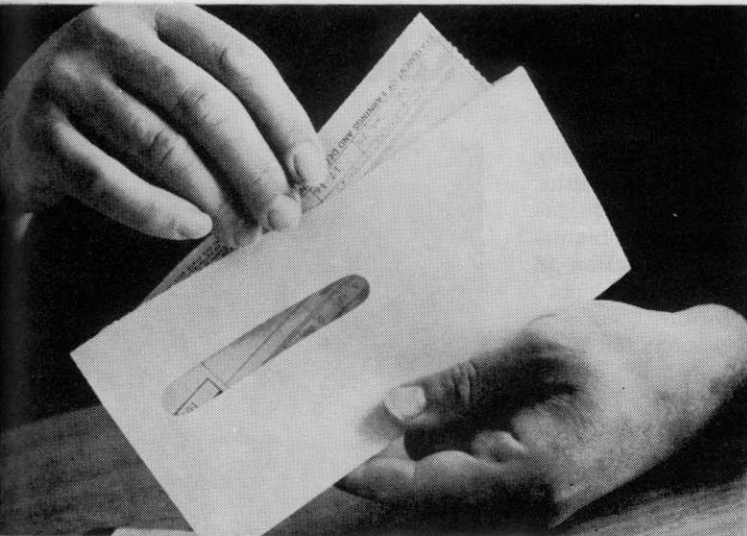


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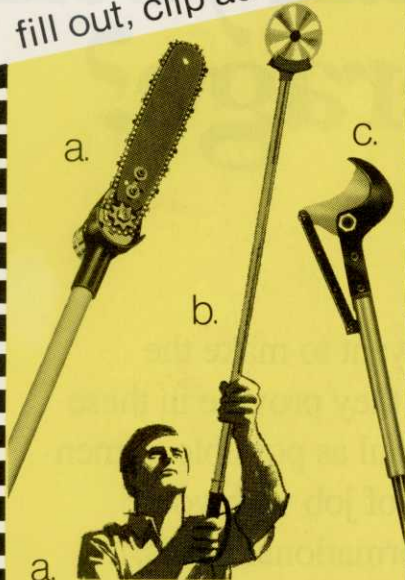
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Workbenches become full quickly as students tear down and rebuild component parts under the watchful eye of Bolens personnel and supplier representatives.

## Inside Look At Service Schools

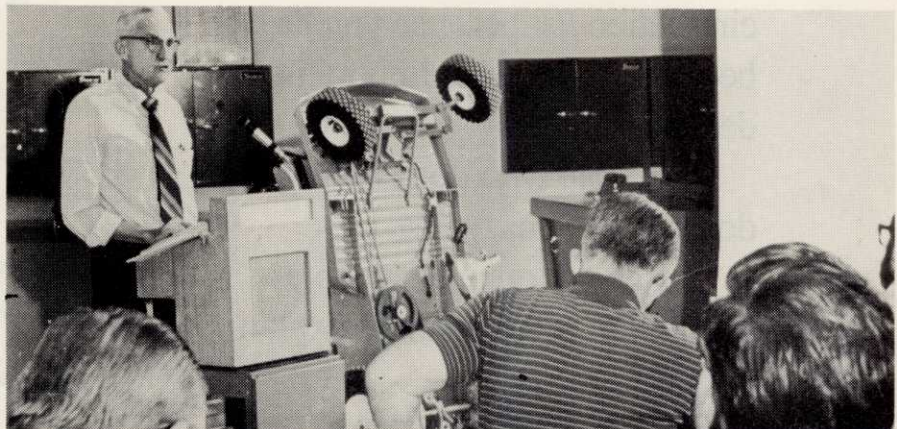
Service schools are in full swing during the winter and spring months. And distributor service representatives find these contacts with manufacturers a positive contribution in helping solve on-the-job problems.

Typical of these service schools is the three four-day sessions for 15-20 students each conducted by Bolens Division, FMC Corporation. Held at the factory in Port Washington, Wis. the schools are aimed at keeping the service man aware of the changes in the electrical, mechanical and hydraulic systems of the manufacturer's line of equipment.

Upon completion, the students return home to conduct similar schools for dealer service representatives.



Students work in tandem. Each learns first hand about component parts of engines and associated equipment.



Arnold A. Meyer, training director, conducts the opening session of a Bolens Service School. Students are subjected to both classroom and laboratory work.

industry people  
on the move



**JOHNIE W. BRAMBLE, JR.** joins the recreation and parks department management staff for the City of Sacramento, Calif. For the past 10 years he was parks superintendent for the city of Chico.

