

generated within the nozzle in the presence of a high-voltage electric field, they take on a negative charge and are then carried outward to the tree in the airstream. The cloud of negatively charged spray droplets drives negative ions out of the tree into the ground, leaving the tree with a positive charge. The negatively charged drops are then drawn to the positively charged plant, resulting in greater pesticide coverage on the underside of leaves and stems than can be achieved with uncharged sprays. Prototype electrostatic sprayers are being evaluated and the results to date are very promising.

References

1. Beasley, E.O., J. Glover, and W.A. Skrock. 1976. Orchard spray equipment. Circular AG-08. North Carolina Agricultural Extension Service, Raleigh.

2. Hall, F.R., D.L. Reichard, and H.R. Krueger. 1975. Dislodgeable azinphosmethyl residues from air blast spraying of apple foliage in Ohio. Archives of Environmental Contamination and Toxicology. Vol. 3, pp. 352-363.
3. Reichard, D.L., R.D. Fox, R.D. Braze, and F.R. Hall. 1979. Air velocities delivered by orchard air sprayers. Transactions of the ASAE. Vol. 22, pp. 67-74.
4. Reichard, D.L., H.J. Retger, L.A. Liljedahl, and R.F. Hall. 1977. Spray droplet size distributions delivered by air blast orchard sprayers. Transactions of the ASAE, Vol. 20, pp. 232-237.
5. Hypo sprayer pump handbook. 1976. Hypo Division of Lear Siegler, Inc., St. Paul, Minn.
6. Orchard and row crop air sprayers-technical manual. 1964. F.E. Myers & Bros. Co., Ashland, Ohio.

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ABSTRACTS

Bramble, William. 1980. **Sound right-of-way program must include plant ecology.** Weeds Trees & Turf 19(1): 16-18.

Plant ecology is the science which treats of relations between plants and their environment — a reciprocal relationship. An understanding of these ecological relationships is basic to sound ROW management. To simplify and make something useful and understandable out of the complex ROW situation is the most difficult task in application of ecology to management. One of the leading tenets in an ecological approach to ROW management is the stability of shrub communities. The concept is that pure shrub patches on ROWs, once established and trees removed from them, are stable and resist tree invasion. The sequence of events which takes place after a ROW is cleared through a forest has some very interesting ecological aspects which are also a key to what occurs in older ROWs.

Thimann, Kenneth. 1980. **Scientist defends use of 2,4-D.** Agrichemical Age 24(2): 29.

2,4-D is the most generally useful of all herbicides. Its discovery arose from the work on natural plant hormones, to which it is related. It is harmless to man, it is rapidly destroyed by bacteria in the soil (and to nontoxic breakdown products), and lastly it has the special ability to kill broadleaved plants (technically dicotyledons) without harming the narrowleaved group (monocotyledons), a group that includes the grasses, wheat, barley, corn, rice, etc. It has been in regular use throughout Europe and North America since about 1948, i.e., for 31 years, and in that time the only damage to human ascribed to it, as far as I know, was to a few who deliberately drank it for suicidal purposes. Now some pesticides are indeed toxic to humans. When EPA made the mistake of banning the insecticide DDT, farmers and others resorted to malathion and other organophosphates which are toxic, and those have accounted for over 60% of the hospitalized cases of pesticide poisoning in 1976-77.