

HORTICULTURE

**"Mound Gardening"
Increases in Favor**

► A NEW LANDSCAPING TECHNIQUE called "mound gardening" is finding increased favor with homeowners.

According to Dr. V. T. Stoutemyer, ornamental horticultural expert at the University of California at Los Angeles, it might be described as "a 20th century version of the medieval moat to protect modern man's castles from the fiery dragons of the Machine Age."

It consists of vegetation-carpeted mounds which replace traditional lawns—serving not only an aesthetic function but reducing exhaust fumes and traffic noise from busy thoroughfares.

Mound gardening's increasing popularity and use of other landscaping techniques that break up areas so that machine maintenance is not practical, has created a great demand for ground covers, he says. So has the trend toward building on rough and hilly terrain that has resulted from increasing land values and population pressure.

Ground covers, which are replacing turfgrasses in much landscaping, include such plants as dichondra, ice plant, native California strawberries, hedges and certain low-growing shrubs.

These plants should be used primarily where turfgrasses are not practical, Dr. Stoutemyer believes. Their maintenance costs are not infrequently higher than those of turfgrasses, he says.

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GENERAL SCIENCE

**Streptomycin Discoverer
Hits Science Isolation**

► THE COLD WAR is interfering with the war against disease, the discoverer of streptomycin and director of the Institute of Microbiology at Rutgers University, Dr. Selman A. Waksman, charges.

Citing a case of needless duplication in isolating an antibiotic by American and Russian scientists working independently, the Nobel laureate said that closer collaboration was urgently needed to rid medical science of repetitious research and unjustified creation of "new species" of antibiotic-producing organisms and new antibiotics themselves.

Dr. Waksman also urged the creation of an International Antibiotics Board to act as the clearinghouse for all antibiotic research conducted in the world.

In 1946, Dr. Waksman said, a new antibiotic called grisein was isolated in the Rutgers University laboratory. Five years later, Russian scientists announced the discovery of an antibiotic they called "albomycin." Experimental evidence gathered since has shown the two antibiotics are "chemically very similar and identical with respect to antimicrobial activity."

There had been no communication be-

tween the American group and the Russian scientists on their independent research or findings, Dr. Waksman said.

This leads once more, Dr. Waksman notes in *Science* (March 29), "to a sad reflection of the penalty that must be paid for scientific isolationism, which may even be colored by scientific nationalism."

Dr. Waksman also pointed to the fact that recently four different laboratories in the United States and Western Europe all isolated the same preparation.

"If ever isolationism has been dangerous in any field of science, if ever rapid development in such a field has required close international collaboration among different scientific groups," Dr. Waksman said, "it has been particularly true of the study of antibiotics."

In the same issue of *Science* Edward O. Stapley and Robert E. Ormond, Merck & Co., Rahway, N. J., report their experiments with the two antibiotics, grisein and "albomycin." They found them "very similar."

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BIOPHYSICS

**Atomic Radiation May
Save Churches and Grain**

► ATOMIC RADIATION can be used to kill or control wood-boring insects as well as insects infesting grain, two independent studies reported in *Nature* (March 30) show.

Gamma rays from cobalt-60 were found to be effective in killing the eggs of both the death-watch and furniture beetles if applied within one to four days after the eggs were laid. Higher dosages are needed for more mature eggs. Tests have also shown that irradiating both sexes of the adult beetles, as well as those of the powder-post beetle, results in the production of infertile eggs.

The death-watch beetle is of particular importance to the British because it is currently devouring the ancient timbers of Westminster Abbey, St. Paul's Cathedral, Nelson's flagship "Victory," and hundreds of old churches.

J. D. Bletchly and Ronald C. Fisher of the Forest Products Research Laboratory, Aylesbury, who conducted the tests, caution that the death-watch beetle adults remain in timber for several months before emerging "and this may be an important practical consideration" in irradiating infested timber.

Gamma rays from cobalt-60 and accelerated electrons from a Van de Graaff generator, can be used to kill or sterilize insects infesting cereal commodities, P. R. Cornwell, L. J. Crook and J. O. Bull of the Atomic Energy Research Establishment at Harwell report.