\* \* \*

**RICHARD P. COOPER**, appointed assistant sales manager, municipal products division for FMC Corporation, Wayne Division, Pomona, Calif. He will assist in the administration of all domestic and Canadian sales of the municipal division, and in the direction of dealer sales activities.

\* \* \*

**CARL R. STULL**, elected president of the Chemical Specialties Manufacturers Association for 1973. He is currently manager for the agricultural and sanitary chemicals department of Rohm and Haas Co.

\* \* \*

**WILLIAM E. McGUINNESS** joins the staff of The F. E. Myers & Bro. Co. as vice-president, finance. He was formerly corporate staff auditor for McNeil Corporation of Akron, parent company of Myers.

\* \* \*

**RICHARD W. FIELDS** becomes manager for marketing and development of chemicals for the industrial brush and weed control market for Velsicol Chemical Corporation. **DONALD E. TELGE**, who joined the company in 1972 becomes vegetation control specialist—railroads.

\* \* \*

**ROBERT W. BENNETT** appointed manager of FMC Corporation's Niagara Chemical Division, Middleport, New York.

\* \* \*

**STEVE MEIMANN, DONALD R. JONES, and ROBERT McKEAQUE** are now agricultural sales representatives for Thompson-Hayward Chemical Company. Meimann is located in Des Moines, Ia.; Jones in Snow Hill, Md.; and McKeaque in Davenport, Ia. In other company moves, **WAYNE E. WILLIAMS** is a new market development sales representative. **JIM DUSIN** is promoted to branch manager of the distribution center in Yakima, Wash. **DR. ROBERT H. SPARNICHT** joins T-H as director of field research and development in the eastern U.S.

\* \* \*

**JACK MURNAGHAN and DOUG HERON** become ProTurf technical representatives of O. M. Scotts & Sons' Canadian program for servicing golf courses, sod growers and other large turfgrass areas. Murnaghan will handle eastern Ontario and Heron will serve western Ontario.

\* \* \*

**JOHN J. WOLFE** appointed area manager for Kohler Co. His territory will include Wisconsin, Michigan, northern Illinois and northwestern Indiana.

\* \* \*

**CLIFFORD L. ACKLEY** elected chairman of the board of Ackley Manufacturing Company, Clackamas, Ore. He is one of the founders of the 16 year old firm.

\* \* \*

**PATRICK KIELY** becomes division personnel manager for the agricultural chemical and international divisions of Amchem Products, Inc.

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PERENNIAL RYEGRASS!**

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In your editorial of Jan. 1973 you credited several states with programs to enable applicators to become licensed. As an aerial applicator I have been tested and licensed in three states, Colorado, Kansas and Oklahoma. I rate the three states in this order. For aerial applicators, the Colorado test requires the most knowledge to become licensed, and they have one of the best reporting systems (required monthly) during the season.

But I believe the State of Kansas has made more progress in educational programs than almost any other state. Starting in January 1971, a program was begun to educate applicators, both ground and air. Courses were held in vocational technical schools and 120 hours of instruction was given at a very nominal fee. Again in 1972 a 40 hour course was held.

Information on these courses was widely advertised and was there for the taking. Many applicators did not take advantage of these training programs because they are "old timers" and know it all.

The Kansas test was much too simple after all the training that was made available.

Oklahoma has a good test, but not real comprehensive or requiring any special knowledge or training to pass.

In January the area vo-tech school in Liberal, Kansas offered a program to license farmers to meet the proposed EPA requirements, along with a special corn producer class. Not one individual enrolled, but over 50 farmers enrolled in the corn producers class.

I . . . just want to see people who deserve an "E" for effort receive it. **Del Lawson, Elkhart, Kansas.**

I recently wrote a letter to my governor (Oregon) about the use of pesticides and insecticides. I wrote to him about the people who complain about the use of pesticides. It seems that the citizens of the U.S. want to see the ban of all pesticides because they feel that it is hurting our environment. In most cases the people who would like the ban of pesticides have never used them or even plan to. This is like saying you don't like ice cream with-

out even tasting it. (By the way, ice cream is very good.)

