

AGRICULTURE

Blight Threatens Crops

Tomato blight is attacking crops in nationwide epidemic, causing great damage. New chemicals are proving successful controls.

► IF THERE is a shortage in canned tomatoes and tomato juice this winter, it can be blamed on one of the most severe epidemics of the tomato blight disease that has ever struck the country. Already this fungus plague has caused serious loss to the tomato crop in Maryland, Delaware, New Jersey and Pennsylvania, states Dr. J. E. Heuberger, professor of plant diseases at the University of Delaware.

Fast becoming a headache in the headachy business of food production, this vicious fungus, which runs in cycles and is now at the crest of a cycle, has already struck many of the most important growing areas. The infection has moved up the Atlantic seaboard, from Florida into Georgia, then into the Carolinas and Virginia, thence over Maryland, Delaware, New Jersey and Pennsylvania.

All possible means of control, including airplanes, are being used, but there is no adequate control equipment in

many areas since growers never before needed it.

Dr. Heuberger explains that until recently the growers' only weapon against the blight has been copper. This year, however, several new organic fungicides are being used to combat the disease. Various dithiocarbamates have proved effective. Two of these are disodium ethylene bis dithiocarbamate and zinc ethylene bis dithiocarbamate.

These chemicals have also been used against the blight where it has struck potatoes. Growers around Homestead, Fla., are said to have average yields of 100 bushels per acre higher under the new treatment than during previous years when only the old copper treatment was used.

Several experiment stations have reported that the dithiocarbamates are compatible with DDT, and make an excellent dual-purpose treatment for the control of insects and fungus disease on potatoes.

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"EXAM" BIRD—This rare skeleton was created by osteologists of Ward's Natural Science Establishment of Rochester, N. Y., for a college professor to use in testing students in comparative anatomy. The bird was fabricated from the hind legs of a cat; the backbone, wings, breastbone (without wishbone) and neck of a chicken; and the skull of a gar pike (a fish).

AERONAUTICS

Supersonic Plane Drive On

Race to build aircraft to beat the speed of sound is on in earnest. British and American rocket-powered models are ready for demonstration.

► THE RACE to beat the speed of sound with airplanes is on in earnest. British air officials announce that British engineers have plans for aircraft that will fly faster than sound, that models will be built and air-tested, and that later a full-size supersonic plane will be built.

These models will be rocket-powered and pilotless. They will be taken aloft and launched from ordinary aircraft, the London Transatlantic Daily Mail states. They will be guided by radio control, and will automatically "tell" the parent plane how they are behaving by means of radio-telemetering.

Radio-telemetering is an electronic system that measures stresses and strains

and reports the results constantly to a ground station or perhaps to an accompanying plane. An American type installed in U. S. Navy planes demonstrated recently how well a plane without a pilot can be guided in the air and its performances recorded.

America's entry in the supersonic speed race is the Army-Bell Aircraft XS-1, built according to principles learned by scientists of the National Advisory Committee for Aeronautics in its laboratories and supersonic and other wind tunnels.

The XS-1 has already been thoroughly tested without power in glider and diving performances, and will soon be given try-outs in gradually increasing

speeds when its rocket engines are installed. The supersonic test will be made later. Under present plans, it will not be pilotless. The same man who has handled it in the tests already made is expected to guide it in the break-through of the supersonic wall.

Other English developments in aviation parallel those in America, with perhaps more stress placed on gas-turbine and jet-propulsion than is emphasized in this country. The English have a 30,000-pound "flying wing" powered with turbo-jets that may be in the air later this year. They have a tailless airliner powered by four jet engines that will be put into commercial service over the Atlantic by 1950, it is expected.

An English jet-propelled Gloster Meteor climbed recently to an altitude of 46,500 feet, and reached an unofficial speed of 630 miles an hour, it is reported. Its official speed is 606 miles an hour.

Britain's new jet helicopter gave its first public demonstration recently, it is announced. Laterally directed jets directed sideways against the tail provide directional and torque control. The fan blades give it lift and forward motion as in American helicopters.

An English air official has just given

information relative to a new aerodynamic research station to be erected at Thurleigh at a cost of many millions of dollars, that will have the most modern equipment including supersonic wind tunnels. This is designed to help England keep to the front in aviation.

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PHYSIOLOGY

Easiest Way Is Best

Advice to housewives for efficiency in housework: maintain good posture, have shelves and work surfaces conveniently placed, and relax.

► THE EASIEST way to carry a heavy basket, climb stairs and sit in a chair is often the best way. Housewives, like efficiency engineers and factory workers, can study their motions in performing daily tasks so as to improve their methods, save energy and develop a good body carriage.

The feet should be apart when standing for your work so as to give a broad base and easy shift of weight. This will permit a wide range of movement, remind Dr. Helen Denniston and Margaret P. McCordic of the University of Wisconsin's College of Agriculture. Point the toes ahead to prevent strain on ankle and instep. Pull the abdomen up and hips down to hold the pelvis steady as a base for the spine. Lift the breastbone to allow heart and lungs plenty of room.

Supplies arranged in a circular manner around you are easier to reach. When they are beyond your reach, save time and energy by taking one long step instead of several shuffling ones.

Good posture going up stairs saves energy as well as being graceful. The body slants forward from the rear ankle. The entire forward foot is placed flat on the next step, and the body lifted by the large hip and leg muscles.

Keep the same erect posture when coming downstairs. While the toes, pointing straight forward, reach for the next step, the weight is received on the ball of the foot with an easy "giving" bend in the knee and ankle, Dr. Denniston and Miss McCordic point out.

When baskets or other objects to be carried have handles, the weight can rest against the hip. The weight, balanced by bending toward the other side, is then transferred directly to the large

bones and muscles of the legs.

All work surfaces should be a little below elbow level. Large blocks with a cavity in which the legs fit is good in elevating a table or bed to a suitable height for the worker. When the kitchen sink is too high for young helpers, have a broad platform handy for them to stand on while working.

Time and energy when ironing large pieces such as curtains or towels can be saved by fitting a wide board firmly over the ironing board. Because of the greater range of movement, it is more effective to stand than sit when ironing.

The position of the body when sitting down and getting up is fully as important as your posture while seated. With one foot back, the body weight can be shifted over the seat of the chair and lowered onto it by bending the knees. The trunk remains erect and arms relax into the lap. Reverse the movement when rising.

It is better to sit instead of stand when preparing vegetables or fruit. A low table or lap board, just above the lap, is excellent for this type of work.

When sweeping, place the hands far apart with one hand near the top of the broom handle. Bending from the hips and swinging the whole body from widely spaced feet makes sweeping a good exercise. By changing the position of your hands and direction in which you are sweeping, both sides of the body benefit.

There are three good positions for low work. A squatting position with one knee down and back straight is good when using a short-handled dust pan. The deepknee bend is fine for collecting many small objects spilled on the floor. When picking up a pencil or thread,

bend from the hips and keep the knees straight.

A chair should be lifted and carried with its back against the body, as most of the weight is at the back of the chair. Carrying a partially-filled pail or basket in each hand is easier than handling one full pail.

Learn to relax, Dr. Denniston and Miss McCordic advise in a pamphlet on how to make work easier around the house. Lie down on your back at full length on a bed or couch. A small rolled blanket placed under partly bent knees or your lower back may make you more comfortable.

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