Tests on 13 species of insects showed that radiation is effective in killing the insects, or inhibiting reproduction. The scientists found that sterility was caused in the insects but not death when low dosages of radiation were applied.

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IN SCIEN

PUBLIC HEALTH

**Smoking Habits Worry
Top Advertising Men**

► ADVERTISING executives may sell cigarettes but they are far from convinced that the smoking habit is harmless.

From a survey of 1,100 top admen, *Tide* (March 22) reports more than half of the 662 admen who responded insisted there was either a "definite" or "possible" link between the habit and cancer.

But, like most consumers, this does not stop them from smoking.

The cancer problem has had an effect on the admen, though, for almost one out of three admitted that their smoking habits had changed in the past year.

About 80% had either cut down, stopped smoking completely or switched to filter tip cigarettes. Of the five top brands preferred by the advertisers, four are filter tips and are either new brands or those which have taken on a "new look."

"Clearly, the adman as a smoker is little different from the typical consumer when it comes to advertising susceptibility," *Tide* reports.

About the advertising pitch itself, one top agency executive said, "Now that it is 'pleasure' copy, I like it better than when it was scary or 'scientific.'"

But the ad manager of a steel company was one of those who longed for the days of stronger cigarettes.

"I've smoked all the filters. Now I would like some good tobacco," he said.

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AERONAUTICS

**British Rocket to
Probe Stratosphere**

► A BRITISH ROCKET designed to reach an altitude of 120 miles will soon be released at Woomera range in Australia.

Known as the Skylark, the rocket is 25 feet long and 17 and a half inches in diameter. It is powered by a Raven rocket motor, built by Bristol Aircraft in cooperation with the Royal Aircraft Establishment, which will give a thrust of 11,500 pounds for about half a minute.

The rocket flights will be used to determine atmospheric conditions at altitudes up to 120 miles. Strips of tin foil, or "window," will be dropped and tracked by radar to check wind strengths.

The Skylark is stabilized by three swept-back fins. Its flights will be made in connection with the International Geophysical Year, which runs for 18 months starting July 1.

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CE FIELDS

MEDICINE

Swelling in Knee, Sign Of Gangrene and Death

➤ A SWOLLEN BLOOD vessel in back of the knee that is often overlooked in routine physical examinations can bring on gangrene and death if not treated immediately, Dr. Jere W. Lord Jr., New York University Post-Graduate Medical School, reported in the *Journal of the American Medical Association* (March 30).

The blister-like swelling of the popliteal artery, called a popliteal aneurysm, is sly in its apparent harmlessness, but is a rather sinister warning of sudden catastrophe, Dr. Ford found.

The aneurysms are in a spot that is never seen by the patient and often missed by the physician but they can be easily spotted if they are being sought, he reports.

The aneurysms may develop during several diseases, but usually occur with hardening of the arteries and sometimes with bacterial or syphilitic infections.

In young people the artery is very adaptable and can be easily bent in a 45-degree angle when the leg is flexed, but with age the artery becomes rigid and less elastic. If it ruptures, it can cause gangrene of the leg or death.

Immediate surgery is called for if one of these aneurysms is found, even though it is causing no trouble at the moment, Dr. Lord cautions.

There are several operations that can be performed to remove the danger and their results are startlingly good if the surrounding tissue has not yet been affected.

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PHYSICS

Cosmic Rays Hold Much Of Energy in Universe

➤ MUCH of the energy of the universe is held by the cosmic rays continuously bombarding the earth from space, a New York University physicist has reported.

Dr. Serge A. Korff reported that the number and kinds of cosmic rays smashing into the earth's atmosphere are "remarkably constant" over a period of time. Occasional large increases are clearly associated with solar activity, he told the Society of the Sigma Xi meeting in Albuquerque, N. Mex.

A theory by the late Enrico Fermi, Dr. Korff said, appears to account for all that is now known about cosmic radiation. Dr. Fermi suggested that cosmic rays are accelerated in the magnetic fields of the giant pinwheels of billions of stars clustered in systems called galaxies. The Milky Way in

which the earth, sun and solar system are located is only one among unnumbered millions of galaxies in the universe.