Not too long ago President Nixon said that he is trying to pass a law that the use of pesticides and insecticides be banned totally to the public except for licensed experts. This would be a very good law. It would probably reduce the complaints about pesticides to a very minimum. The reason: those who use pesticides (except experts) do not use them correctly and thus the public complains about how it effects our wildlife. **Juergen Witte, Medford, Oregon.**

In your January 1973 issue your editorial mentions the "International Pesticide Applicators Association, Inc." Would you kindly furnish me with their address and the name of the executive secretary or correspondent so that I may establish liaison with him.

Although I agree with the general tenor of your editorial I think you will find that there are several other states that are furnishing applicators with information and requiring some sort of examination. The north-eastern pesticide coordinators are presently well along in the preparation of a basic "core" manual for pesticide applicators designed as a self-training manual and will soon embark upon the preparation of several additional supplementary manuals in seven specialized areas.

In addition, the New England States and New York recently held a joint meeting of their regulatory officials and the pesticide coordinators to consider standardization of training materials, examinations, and registration for licensing so that licensing could be treated on a reciprocal basis. All of this bodes well for the applicator and hopefully will over the years improve his professional stature. **James E. Dewey, extension program leader, chemicals-pesticides, Cornell University, Ithaca, N.Y.**

*Editor's Note: The executive secretary of the International Pesticide Applicators Association, Inc. is Lew Sefton, Sefton's Spray Service, 5600 S.W. Rosewood, Lake Oswego, Oregon 97034. JAS.*

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One man can easily fertilize, seed, and mulch up to 6 good size lawns a day with the PP500. Only one moving part insures low maintenance. Simple to operate. Add mulch, seed, fertilizer plus a soil binder such as Terra Tack to the circulating water to form a homogenous slurry. . .then spray. . .that's all there is to it. Spray on all the ingredients necessary for good turf — all in one easy operation. Check out the time. . .you'll be surprised.

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Country Club, Lutherville, Md.; Gordon C. Witteveen, superintendent Northwood Country Club, Toronto, Canada.

Site of the 1974 meeting is the Anaheim Convention Center, Anaheim, Calif. This will be the 45th annual meeting. Dates are: February 17-22. □

## Design Changes Complete Says Lockwood's Dan Walter

The Lockwood Corporation of Gering, Nebraska, has announced completion of its long-rang program to restyle and re-engineer the Lockwood-Hardie line of shade tree and utility sprayers.

According to Dan Walter, Product Manager for the sprayer line, Lockwood has been making gradual improvements in the Hardie line of sprayers since purchasing it two years ago. One major improvement is stainless steel tanks as standard equipment on air blast sprayers to increase their longevity and reduce maintenance. Another is their lower profile design to improve overall maneuverability, prevent sliding and make the sprayers easier to pull.

Walter further announced that Lockwood is now holding training seminars for dealers regarding new features of the Lockwood-Hardie line. One point being stressed to dealers at the seminars will be the importance of new equipment field demonstrations at the user level.

## Varieties Resistant To DED Studied At Mich. State Univ.

Arborists will soon be able to replace trees lost to Dutch Elm Disease with a disease-resistant elm variety, according to a Michigan State University forestry specialist.

Within the next decade, an elm-breeding project begun in 1969 at MSU should produce a suitable variety that resists the fungus disease, says Dr. Jonathan Wright.

One type, the Siberian elm, has already proven disease-resistant. But it tends to break down during ice storms and has neither the large leaves nor desirable shape of the American elm, Wright notes.

"We are screening over 600 elm samples from 200 countries, including Bulgaria, Siberia and Japan, to locate a variety that shows resistance to the disease, rapid growth, longevity and good form," the forestry specialist says.

## GREATEST SPECTACLE (from page 44)

ment student, University of Massachusetts, Amherst, summed up many of the feelings of turfgrass students about their future. He said, "When Dr. Troll (Univ. of Mass.) greets a new freshman class each year, he passes on this bit of information, 'You have to think turf, sleep turf, eat turf, or in other words, you have to be some kind of man to succeed in becoming a golf course superintendent,' I believe there always will

be a place in this field for a person who orients himself towards Dr. Troll's beliefs."

New president of the Association for 1973 is Clifford A. Wagoner, superintendent at the Del Rio Golf and Country Club, Modesto, Calif. Other officers are: Charles G. Baskin, superintendent, Country Club of Waterbury, Conn., vice-president; Palmer Maples, Jr., superintendent, The Standard Club, Atlanta, Ga., secretary-treasurer. New directors elected are: George W. Cleaver, superintendent, Chestnut Ridge

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## Hesston's Front Runner<sup>™</sup> GMT...in a class by itself!

