

## PLANT DOCTORING IS FUN

BY

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Twenty-five years ago I hung out a shingle with just three words, *The Plant Doctor*. So far as I know, I was the first professionally trained plant pathologist to go into private practice as a physician to home gardens. It has proved to be an occupation extraordinarily rich in satisfactions, not quite so rich in monetary rewards. Dr. BEIJER has suggested that a brief summary of my work would not be amiss in this issue dedicated to Prof. Dr. EGBERT VAN SLOGTEREN, whose plant doctor achievements have so greatly benefited the home gardeners that I serve.

After majoring in Botany at Wellesley College, I went on to graduate work at Cornell University, turning to Plant Pathology chiefly because I was offered work in that department. It was my great good fortune to work for Prof. H. H. WHETZEL, four years as a part-time teaching assistant, six years as a full-time research assistant for his studies in the genus *Sclerotinia*. This took me along to Europe where, in 1930, the WHETZELS and I spent an unforgettable spring in Holland, with headquarters at Prof. VAN SLOGTEREN's Bulb Laboratory. We arrived with the crocuses and stayed through the pageant of Darwin tulips, a wonderfully shining interval in my memories. I arrived beaming at the Laboratory every morning saying: "Mooi weer vandaag!", the only Dutch I learned because everyone spoke English so well.

Returning from Europe, we found that the Depression, then in full swing, meant the end of the research grant. There was a stop-gap job testing legume inoculants at the New Jersey Experiment Station but long before the second year was up I was ready to follow the advice Prof. WHETZEL had been giving his men students for years, without making any converts. I decided to be my own boss, to take on gardens as patients. After months of reading newspaper advertisements and visiting real estate agents in the suburban New York area I purchased an old house in Glen Ridge, New Jersey. It had enough land for test plots and roses became my guinea pigs for pesticide tests; first, because my personal research had been on rose diseases; second, because roses respond so spectacularly to regular weekly care and are the best possible advertisement for a plant doctor; third, because I can't live without roses. Neither can I live without Dutch bulbs but they are too healthy to be good guinea pigs.

No entomology had been included in my training and for a year or two another Cornellian, Dr. IRENE DOBROSKY, was the entomological half of The Plant Doctor. By the time she left to be married I had learned enough insects from gardens and books to carry on alone.

Although I try to keep my patients healthy rather than to cure them after they are ill, I operate with about the same professional ethics as an M.D., with no advertising except by satisfied clients. That meant a rather slow start and for the first two or three years I did all kinds of odd jobs to eke out an income, including taking in roomers and even running a tea room one winter. Now the fluctuating plant doctor income is supplemented by writing and lecturing.

The fluctuation in income is due almost entirely to weather. Gardens are taken on for the season, and usually for the life of the owner. I can have only as many as can be visited often enough to prevent disease and with our unpredictable weather time cannot be scheduled economically. It is raining today, which is why I have time to write this article. It also rained yesterday and the day before that. A month ago it rained for six consecutive days with no interval when it was possible to get on any sprays. Early spring work, dormant spraying and pruning roses, was delayed for weeks by a series of unusual late-season snowstorms. So I have to have a limited list of clients, 45 at the moment, and a waiting list.

The first season I made the mistake of taking gardens at a definite contract price. Now I charge by the hour, enough to cover cost of an assistant and transportation, plus the cost of materials used in each garden. A client knows that I am doing only the most necessary things and I am not blamed for diseases that are too unimportant to justify the cost of treatment. In the early days I included feeding shade trees and spraying fruit trees in my work. Now I leave trees to commercial arborists. My client must have roses, so she will receive full value for the regular weekly visit I want to make, but while I am spraying roses and providing six months of bloom, I can take care of occasional problems as they arise on perennials and shrubs.

I test many new pesticides in many different combinations each year in my own garden but the rose spray that I continue to use for clients is quite old-fashioned. It contains ammoniacal copper and ferbam as fungicides, lead arsenate for beetles, rose-slugs and other chewing insects, and pyrethrum and rotenone for aphids. I prefer not to use any spray containing DDT regularly because of the increase in mite populations but I do add DDT in early autumn if leafhoppers are particularly numerous. I also prefer not to use a miticide all season but I add one to my spray every other week from mid-May to early August. Alternate weeks I add a soluble fertilizer, a foliar food to supplement the ground feeding I have done soon after spring pruning.

The copper in the combination spray gives sufficient control of powdery mildew except in locations with little air circulation. Then I add karathane as necessary, usually two or three applications in late summer. Although this spray is not an eradicant for blackspot once it has gotten a head start, it is an excellent protectant. I have taken over rose gardens that have been completely defoliated by blackspot and inside two years have brought them to the point where it is impossible to find a single lesion the whole season. The secret lies in regular applications and complete coverage of foliage, neither of which the ordinary gardener seems to accomplish. A good mulch is also an aid in preventing spread of blackspot because it reduces the amount of splashing of spores by rain.

The combination rose spray can also be used on most annuals and perennials in the garden to control aphids and many other problems but zineb is preferable for *Botrytis* blights and for rusts. Scale insects call for a dormant oil spray in March and sometimes malathion at the crawling stage. Borers in iris and lilacs, pine sawflies, holly and boxwood leaf miners, *Vespa* hornets on lilacs require carefully timed applications of DDT. Lindane is my best control for birch leaf miners, woolly aphids, and lacebugs on azaleas, rhododendron, and andromeda.

