

HORTICULTURE

Outdoor Artificial Light Speeds Asters' Blooming

► GREENHOUSEMEN KNOW that indoor lighting can speed the blossoming of China asters and make the flowers larger.

Experiments conducted by Dr. Anton M. Kofranek, instructor in floriculture at the University of California at Los Angeles, have proved that outdoor artificial lighting has a similar effect.

Normally, China asters in southern California bloom from the middle of May through the summer. By providing artificial light in the outdoor gardens, Dr. Kofranek made the asters start blooming in March, produced flowers one to two inches larger than normal and found less disease.

"Lighting asters for early bloom is by no means a new practice," Dr. Kofranek said. "It is frequently done by eastern growers in greenhouses during the winter and spring months.

"The unique feature of this experiment is that it was performed outdoors where night temperatures cannot be controlled. Local conditions vary so greatly in California, however, that it is not possible to give accurate recommendations from the evidence obtained."

Science News Letter, March 1, 1952

PUBLIC HEALTH

Try Upright Cleaning To Save Your Energy

► IN SPITE of modern labor-saving devices for the home, housewives spend considerable energy in the reaching, bending, stooping and twisting of such every day jobs as preparing food, washing dishes, storing utensils and supplies, making beds, cleaning and laundering.

A study of this has recently been made by Dr. Esther Bratton of the New York State (Cornell) Experiment Station. Commenting on her findings, Dr. Bratton says: "Women generally do not realize how much they are lifting when they pick up a small object from the floor or take a small pan from the bottom shelf of a cupboard. The energy cost of lifting the small object is not much, but that of lifting a large proportion of the body is considerable."

Movements where only the arms are used take less energy than stooping plus using the arms, Dr. Bratton found. But even in arm movements, a reach of as little as 10 inches from one level to another called for considerably more energy.

Women can save some energy, home economists of the U. S. Department of Agriculture point out, by using cleaning tools and cleaning utensils that have long handles. The handles should be long enough for comfortable, fast work in the upright position.

Many women bend almost double at the

daily chore of cleaning the bathtub with a cloth when they could save strain and a possible accident by using a long-handled brush. For easiest sweeping, homemakers could take a tip from industry and use a long-handled push-broom with fine bristles and a long-handled dustpan. Many could make better use of vacuum cleaner attachments.

If handles of brooms, mops and even vacuum cleaners are too short for comfort, as they may be for taller women, it's worth having the household handyman add a length or even install a longer handle to make work easier and faster.

For waxing floors, the specialists advise a long-handled applicator and self-polishing wax to save effort. Those who use "wet mops" need to consider not only the length of the handle but the weight of the mop when lifted out of water. The new light sponge mops may do the job more easily than the more familiar "rag mop."

Science News Letter, March 1, 1952

BIOCHEMISTRY

Deadly Peruvian Disease Conquered by Mold Remedy

► A DISEASE of the high Andes in Peru, which kills from a third to half its victims, now shows signs of being conquered by chloromycetin, one of the famous so-called mold remedies.

Swift "cures" of the disease in six patients are reported by Dr. Oscar Urteaga of the Hospital Dos de Mayo in Lima, Peru, and Dr. Eugene H. Payne of Parke, Davis and Company, Detroit, who manufacture both the mold-produced and synthetic chloromycetin.

The disease is named Carrion's disease for Daniel Alcides Carrion, a Lima medical student who intentionally infected himself with it and died. It is caused by a germ spread by sandflies found only in high valleys and caves of the Andes mountains. The sandflies seem to bite only at night, and the natives warn visitors to leave the valleys by nightfall.

In its grave form, known as Oroya fever, it is marked by headaches, fever of 101 to 102 degrees Fahrenheit, sometimes higher, and anemia which is often fatal. One fourth of the Spanish soldiers who conquered Peru under Francisco Pizarro are believed to have been killed by the disease. An outbreak in 1874 killed 7,000 workmen and halted construction of the railroad up Rimac canyon from Lima. The malady is especially deadly when complicated by an additional infection of typhoid-like bacteria.

