Weed hosts apparently are not a factor affecting survival of this nematode in Wisconsin. Repeated attempts to recover *D. destructor* from weeds growing in heavily infested soil were unsuccessful; *D. destructor* has not been recovered from any cultivated crop other than potato. Several hosts of *D. destructor*, however, have been reported (2), and Anderson (1) states that weed hosts are important to survival and population buildup in Europe, particularly in Sweden. Although Faulkner and Darling (4) demonstrated that *D. destructor* fed and reproduced on a wide range of fungi isolated from soil and infested tubers, their role as a host in nature is not clearly understood. Different isolates of this nematode were observed to increase, often in great numbers, on fungus cultures for more than 12 yr without losing pathogenicity. Isolates of this nematode that were collected from widely separated geographic areas and a variety of hosts differed greatly in pathogenicity to potato but could not be distinguished morphologically (5).

Compared with the economic value of the potato crop, the cost of the fumigant and its application is considered a reasonable practice. Equipment used in a potato operation can easily be adapted for use in fumigation and once calibrated, can easily be operated.

As far as we know, this is the only well-documented report of a nematode pest being eradicated from light to heavily infested soil after fumigation.

ACKNOWLEDGMENT
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LITERATURE CITED
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Cyanoacrylate Adhesives in the Study of Plant Diseases

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ABSTRACT

The surfaces of apple leaves with powdery mildew were attached to microscope slides, using cyanoacrylate adhesives. After 3 min, the unattached tissue was removed leaving epidermal sections and the associated fungal spores and mycelium on the slide. Extreme clarity was achieved with these preparations, which serve as permanent mounts.

We reported earlier on the use of cyanoacrylate adhesives for making sections and imprints of plant epidermal tissue (5) as a modification of procedures used in human dermatology (3). The primary advantage of this method over previously reported techniques (1,4,6,8) is that preparations are not merely imprints but contain a thin section of the actual tissue.

Because it was found that tissue is stripped from the plant and preserved as a permanent mount, we thought pathogens associated with plant tissue might also possibly be removed and preserved for study. In addition to use for cytological and histological aspects of diseases, cyanoacrylate adhesives could aid in diagnostic work. The technique was demonstrated with powdery mildew of apple.

MATERIALS AND METHODS
Cyanoacrylate adhesives with the trade names Superdrop (Ornstein Chemicals, study. In addition to use for cytological and histological aspects of diseases, cyanoacrylate adhesives could aid in diagnostic work. The technique was demonstrated with powdery mildew of apple.

MATERIALS AND METHODS
Cyanoacrylate adhesives with the trade names Superdrop (Ornstein Chemicals,
Seabrook, NH 03874) and Superglue (Loctite Corporation, Cleveland, OH 44101) were applied to the upper surfaces of apple leaves infected with Podosphaera leucotricha (Ellis & Everh.) Salm. The freshly glued leaf was placed against a microscope slide previously cleaned with absolute ethanol and a second slide was placed on top so it contacted the nonglued leaf surface. Pressure was administered by holding the two slides firmly together with a wooden clothespin. After 3 min, the two slides were separated and the leaf section was peeled away from the first slide by grasping one edge of the tissue with forceps and pulling. The adherent tissue and fungal mycelium was examined with a Zeiss microscope equipped with differential interference contrast optics.

RESULTS AND DISCUSSION
Features of P. leucotricha as well as characteristics of the leaf epidermis were remarkably distinct (Fig. 1). The material was examined at various magnifications, using dry and oil-immersion objectives. Good resolution was achieved with oil applied directly to the sections without using a coverslip. The stripped sections of infected tissue (no coverslip) served as permanent mounts. Preparations have retained initial clarity for months.

The technique may be of value in studies of penetration and growth of plant pathogens or may serve as a diagnostic tool. The procedure is inexpensive and very simple, certainly less elaborate than the technique (7) devised for light microscopy studies of powdery mildew. Permanent mounts can easily be made in the field and examined later in the laboratory. In addition to stripping plant surfaces, sections of internal tissues have been obtained by placing cyanoacrylate adhesives on a freshly cut surface, pressing the glued surface against a microscope slide, and later lifting the tissue from the slide. This technique could possibly be used to examine diseased internal tissues if structural breakdown is not severe.

Lavker and Leyden (2) were able to remount skin tissue adhering to slides for electron microscope examination. They found that the cyanoacrylate adhesive gave good fixation at the fine-structure level. The potential exists for using cyanoacrylate adhesives to prepare diseased tissues for examination with the electron microscope.

LITERATURE CITED