Double-stranded RNA (dsRNA) viruses are extremely common in *Ustilago maydis* and probably other species of *Ustilago*, according to results of a survey by P. R. Day of the Connecticut Agricultural Experiment Station, New Haven. The methods used permitted detecting dsRNA in galls without first culturing the fungus, although fungus culturing was done with some collections. Nine dsRNA patterns were recovered from 48 smut samples collected from corn growing in 29 townships in Connecticut. The same patterns in different frequencies were found in collections of corn smut from Poland, which the author offers as evidence that *U. maydis* was introduced into Poland from the New World. The complexity of the dsRNA patterns suggests that the viruses in *U. maydis* are multicomponent. The effects of fungus cytoplasm and dsRNA included promotion or suppression of pathogenicity, depending on the strain, but either effect was slight. The author concludes dsRNA has no obvious use in biological control of corn smuts. (Mycologia 73:379-391)

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The formation of typical anthracnose lesions by *Colletotrichum musae* on ripening banana fruit results from germination of dark appressoria produced earlier but which remain dormant on green fruit, according to I. F. Muirhead and D. J. Deverall of the University of Sydney, Australia. Previously, subcuticular hyphae of the fungus were thought to be the latent structures on the basis that 1) hyphae formed from appressoria on green fruit grew only a limited extent beneath the cuticle of green fruit and 2) latent infections were resistant to surface sterilization of green fruit with mercuric chloride. Subcuticular hyphae do develop from hyaline appressoria on green fruit but cause a hypersensitive reaction, stop growing, and remain inactive as the fruit ripens. Dark appressoria germinate as the fruit ripens, and the new hyphae produce the typical lesion. The dark appressoria are resistant to treatment with mercuric chloride. (Physiol. Plant Pathol. 19:77-84)

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Freezing tolerance in certain plants has been thought to result, in part, from changes in lipid composition and increased fluidity of the membranes during acclimation. M. K. Pomeroy and J. K. Raison of the CSIRO Division of Food Research at Macquarie University, Sydney, Australia, investigated this possibility in five winter wheat cultivars with known differences in freezing tolerance. The cultivars were grown at 22 C, then cold-hardened at 2 C. Lipid fluidity of the membranes increased slightly with hardening, but results were the same for all cultivars. Development of freezing tolerance did not correlate with temperature at transition of membrane lipids, and cultivars did not differ in membrane fluidity at freezing temperatures. The authors conclude that neither membrane lipid fluidity nor transition temperature is a feature of cold acclimation in wheat. (Plant Physiol. 68:383-385)

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A call for action against worldwide indiscriminate use of antibiotics was issued at a 5-day international meeting on "Molecular Biology, Pathogenicity, and Ecology of Bacterial Plasmids" held in January at Santo Domingo, Dominican Republic. A statement signed by 150 scientists and clinicians from more than 25 countries points out that many of the antibiotics being used to treat diseases (including plant diseases) are losing effectiveness because of drug-resistant strains. The time may come, the statement suggests, when such antibiotics will no longer be useful and a worldwide health problem caused in part by their indiscriminate use will have to be faced. The statement cites practices exemplifying indiscriminate use and points out that antibiotics should not be used as substitutes for good sanitation and personal hygiene. Awareness of the dangerous consequences of antibiotic misuse must be increased in all areas of antibiotic usage. The statement proposes the establishment of directives for prudent antibiotic use, including, as a first step, implementing and enforcing a uniform practice in prescription and distribution of antibiotics. (ASM News Scene 47:397)

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That mating type in *Phytophthora* species is controlled by hormones and that so-called heterothallic strains form oospores by selfing when the proper hormone is supplied were previously reported by W. Ko and associates of the University of Hawaii, Hilo. Sixteen sexuality types were proposed for members of the genus to cover all possible combinations: strains producing α^1, α^2, or no hormone and forming oospores in response to α^1 or α^2 hormone or having no active receptor to either (neuter). Ko and R. K. Kunimoto have now shown that an isolate of the A^1 mating type of *P. palmivora* and another of the A^2 mating type produced, as predicted by their mating types, α^1 and α^2 hormone, respectively, but did not respond to α hormone of the opposite mating type. Other isolates of these mating types produced α^1 and α^2 hormone and responded to α^2 and α^1, respectively. The first two isolates fit sexuality types 2 and 5 of the proposed 16, and the latter fit sexuality type 1. Earlier work had shown that one of 372 isolates of *P. cinnamomi* from Australia and three of 24 *P. palmivora* from Thailand and West Malaysia were neuter, ie, did not produce or respond to α hormone. Therefore, types 1, 4, and 16 all occur among isolates of *P. cinnamomi* and types 1, 2, 4, 5, and 16 all occur among isolates of *P. palmivora*. (Mycologia 73:440-444).

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Dormant spores of *Botryodiplodia theobromae* have mitochondria with membranes deficient in certain components of the electron transport system (eg, cytochrome c oxidase), but germination of these spores depends on cyanide-sensitive respiration. The mitochondria are also deficient in a functional oligomycin- or dicyclohexylcarbodiimide-sensitive ATPase, yet this enzyme is abundant after 120 min of a 240-min germination sequence. According to R. Brambl and H. Wenzler of the University of Minnesota, three subunits of cytochrome c oxidase are products of mitochondrial ribosomes and are synthesized during the first 60 min of germination. Four other subunits are products of cytoplasmic ribosomes and are synthesized at about 100 min. Heme *a* is incorporated into the enzyme between 30 and 60 min after germination begins. The four subunits formed by cytoplasmic ribosomes are absent from mitochc ⁴ria of dormant spores but are qu imported by the mitochondria ea spore germination. Only one polypep.. subunit of ATPase is synthesized on mitochondrial ribosomes; the other 11 subunits are products of cytoplasmic protein synthesis. All 12 subunits are synthesized during the first 45 min of germination. (J. Biol. Chem. 256:7166-7172, 7673-7680)

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