A second form, Verruga Peruana or "Peruvian wart," is less serious but extensively disfiguring. Until Carrion inoculated himself with blood from one of the warts in 1885 and died of Oroya fever, the two forms were believed to be different diseases.

Drs. Urteaga and Payne report their results in ANTIBIOTICS AND CHEMOTHERAPY.

Science News Letter, March 1, 1952

IN SCIEN

AERONAUTICS

Electronic Altimeters For Higher Flights

► TWO ELECTRONIC altimeters designed to measure altitudes as high as 95 miles are currently undergoing tests at the National Bureau of Standards, the U. S. Air Force announced.

The altimeters were developed in anticipation of greater heights at which aircraft will be flying sometime in the future. Present aneroid-type altimeters used by the Air Force measure heights up to 30 miles, but require a special kind of magnifying system when altitudes exceed 16 miles. That is because air-pressure changes are small at that altitude for corresponding changes in height.

One of the new altimeters generates heat in a glass tube. The heat is transmitted by the surrounding air to a heat-sensitive element in the tube. The amount of heat transmitted is proportional to the altitude. Electrical currents generated by the process are then translated into feet of altitude for the pilot to read on a dial. That altimeter is to operate between 150,000 and 300,000 feet.

The other altimeter emits electrons from its filament which bombard a positively charged wire called a grid. That process generates positively charged ions which are attracted to a negative element in the tube called a plate. The ratio of plate current to grid current is proportional to altitude. The new device is designed to operate between 300,000 and 500,000 feet.

Science News Letter, March 1, 1952

BIOCHEMISTRY

New Chemicals Have Anti-Malaria Effect

► SEARCH FOR anti-cancer chemicals has led to creation of a new class of chemical compounds with anti-vitamin and anti-malaria activity.

The new chemicals are called dihydrotriazines. They were synthesized by Edward J. Modest, working in a team with George E. Foley, Maurice M. Pechet and Dr. Sidney Farber of Children's Cancer Research Foundation and Harvard Medical School, Boston.

One of the new compounds is about six times as active as quinine and twice as active as atabrine in stopping malaria in tests with ducks.

Details of the synthesis of the new chemicals are reported to the JOURNAL OF THE AMERICAN CHEMICAL SOCIETY (Feb. 5).

Science News Letter, March 1, 1952

CE FIELDS

MEDICINE

For Shock After Injury, Keep Wound Cool With Ice

► TO PREVENT shock after injury, use ice or other means to cool the injured area.

This seems likely to become the future direction to first aiders and others handling wounded persons if further research bears out experiments by Drs. Dan H. Moore and Douglas L. Worf at the electrophoresis laboratory of Columbia University College of Physicians and Surgeons in New York.

The cooling prevents loss of fluid from the blood circulation into the injured part, their experiments showed. This fluid loss, of course, causes a decrease in the volume of blood circulating through the body. Transfusions of blood plasma, serum albumin or the new "plasma-extendors" are given to fight shock by restoring the volume of circulating blood and checking any further loss of fluid into the injured tissues.

The cooling treatment would, it appears, prevent shock by slowing the damage to blood vessel walls that allows the fluid to escape. This damage, called autolysis, is a kind of self-destruction or digestion of tissues.

Science News Letter, March 1, 1952

MEDICINE

Self-Check for Hearing Loss

► IF YOUR friends joke with you about not paying attention or not hearing well, maybe it is a sign that you are losing your hearing.

Loss of hearing is no joke. When friends or relatives start joking with you about not paying attention or not hearing well, take the friendly joke as a warning to see your doctor at once, so that you can protect the hearing you have left.

Maybe no one has dared to joke with you about not hearing well. There are other signs you can check yourself on. The American Hearing Society gives the following:

Do I frequently ask that words or phrases be repeated?

Can I hear conversation as easily as some one with normal hearing?

Can I hear a dripping faucet in the room with me?

Can I hear with my back turned to the speaker?

Do I strain to hear, or habitually turn one ear toward the speaker?

If the result of this self-check shows your hearing is not up to par, you should see your doctor, who will probably send you

to an ear specialist. Then your hearing will be tested by an audiometer, which is a machine for measuring hearing. From the results of this test, the doctor can advise you on whether you need a hearing aid, what type you need, and other measures for protecting and improving your ability to hear.

