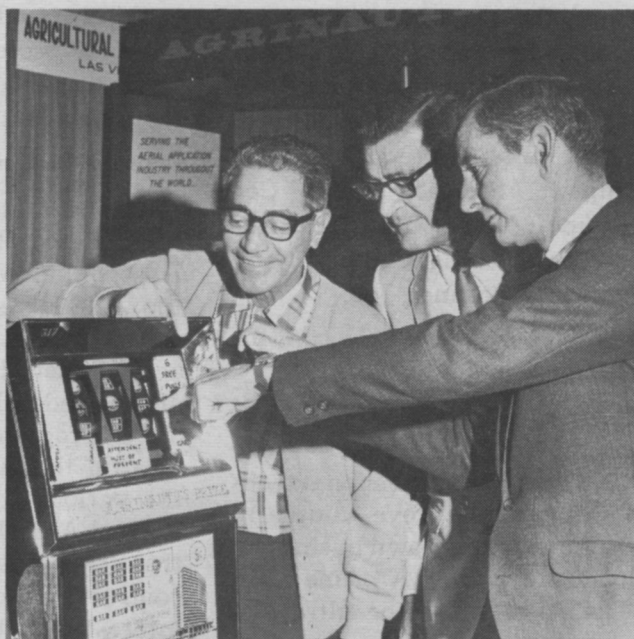
New Officers

Officers elected for 1969 are all veterans in the field of aerial application. Elected president was William O. Marsh, Marsh Aviation Co., Litchfield Park, Ariz.; vice-president, L. H. Mills, Less Mills Aircraft, La Crosse, Wash.; secretary, Walter F. Ball, Ball Aero, Inc., Huron, So. Dak.; and as treasurer, Charles Stone, Southeastern Aerial Crop Service, Fort Pierce, Fla.

John Neace, Bell Helicopter Co., Fort Worth, Tex., handled the awards ceremony during a Wednesday evening banquet. The mammoth trophy which is the annual Agrinaut Award given by Agricultural Aviation Engineering Co., Las Vegas, Nev., went to the new president, William Marsh. Outstanding service awards were presented to George Sanders, convention chairman, of Agricultural Aviation Engineering, Karl Heimer, and John Neace. Neace who was emceeing the ceremony was pleasantly surprised by being interrupted midway during this presentation to himself be presented a plaque recognizing his close association and effort with aerial applicators.

Best exhibit award went to Jacobs-Page Aircraft Engine Co., with honorable mentions being given Duster & Sprayers Supply, Inc., Amchem, and Agrinautics Agricultural Aviation Engineering Co. Plaques were also pre-

Unique exhibit by Agrinautics Engineering Co., Las Vegas, Nev. NAAA members were given 6 chances to win a prize. Left to right are: L. R. Ferguson, Agrinautics sales manager; E. A. "Slim" Cancienne, executive - secretary of the Louisiana AAA at Baton Rouge; and Bill Britt, B & B Crop Service, Inc., Basile, Louisiana.



New N-Triple A President William Marsh, left, receives "Agrinaut of the Year" award. Making the presentation is John F. Neace, Bell Helicopter Co., Ft. Worth, Tex. Neace was later awarded a plaque for outstanding service recognizing his close association and efforts to the organization.



Outgoing president Robert Phillips, Phillips Aero Agricultural Co., Ceres, Calif., visits with Joseph J. Graham, resident manager for the Insurance Company of North America, and Frank Green, Jr., vice-president of Hutchinson, Green, and Mayo, Inc., Shreveport, La.



sented the outgoing officers including President Robert Phillips; Vice-President Harold C. Tapley, Tapley Flying Service, Shaw, Miss.; Secretary F. Dale Simpson, Simpson Aero Co., Tribune, Kan.; and Treasurer Robert G. Ueding, Ueding Flying Service, Vincennes, Ind.

New Type of Contract

C. F. Garner, Chemagro, suggested that applicators investigate new areas where their equipment and professional techniques might prove mutually beneficial to their own businesses and to the public. A prime area, he believes, might be ultra low volume spraying for mosquito control. Except in areas where public abatement control programs staffed by professional entomologists are operating, there is a need for help. Aircraft, Garner said, offer the only economical means of control for large areas on a timely basis. He told applicators they could do such a job and would not have to overload planes to do so.

Insurance has always been a major operating cost for aerial applicators. This has stemmed partly from the high risk involved and also from the fact that few insurance companies have specific programs designed to fit the needs of the aerial applicator. To develop more adequate programs in addition to the already improved types of insurance available to applicators today, Joseph J. Graham of the Insurance Company of North America, offered several suggestions. INA's Graham believes that more resource management is needed to be offered by insurance companies to clients such as the aerial applicator. He suggested that the association as a group develop qualification standards for insurance. They can then screen eligible companies and hire one to represent the group. The screening, he believes, should definitely be done by NAAA members. Such a step

could eventually standardize the types of protection needed and at the same time should cost less than members are now paying.

Contract Bidding

Arthur Gieser, of the Agricultural Research Service, USDA, Hyattsville, Md., reported that the ARS division of the USDA contracts for 15 to 20 million acres of aerial application annually on federal and state cooperative programs. Contracts for most of this work are issued by the various administrative divisions of ARS. In addition, he said that some states issue their own contracts. When an applicator is interested in bidding on a state contract, Gieser suggests that he write directly to the state department of agriculture which is involved.

Gieser offered N-Triple-A members still more advice and general information on the bid program. For example, he said, "When you submit a request to be placed on a bidders list, it is helpful to include the areas or States for which you wish to be considered, the amount of acreage or size of area you are prepared to undertake, the type and number of aircraft you can provide, whether you can apply liquids or dry materials or both, and other pertinent information.

"Occasionally there have been complaints from operators who thought they were on a bidders list, but did not receive an invitation to bid on some programs." Gieser listed several reasons for this:

1. Some operators do not respond to all bid invitations for various reasons: (a) They may be too busy with other work; (b) the acreage may be too extensive for them to handle; (c) the area may be too distant or too small to interest them; or (d) they may not have the aircraft types requested. When a bid invitation is received and you cannot or do

not wish to bid, acknowledge receipt of the invitation. State that you cannot bid at this time; but you wish to remain on the list for consideration when future invitations are issued. A post card or letter is all that is necessary. A contracting officer may remove your name from a bidder list if he receives no re-

For Bid Information:

Contacts for getting your name on bidders lists of the Agricultural Research Service, USDA. Names and addresses of the Administrative Division offices are as follows:

Eastern Administrative Division

USDA-ARS
Federal Center Building
Hyattsville, Maryland
20782

This office issues contracts for North Carolina and South Carolina, Virginia, West Virginia, Pennsylvania, and all States north and east of those mentioned.

* * *

Southern Administrative Division

USDA-ARS
P. O. Box 53326
New Orleans, Louisiana
70150

This office issues contracts for New Mexico, Texas, Oklahoma, Arkansas, Tennessee, and all other Southern and Southeastern States.

* * *

Northern Administrative Division

USDA-ARS
400 South Fourth Street
Minneapolis, Minnesota
55415

This office issues contracts for all other States beginning with Kentucky, Ohio, and Michigan and all States to the Pacific coast.

* * *

For more information:

Arthur Geiser
Plant Pest Control Division
USDA-ARS
Federal Center Building
Hyattsville, Maryland
20782