Instead of a power sprayer, I use a hand-pumped, twelve-gallon wheelbarrow sprayer, which can be carried around in the trunk of my Ford car and rather easily manipulated up and down garden steps and around crooked paths. My

assistant has a strong right arm, good for pumping the sprayer all day, unpacking and packing up the car a dozen or more times a day. He also can be trusted to mix up the necessary sprays at each garden while I inspect the plants and decide what is most needed on that particular visit.

During World War II, when men could not be spared for research on ornamentals, I spent two winters in Alabama working for the United States Department of Agriculture on azalea flower spot, also known as petal blight, a disease serious enough to close the big public azalea gardens throughout the South. It was caused by *Ovulinia azaleae* WEISS, a close relative of the Sclerotinias I knew so well from working with Prof. WHETZEL. Because it was a disease of blossoms only there had been little hope of controlling it by spraying. It was argued that no one would be willing to spray often enough and that spray residue would be too unsightly and injurious on the petals. I was convinced, however, from my long experience in spraying roses, that spraying would be profitable on azaleas and could be inconspicuous. I was able to demonstrate this rather spectacularly in Alabama. Three sprays a week with nabam, starting as the azaleas were coming into bloom and continued for a month or so, gave practically a hundred per cent control compared to unsprayed bushes with every flower completely collapsed, slimy, and brown. It was possible to spray half of a bush and not the other, with the line of demarkation as clear-cut as if drawn with a paint brush. In some of the big gardens spraying prolonged the azalea season as much as six weeks and with several thousand paid admissions daily at peak bloom the spraying program, still continued, returns very high dividends in proportion to the cost.

Writing and lecturing have been natural corollaries to plant doctoring for I learn so much every day in gardens to pass along to others. The first book, "The Plant Doctor", was a calendar of operations for the Northeast, based on notes in my doctor's casebook. As soon as that was in press, I started driving around the United States to see how much of what I said was good for the rest of the country. I have been travelling and learning and writing ever since, financing the trips by lectures, mostly to garden clubs.

The lecturing led to being appointed chairman of Garden Enemies for the National Council of State Garden Clubs and my first task was to represent the Council at a Quarantine Hearing in Washington. I could testify from personal experience that Dutch bulbs presented no threat to our American gardens. For years Prof. VAN SLOGTEREN has sent me a crate of bulbs each November, providing five months of bloom and bringing great joy to many people. The "prepared" hyacinths, potted up in soil, are ready for Christmas distribution. Some go to a friend in an apartment. When flowering is over, her daughter in the country ripens off the bulbs and plants them outdoors where they continue to bloom year after year. Before the hyacinths have finished on my windowsills, the tulips, brought in from a trench in the garden, have started to flower. Brilliant Star, Prince of Austria, General de Wet, Peach Blossom, van der Hoef, even Red Emperor, force beautifully in the living room. And before the indoor tulips have finished, the species have started to flower in front of the house, interrupting traffic as people stop for a closer look. For years, I planted tulips on the back hill and the children always came and picked them, claiming no one lived there. Now that they are in front and obviously belong to someone, not one flower has been picked or even run over with a tricycle. Even the tiniest tots

enjoy them, bending over to see if they are fragrant. Most of the later tulips are in the perennial border and long before the last of these are over the roses have started to bloom, to continue to December. Thus, with only two types of plants and almost no work, I have flowers for all but two or three weeks out of every year.

The roses are planted in replicate beds for spray tests but the general effect is rather beautiful. When I was chairman of the local Victory Garden Committee and wanted to demonstrate certain techniques in growing vegetables I used the roses as bait, inviting the whole town to a party in the garden, feeding the guests wartime punch and cookies. That led to an annual affair and this past Sunday we celebrated the plant doctor's eighteenth "Rose Day," with about eight hundred visitors from many states. All the hundreds and hundreds of cookies I had baked, nights after spraying gardens, and all the many gallons of punch disappeared.

A simple little book, "Anyone Can Grow Roses", has brought me hundreds of rose friends in this country and elsewhere. Writing it was pure pleasure, a holiday after the two big reference volumes, "The Gardener's Bug Book" and the "Plant Disease Handbook", and a smaller book, "Garden Enemies", which included only the more common insect pests and plant diseases. With so much new information constantly being published, most of my time has to be spent revising the reference books but another holiday from serious writing produced, last year, an autobiography, "Plant Doctoring Is Fun". In this book there are numerous references to the things Prof. VAN SLOGTEREN has done for me through the years and perhaps the best way to end this brief account of my life and work is to quote a few lines.

"I flew to Washington for the American Horticultural Congress already in session. Prof. VAN SLOGTEREN had come to America at this time to receive a citation for his outstanding work in providing healthy bulbs for American use...

Before returning to Holland Prof. VAN SLOGTEREN visited here for a couple of days. I invited in the neighbors and friends with whom I had shared his bulbs. It was an evening to treasure. By word of mouth and Kodachromes we made him know how much his good-will gesture had meant to so many and he brought us pictures of the Dutch bulb fields."