Even if you think your hearing is excellent, an audiometer test at regular intervals is advised by the American Hearing Society, because loss of hearing may come almost without warning.

For protecting good hearing, the society advises the following:

Keep ears clean without using match sticks, or paper matches, metal objects, or harsh materials. (Let your ear doctor clean out accumulated wax.)

At the first sign of ear pain, or discharge, see your doctor! (Many cases of hearing loss can be prevented if infection is caught early and properly treated.)

Avoid swimming in uninspected pools or stagnant waters. (Ear infection can start from water remaining in the ear.)

Avoid violent blowing of the nose. (This may lead to infection in the middle ear.)

Science News Letter, March 1, 1952

TECHNOLOGY

Student-Made Jet Engine Is Small, Powerful, Fast

► STUDENTS AT Northrop Aeronautical Institute, Hawthorne, Calif., have developed a miniature jet engine which eventually may find its way into small private-type airplanes.

Known by its copyrighted name "Centriflow," the engine is an outgrowth of past student-built jet engines. Its overall diameter is 26 inches and its length is 67.4 inches. It weighs 172.4 pounds, consumes 26 gallons an hour of 80-octane aviation gasoline and is capable of powering a small plane at 300 miles an hour.

Extensive ground tests are being administered to the miniature jet engine. Northrop students plan to try the engine in a Ryan Navion after ground tests have been completed.

Science News Letter, March 1, 1952

INVENTION

Turboprop Exhaust System For Waste Gas Elimination

► WHEN TURBOPROP engines are used to run pusher-type propellers what to do with the exhaust gases becomes a problem. Julius Jonas, Los Angeles, Calif., has invented a method of getting rid of the gases without sending them through the propeller blades and without the need for constructing a cumbersome, bending leadaway pipe.

He has assigned his patent, numbered 2,586,054, to Northrop Aircraft, Inc., Hawthorne, Calif.

Science News Letter, March 1, 1952

INVENTION

New Runway and Beacon Lights to Aid Pilots

► A HIGH intensity airport runway marker light, which will be of use to the pilot under most very poor visibility conditions, and a low-cost, more reliable airport beacon designed for use at smaller airports were patented recently.

They were invented by Willis A. Pennow, Cleveland, and assigned to the Westinghouse Electric Corporation, East Pittsburgh, Pa. They received patent numbers 2,586,374 and 2,586,375.

Candle power up to 100,000, as contrasted with the standard light, can be put out by the new high intensity runway marker light, the inventor claims. Furthermore, the intensity of the light may be controlled for use under different weather and visibility conditions. The marker light has several optical systems so that different light signals, as well as different degrees of intensity may be produced. In good weather conditions, the light may be used as are the standard marker lights.

The rotating airport beacon which Mr. Pennow invented, has a duplicate light which automatically turns on whenever the main light goes out. It also can be constantly seen by the approaching pilot as it rotates, rather than being only intermittently seen. The inventor claims that this is a simple, inexpensive beacon, which can be installed at most small private airports hitherto unable to afford a rotating light.

Science News Letter, March 1, 1952

MEDICINE

Germs Hide Out in Brain To Cause Disease Relapses

► A GERM hide-out in the brain or other parts of the body may be the reason patients with brucellosis, relapsing fever and other chronic diseases relapse after apparent cures by penicillin or other modern drug treatments.

In the case of relapsing fever germs, such a germ hide-out has been found in the brain. This discovery was made by Dr. Vernon T. Schuhardt of the University of Texas, Austin.

When the germs go into hiding, penicillin or other antibiotic drugs cannot reach them, he explains. When the medicine's effects wear off, the germs come out of hiding and start another siege for the patient.

Relapsing fever is not much of a problem in this country, though it causes much suffering in Africa and the Middle East.

The germ hide-out discovery, however, encourages Dr. Schuhardt to search for other hide-outs in other relapsing diseases with the hope of finding a way to cure them permanently.

Science News Letter, March 1, 1952