### New! The Hesston Stump Cutter

**The easy, economical way for one man to remove tree stumps!**

In one, simple operation, the Stump Cutter cuts away at stumps until there is nothing left but a neat 8-inch deep hole in the ground. And the hole can be refilled in a matter of seconds, without leaving the slightest trace of a stump ever having been there!

The compact, lightweight Stump Cutter is easy to operate, and easy to get into those hard-to-reach areas other stump removers can't handle. It rolls right through standard size doors and gates, and moves easily in shrubs, next to buildings, along sidewalks, driveways and curbs.

The Stump Cutter's rotating tungsten carbide cutting wheel, fully-enclosed power-band drive, and big 8 hp Briggs & Stratton engine make fast work out of cutting the toughest hardwood stumps. Fold down handles make storage and transportation easy.

See the Stump Cutter soon and see how Hesston is making stump removal a one-man job!



Move up in power, style and versatility, and move out of the miniaturized farm tractor class with the first true GMT. The Hesston Front Runner...a grounds maintenance tractor designed with the operator and attachments "up front," for precise, efficient control. The Front Runner is fast, powerful and stable on slopes and hillsides. Hydrostatic front wheel drive gives top speed, up to 11 mph, with instant forward and reverse controlled by a single lever. Articulated steering lets you cut circles, make short radius turns, and get in close to walls, curbs, buildings and other obstacles. Optional power steering makes driving even easier! Quick-change mower heads on the big 18 hp Model 180 include the giant 80" batwing mower or 60" head mower...to make fast work out of the biggest jobs. The self-contained vacuum pickup lets you clean as you mow...holds up to 20 bushels of clippings, leaves and litter! The Model 140, with 14 hp engine, has plenty of power for both the 48" and 60" mowers. Other front mounted attachments include: angle dozer, rotary broom and 42" or 48" snow throwers. There are also rear-mounted, ground engaging attachments like: 8-blade disc, moldboard plow, cultivator and aerator. See the Front Runner GMT at your nearest Front Runner dealer...you'll see why it's in a class by itself!

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Please send me literature on the Hesston Front Runner GMTs  the Hesston Stump Cutter  and the name of my nearest dealer.

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# Controlling Weeds Under Trees

By Elton M. Smith  
Extension Specialist  
Landscape Horticulture  
Ohio State University

The use of the combination of post and pre-emergence herbicides to control weeds under trees in nurseries, park areas, golf courses, and other landscape situations is increasing rapidly.

Herbicide tests designed to evaluate five combinations of post emergence herbicides with Simazine in

The specific objectives of these experiments were to ascertain the extent of weed control, degree of weed regrowth and to observe any phytotoxicity.

Treatments were sprayed on a 2½' band in a row of newly planted Radiant Crabapples on June 11, 1971 with weeds 6-15" in height. The area

TREATMENT — RATE AIA	RATING	COMMENTS
Daconate 4# + Simazine 2#	Poor	Extensive smartweed and Flower-of-An-Hour present
Amitrol T 2# + Simazine 2#	Good	Lambsquarters present
Amizine 7#	Good	As above with lambsquarters and smartweed recovering
Phytar 560 2# + Simazine 2#	Good	Lambsquarters recovering
Paraquat 2# + Simazine 2#	Excellent	Nearly complete control

the control of weeds beneath trees were conducted in a commercial nursery in New Carlisle, Ohio during the summer of 1971.

between the rows was maintained in sod and mowed periodically. Results were evaluated on July 15 and August 17, 1971.

The observations in July were rated as indicated below with the following values:

Excellent—Nearly all annual weeds controlled.

Good—Acceptable control, 1 or 2 species uncontrolled.

Fair—Acceptable, with several species uncontrolled.

Poor—Unacceptable weed control.

Two months following application the Simazine in all plots was continuing to effectively control the growth of annual weeds. Those existing weeds which were not completely killed with the post-emergence spray had regained vigor and were quite large, particularly the lambsquarters and smartweed.

There was no evidence of damage to the foliage or trunk of the Crabapples with any of the treatments. The leaves of the suckers which were sprayed were injured or defoliated, however, the woody stem growth remained.

The most effective treatment in this study for the control of weeds beneath trees was the combination of Paraquat and Simazine. The Phytar 560 + Simazine combination was slightly more effective than the combinations of amino triazole and Simazine.