Dr. Fermi's suggestion explains why cosmic rays are mostly protons, which are the nuclei of hydrogen atoms, some alpha particles, which are the nuclei of helium atoms, and a few heavier nuclei. Each particle of the radiation, Dr. Korff said, has energy from a billion electron volts to a billion billion electron volts.

The energy density of cosmic rays is approximately equal to that of starlight, he reported, far above what could result from nuclear sources.

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RADIO

Mountains Improve Television Reception

➤ IF TV RECEPTION is bad in your area, maybe you need a mountain between the TV station and your set.

Mountains will improve reception rather than hinder it, R. E. Lacy, U. S. Signal Corps Engineering Laboratories, Fort Monmouth, N. J., reported to the Institute of Radio Engineers meeting in New York.

The phenomenon, known as "obstacle gain" was first noticed by GI's in Korea when they discovered that their very high frequency (VHF) radio reception showed an unaccountable improvement in mountainous areas, Mr. Lacy reported.

A series of tests conducted at 40 different locations in California verified the fact that sharp mountain peaks blocking the transmission path will actually strengthen the signals on the other side by as much as 100,000,000 times, he said.

A wide range of frequencies over 50 megacycles were tested. These are the ones used for VHF and UHF television as well as other communication services, he said.

These high frequency radio waves behave in a manner similar to light waves. They are bent toward the ground when they pass over the mountain ridges just as light rays are diffracted when passing by the edges of an opaque object, Mr. Lacy reported.

The tests have made it possible to compute the obstacle gain and take advantage of it when selecting locations for transmitting and receiving sites, he added.

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TECHNOLOGY

Cellophane Replaces Minerals in Microscope

➤ STACKS of strips of precisely dimensioned cellophane can be used to replace quartz or selenite (gypsum crystal) as a polarizing part of microscopes, a London scientist, S. N. Gaythorpe, has reported.

This device for rotating the polarization plane of light, important in scientific tests, is cheaper than the mineral variety.

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CHEMISTRY

Blended Whiskey Best for No "Morning After"

➤ A BLENDED WHISKEY is best if you want to avoid that "morning after" feeling, doctors learned from a scientific exhibit at the American Academy of General Practice meeting in St. Louis, Mo.

The exhibit, sponsored by a leading manufacturer of alcoholic beverages, points out the real hangover culprits may be ingredients called congeners. These congeners are what give each alcoholic beverage its distinctive flavor and bouquet. They include such compounds as ethyl acetate, acetaldehyde, tannin, acetic acid and fusel oil.

Moderate use of alcohol has certain medicinal advantages, the doctors were advised, but they should be sure to instruct their patients to select low congener types of beverage. None of the congeners themselves are at all beneficial. In fact, the only working ingredient is ethyl alcohol, the exhibit explained.

Independent chemical consultants analyzed various beverages and concluded that a blended whiskey was the best bet. Things to avoid are straight bourbon, bonded bourbon and cognac, they found.

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VIROLOGY

Boundary Gone Between The Living and Nonliving

➤ THE BOUNDARY LINE between the living and the nonliving has essentially disappeared now that the electron microscope has made viruses visible, Dr. Wendell M. Stanley, director of the virus laboratory of the University of California, reported in a paper published in the annual report of the Smithsonian Institution in Washington.

Filterable viruses, tiny agents of some of the most dreaded human, animal and plant diseases, now completely bridge the dimensional gap between life and inert matter, but as yet there appears to be no clear line of division between the two, he reported.

Some viruses are single molecules while others seem to consist of many molecules interacting in some special manner.

One of the most important recent discoveries concerning viruses is the change they can undergo from harmless organisms to deadly ones. Even with very mild or latent viruses, there is always a chance that they will become lethal due to some genetic change or mutation.

The solution of the virus problem undoubtedly carries the key to the nature of life itself, and possibly the key to the cancer problem, Dr. Stanley reported.

"Despite their small size, the viruses represent a potential source of information which may be far more important for mankind than the atom bomb or nuclear energy," he said.

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