Immunosorbent electron microscopy (ISEM) was used successfully by I. M. Roberts and D. J. F. Brown to detect viruses in nematode vectors. The technique, used previously to detect virus particles at low concentrations in extracts of plants and virus-carrying aphids, was a thousand times more sensitive than conventional electron microscopy. Particles of six nepoviruses were observed in single nematodes of their respective Longidoridae vectors. Virus was not detectable, however, in single *Longidorus macrosoma* heads, despite previous evidence that virus particles occur in the head and, more specifically, in the lumen of the odontostyle and the space between the odontostyle and guiding sheath. (Ann. Appl. Biol. 96:187-192)

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Seeds extracted from strawberries rotted by *Botrytis cinerea* germinated significantly better (48%) than did seeds extracted from healthy fruit (21.8%), according to A. E. Brown and M. J. Musa, who used seeds from self-pollinated plants. Immediate germination of seeds from healthy fruit was poor; chilling the seeds for 1 mo improved germinability but not to a level significantly better than the immediate germinability of seeds from rotted fruit. Germinability of seeds treated with pectic enzymes from either rotted fruit or liquid cultures of *B. cinerea* equaled that of seeds from rotted fruit. The authors conclude that the pectic enzymes erode the seed periderm, which favors germination. (Seed Sci. Technol. 8:269-275)

□ □ □

Plating cell suspensions of virulent strains of *Agrobacterium tumefaciens* onto a minimal medium containing agrocin 84 yielded many mutants with resistance to the bacteriocin, report S. Süle and C. I. Kado. The resistant strains still harbored the tumor-inducing (Ti) plasmid and retained virulence. When transferred to a plasmidless strain, the Ti plasmid from an agrocin-resistant mutant continued to confer a high level of agrocin resistance. Resistant mutants took up only negligible amounts of agrocin, whereas sensitive strains readily took up agrocin. The authors suggest that resistance to agrocin 84 results from point, small makeshift, or insertional mutations in the Ti plasmid. Because agrocin production by *A. radiobacter* K84 is used for biological control of crown gall, the possible appearance in nature of pathogen mutants with resistance to agrocin 84 must be considered. (Physiol. Plant Pathol. 17:347-356)

□ □ □

The DNA homology among 10 strains of spiroplasma has been assessed by I. M. Lee and R. E. Davis, who used single-strand specific S_1 nuclease to analyze DNA-DNA hybrids. The 10 strains could be divided on the basis of DNA homology into three genetically distinct groups designated I, II, and III; these groups corresponded to three separate serogroups described by the authors in earlier work. Group I could be divided on the basis of DNA homology tests into subgroups A, B, and C, which corresponded to three subgroups proposed earlier. Subgroup A contained strains of *Spiroplasma citri*, subgroup B contained strain AS576 from honeybee and a flower-inhabiting strain G1 from Florida, and subgroup C contained strains of the corn stunt spiroplasma. Groups II and III contained flower-inhabiting strains from Maryland and Connecticut, respectively. Homology was 5% among groups and 27–54% within Group I. The authors suggest that the major groups represent at least three genetically distinct species and that the subgroups of Group I are phylogenetically related. (Can. J. Microbiol. 26:1356-1363)

□ □ □

The amount of exudate (measured as total carbon) from wheat roots is related directly to growth of the root system, report Z. Přikryl and V. Vančura. In their study, roots that did not grow released almost no exudate. The amount of exudate released from actively growing roots under axenic conditions was about 60% of the dry weight of the root. Removing the exudate from the root zone by an exudate-utilizing bacterium (a strain of *Pseudomonas putida*) increased the amount of exudation to 75% of root dry weight and 22% of the whole plant dry weight. These findings support those of recent studies by others that roots exude into soil a significant percentage of the total plant photosynthate and that exudation from roots in nonsterile soil may be considerably greater than that from roots in sterile soil. The authors suggest that altered cell membrane permeability in addition to removal of the exudate is responsible for the greater exudation in the presence of rhizosphere microorganisms. (Plant Soil 57:69-83)

□ □ □

Some benzimidazole fungicides are toxic to the pea aphid (*Acyrthosiphon pisum*), according to G. A. Partis and K. W. Bailiss. Soil drenches containing 75 mg of benomyl per milliliter killed aphid nymphs on bean plants (*Vicia faba* 'Maris Bead') in the greenhouse. Nymphs feeding through membranes on artificial diets containing benzimidazole compounds also died. Aphid mortality was increased by a commercial formulation of carbendazim but not by the formulation material itself. An artificial diet containing a commercial formulation of thiabendazole was not lethal to aphids. The authors conclude that carbendazim is the effective material, not its breakdown products 2-aminobenzimidazole and benzimidazole, and suggest that the active aphidcide is the carbamate side chain in carbendazim. (Ann. Appl. Biol. 96:137-142)

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