## USDA Scientists Study Air Pollution

Everybody talks about how air pollution affects people, but polluted air also injures crops and other plant life. With a view to reducing or eliminating this damage to plants, scientists in the Agricultural Research Service are making intensive studies of the ways in which pollution injury occurs and in finding ways to reduce grower losses.

The need for such studies is becoming critical. Air pollution injury to vegetation is increasing across the United States, according to Dr. Howard E. Heggstad, plant pathologist and Head of the ARS Plant Air Pollution Laboratory in Beltsville, Md. It is currently causing losses estimated at more than half a billion dollars annually . . . and these losses are rising.

In 1969, 281 million tons of pollutants were released into the air over the United States. Many Americans — most notably the 150 million urban residents — have to live with this polluted air for most of the year.

Although the problem is a general



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one, some areas are affected to a greater extent than others. The major pollution problem in the eastern United States, for example, extends generally from North Carolina to Massachusetts. However, it seems to be most severe within 100 miles of the coastline.

In line with this observation, Dr. Heggstad found that levels of plant-damaging oxidants, primarily ozone in Washington, D. C., doubled between 1961 and 1970. The problem became most acute during four days of severe air pollution in late July 1970. Following the episode, the National Park Service reported foliar injury on a wide variety of tree species in Washington, D. C. when leaves began to yellow and turn brown. Also, in early June 1971 an episode occurred when relatively heavy concentration of photochemical smog were formed in the atmosphere. These toxicants are created by the action of sunlight on products of fuel consumption (nitrogen dioxide and unburned gasoline).

Dr. Heggstad and his associates also found that plants grown under humid conditions in the eastern United States are much more sensitive to air pollutants than those grown in the arid West. He also noted that pollution damage to vegetation varies by season. More damage occurs in summer months, primarily because of higher temperatures which favor photochemical reactions and the production of ozone and other oxidants.

Research studies representing a scientific effort to head off the air pollution threat to plants have been underway since 1968 at the Plant Air Pollution Laboratory and several field stations. This research focuses on the mechanisms of air pollution damage to ornamental plants and food crops, the role of trees in removing pollutants from the air, and the development of pollutant-resistant plants.

Among the more promising approaches being taken in the Laboratory's research programs are experiments to determine which plants are most resistant to — or tolerant of — air pollution.

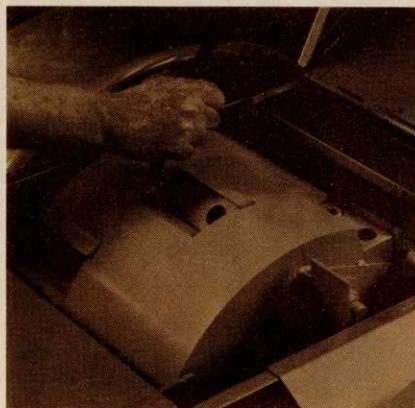
Even within a given plant species, some forms have shown more resistance than others. Furthermore, some plants exhibit greater resistance at certain stages of development than at others. Slow growing plants are generally more resistant than soft, rapidly growing plants. By the same token, young leaves and older leaves are usually more resistant than recently matured leaves.

# Mitts & Merrill Brush Chippers For...

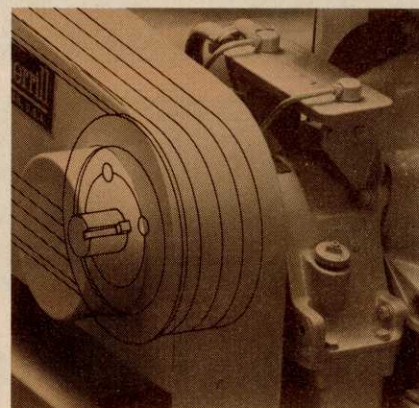


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**Optional torque converter** isolates engine and transmission from cutting shock to minimize maintenance. Makes operation virtually fully automatic; increases operator productive time. Available on all models.

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- **Positive safety-lock pin** for greater operator safety
- **Swing-away, folding feed chute** protects cutting chamber; allows instant access and increases maneuverability
- **Heavy duty construction** includes coil spring, torsion-type suspension, and box tubular steel frame.

