Strains of killer wine yeasts (*Saccharomyces cerevisiae*) that secrete a killer factor and thereby eliminate undesired naturally occurring yeasts in wine making have been developed by S. Hara of the National Research Institute of Brewing, Tokyo, Japan. Because grape musts used in wine making are not pasteurized, many undesired yeasts from grape, soil, and air participate in the fermentation process. The killer factor secreted by the killer strains, which carry double-stranded RNA, is a protein-containing macromolecule. The killer yeasts are insensitive to the killer factor and, when used as starters in wine making, eliminate contaminating natural yeasts. Three strains have been deposited with ATCC. (Am. Type Cult. Collect. Q. Newsl. 2:2)

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Plant pathogens usually can recognize, and some can attach to, the cells of their hosts, but the physical location of the molecules involved and the precise molecular basis for recognition and adherence are generally unknown. J. Feldner, U. Göbel, and W. Bredt of the University of Freiberg, Federal Republic of Germany, have partially resolved a similar question for the human respiratory pathogen *Mycoplasma pneumoniae*. The cells of this pathogen glide along inert surfaces and show a strong attachment to such surfaces and to animal cells. Monoclonal antibody was used to locate adhesin on the surface of the characteristic specialized tip structures on *M. pneumoniae* cells. Autoradiography showed adhesin to be a protein of molecular weight between 160,000 and 190,000. The monoclonal antibody prevented pathogen cells from adhering to human erythrocytes and from gliding on and attaching to inert surfaces. (Nature 298:765-767)

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Leaf inoculation may be a useful alternative to the root-dip method of screening potato cultivars for resistance to *Verticillium albo-atrum*, according to K. S. Hung and N. J. Whitney of the University of New Brunswick, Fredericton, Canada. When applied as a spore suspension to leaves of the susceptible cultivar Kennebec, the pathogen grew freely from cell to cell within the palisade and mesophyll tissues; by the fifth day, the vascular elements were colonized, the leaf became chlorotic, and abscission occurred. The pathogen also penetrated the leaf epidermis of the resistant cultivar F6119, but hyphae were restricted to pinpoint necrotic spots in a hypersensitive-like reaction. The leaf inoculation test is faster and more convenient than the root-dip method. (Can. J. Bot. 60:554-556)

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Because many crops are sensitive to photoperiod, knowing the length of time light intensity is above a certain critical level is useful in plant research and crop management. Information on photoperiods with given light intensities is usually presented in graphs and tables that require interpolation and are not easy to use. T. C. Keisling of the University of Arkansas, Fayetteville, has produced a formula for calculating day length and for obtaining desired information on the beginning and ending light intensity at any location. The equation is designed for computer use. The latitude of the location and the critical light intensity of interest for the particular crop are the only information needed to use the formula, which is explained in full detail. (Agron. J. 74:758-759)

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Production of sorghum F_1 hybrids, as in maize, depends on cytoplasmic male sterilitiy (cms) in the female parent and nuclear restorer genes to prevent expression of cms in plants grown from the F_1 seed. Nearly all female parents currently used to produce hybrid seed have cytoplasm from the milo group. M. F. Conde and D. R. Pring of the University of Florida, Gainesville, K. F. Schertz of Texas A&M University, College Station, and W. M. Ross of the University of Nebraska, Lincoln, used restriction endonuclease fragment analysis to examine the mitochondrial DNA from six cytoplasmic male-sterile sorghum lines having cytoplasm from other than the milo group. Three lines had cytoplasm indistinguishable from milo male-sterile cytoplasm based on their mitochondrial DNA restriction patterns, but the cytoplasms of the other three lines were different. Restriction patterns from chloroplast DNA were indistinguishable for all six lines and milo, indicating that mitochondrial DNA and not chloroplast DNA is responsible for expression of male sterility in sorghum. Thus, the work identifies at least three potentially unique cytoplasms for use in production of hybrid sorghum and indicates that restriction endonuclease patterns may be used to predict unique cytoplasms. (Crop Sci. 22:536-539)

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The interconnection of roots by hyphae of vesicular-arbuscular (VA) mycorrhizal infections is known to enhance the exchange of carbon between plants, but the extent to which mineral nutrients move between living root systems has been unknown. J. Whittingham and D. J. Read of the University of Sheffield, England, used ^{32}P to study the movement of phosphorus between young *Festuca ovina* and *Plantago lanceolata* plants growing close to mature plants of the same species with and without VA mycorrhizae. Both plant species are normally heavily mycorrhizal in semi-natural calcareous grassland in England. Transfer of phosphorus from the mature (source) to the young (sink) plant was significant after 24 hours for *F. ovina* and after 48 hours for *P. lanceolata*. Apparently, young seedlings become infected and receive phosphorus early from mature mycorrhizal plants. The results help explain why seedlings in nature become extensively infected despite low numbers of spores of VA mycorrhizal fungi. All mycorrhizal plants in a community may be interconnected by their fungal symbionts. (New Phytol. 90:277-284)