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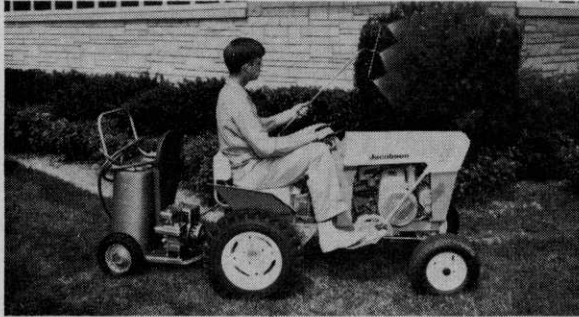
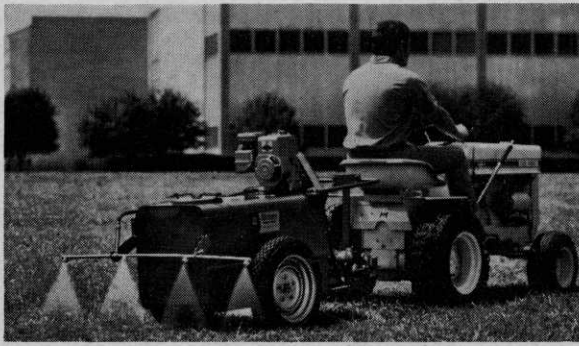


Dept. WT-76, 109 McCorskry St., Saginaw, Michigan 48601  
For More Details Circle (128) on Reply Card

Other specialized studies concerning the effects of air pollutants on plant life are being conducted by Dr. C. L. Wilson, plant pathologist, and Dr. B. R. Roberts, plant physiologist, at an ARS field facility — the Shade Tree and Ornamental Plant Laboratory in Delaware, Ohio. One result of this work is a finding that certain tree species take up more gaseous pollutants into their leaves than other species. Although this usually injures the plants, they continue to absorb the toxic gases as long as the leaf tissue remains

functional. Because their needles do not drop off, evergreen-type plants take up pollutants year-round. Uptake of the pollutants may cause growth reduction and some quality changes.

Removal of pollutants by plants helps reduce the level of the pollutants in the atmosphere. Research at USDA in Beltsville, Md. and Stanford Research Institute in California, show that soil microbes remove pollutants such as ethylene and carbon monoxide which are not removed by higher plants.



stallations, while the exposure limits to noise now being enforced by OSHA of a time-weighted average of 90 dBA for an eight hour work day would be retained.)

Controlling noise at the source, says Van Atta, generally involves either modification of existing equipment and structures or a specification of maximum permissible noise levels of new equipment and structures at the design stage.

However, he points out, it is not enough to specify that the sound pressure level of the operators' station shall be 90 dBA or less. If another identical machine is placed nearby, the level produced by the two is apt to be 93 dBA at the operators' stations.

Among other related points, Van Atta observes:

- Where noises can be controlled by total enclosure of the equipment or by covering it with a layer of sound insulating material under a sound reflective outer shell, usually some account must be taken of the fact that sound insulators are generally good thermal insulators and there may be a problem of dissipating the heat in the enclosure.

- Noise sources in solid systems are commonly small and not good radiators to air. The main problem in controlling them is usually finding a means to uncouple them mechanically from the radiators with which they are associated.

- Noise from gas jets is produced by the turbulence at the boundary between the jet stream and the still air. It can be reduced by reducing the velocity of the jet stream or by spreading out the boundary layer.

There are other ways of dealing with noise in addition to reducing it at the source. Many operations, says Van Atta, permit the exposure of people to noise to be controlled administratively without modifying the noise. This can involve changing production schedules or rotating jobs so that exposure times are within safe limits. This approach, according to the OSHA official, is worth investigating since we do see instances where job rotation has avoided the use of personal protective devices and has the additional virtues of improving production and reducing employee dissatisfaction and complaints.

Pending better arrangements, employee exposure can be controlled by the mandatory use of ear protective devices. They should be issued only by a person who has been properly trained to measure the ear canal and to recognize the contra-indications, states Van Atta. The person who

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## OSHA Official Describes Noise Solution

The most desirable method of controlling a noise problem is to eliminate the noise at the source, says F. A. Van Atta, special assistant to the director of compliance, Occupational Safety and Health Administration.

"The simplest rule of thumb," according to the OSH Administration official, "is that if you must raise your voice to talk to someone stand-

ing beside you there is probably a hazard to hearing, and a sound meter survey should be made to determine the hazard."

(The National Institute for Occupational Safety and Health recently recommended to the Occupational Safety and Health Administration the adoption of a noise limit of 85 dBA for all places of employment after an effective date to be determined by the Administration in consultation with NIOSH. The limit would apply immediately to new in-