

Persistent cough with expectoration, bloody sputum and discomfort in the chest, are the most prominent symptoms, and in any one past 40 years of age should be considered signs of cancer until proved otherwise.

The only hope of cure is to remove the entire lung and the lymph nodes in the chest. This has been done in 87 patients, eight of them operated on by the New Orleans surgeons. Of their eight patients, three survived. One is still living two and one-half years after the operation. The others were only recently operated. Of the 79 other patients, 50 died and 29 recovered.

Neon Signs For Cancer

TO CUT down cancer deaths, neon signs should be installed in every restaurant stating:

"Indigestion does not start after 40 in a man who has been able to eat everything till then."

This suggestion for fighting stomach cancer was made by Dr. W. H. Ogilvie, of London, England.

Stomach cancer, he said, is the commonest and least operable of all cancers. Its treatment by surgery has the highest death rate and the lowest cure rate.

Usually the disease has progressed too far for operation by the time the patient consults a surgeon. This is partly due to the fact that many patients have no warning beyond an indefinable loss of strength until nearly the whole stomach is cancerous. Many who come to the surgeon too late, however, have suffered from digestive discomfort for months or even a year or two, dieting and taking alkalis, before going to their physician for an overhaul. It is to warn these patients that Dr. Ogilvie suggested the neon light signs in every restaurant.

A similar but "more discreet" notice, he suggested, might be put in the office of physicians who are not surgeons. This sign would read: "Gastric ulcer does not present itself for the first time after 40." The idea is that physicians should not treat a middle aged patient for stomach ulcers until cancer has been absolutely ruled out.

There are exceptions to both warning statements, Dr. Ogilvie said, but a large number of patients can be brought "from the hopeless to the hopeful category" if these twin warning signs are heeded.

Only from five to 10 out of every 100 stomach cancer patients survive five years after operation, Dr. Ogilvie said. He believes more patients can be saved

by performing a more extensive operation than is customary now.

"Sinister features" of stomach cancer are its wide and early spread through the lymphatic channels and its tendency to shed cancer cells that graft themselves onto other tissues in the abdomen. To prevent such spread as much as possible, Dr. Ogilvie advised his surgical colleagues to remove the whole lymphatic tract along with the cancer and the cancerous stomach, just as in cases of breast cancer, the cancer, the entire breast and all the lymphatic channels and glands are removed.

Best Birth Certificate

A PALM print taken of baby's chubby little hand when he is born is the best birth certificate he can have, Dr. Gilbert P. Pond, of the West Suburban Hospital, Oak Park, Ill., told members of the American College of Surgeons meeting at the Hospital Standardization Conference.

If new-born babies get mixed-up in the hospital, as they sometimes do, in spite of bracelets or other identifying tags, palm prints taken at birth would pro-

vide conclusive evidence of the baby's identity. It is a method of identification that will stand the test of the highest courts, Dr. Pond said.

Foot printing, once popular for this purpose, is definitely out, Dr. Pond indicated, because it is not reliable and not lasting.

Besides preventing baby mix-ups, when the wrong parents take home the wrong baby, palm prints have other important uses. If universally adopted, it would, Dr. Pond said, provide: an incontrovertible proof of birth and identity for the life of the infant; a means of identifying abandoned children and foundlings (and would consequently deter child abandonment); a means of identifying returned, kidnapped children regardless of time and even after death; a means of identifying unknown children after such major disasters as earthquakes or extensive conflagrations; a means of identifying cases of amnesia, unconsciousness and unknown dead after a generation of prints were on file; a record of relationship between the infant and its mother if her fingerprints are placed on the same card as the infant's palm prints.

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PLANT PATHOLOGY

Gas Attack Treatment Saves Tobacco Crop

Double Fumigation With Benzol Kills Blue Mold Fungus; Way Open For Application of Method to Other Diseases

AMERICA'S great tobacco crop has been saved from its most menacing enemy by a gas warfare method, and the way opened for application of the same method in attacks on other plant diseases, by scientists of Duke University and the Virginia Agricultural Experiment Station in cooperative investigations.

"Mugged" as Blue Mold by the tobacco growers, and "finger-printed" as *Peronospora tabacina* by the experts, this Tobacco Enemy No. 1, which is a plant itself, was singled out of several thousand plant diseases for special investigation by the scientists.

The mold is a true gangster in the tobacco seed beds. It works only in darkness, preferably between midnight and daylight. Like certain human diseases, it thrives best only upon a healthy living host.

Its dust-like reproduction bodies, or spores, are scattered far and wide by the winds, or fall to the ground in leaves and there lie in wait for any tobacco plants which unsuspecting farmers may plant in the infested soil. The wind-borne spores, which scattered from Florida to Canada last year, send out feeding tubes into any part of the tobacco leaf, even the hairs, but only when dew or water is on the leaf. Although it sometimes appears in the fields, in early spring, its greatest destruction is to be found in tobacco seed beds, and all growers have learned to fear it.

When sprays were applied, their disinfecting action did not always reach the microscopic spores. Almost simultaneously, investigators in Australia and at Duke University realized that new technics in plant protection were neces-

sary if this vicious culprit was to be stopped.

Gas was the logical answer, gas that would penetrate to all parts of the plant above ground and cover all exposed surfaces. Several chemicals were tried. Some destroyed the seed beds like fire, some were ineffective. Benzol, xylol and toluol, hydrocarbons distilled from coal, were effective.

An Accident

But an accident occurred; a seed bed upon which investigations were being conducted was destroyed. "Too much benzol gas," said one; "temperature of fumigation too high," said another. So the work was taken to the laboratory. Plants were grown in glass jars, temperatures were regulated, benzol vapor concentrations were precisely controlled and checked by gas analysis technic.

The effect of benzol on tobacco seedlings was minutely studied by scientists of Duke University and of the Virginia Agricultural Experiment Station. Working night and day, the investigators determined precisely how much benzol was required to injure seedlings.

The work was checked in the field on farm seed beds. Night after night seed beds were fumigated. Night after night gas analyses of seed bed air samples were made. Over 1000 square yards of tobacco beds in North Carolina and Virginia were fumigated. The tricks of the parasite were learned in the cold, wet nights of early spring.

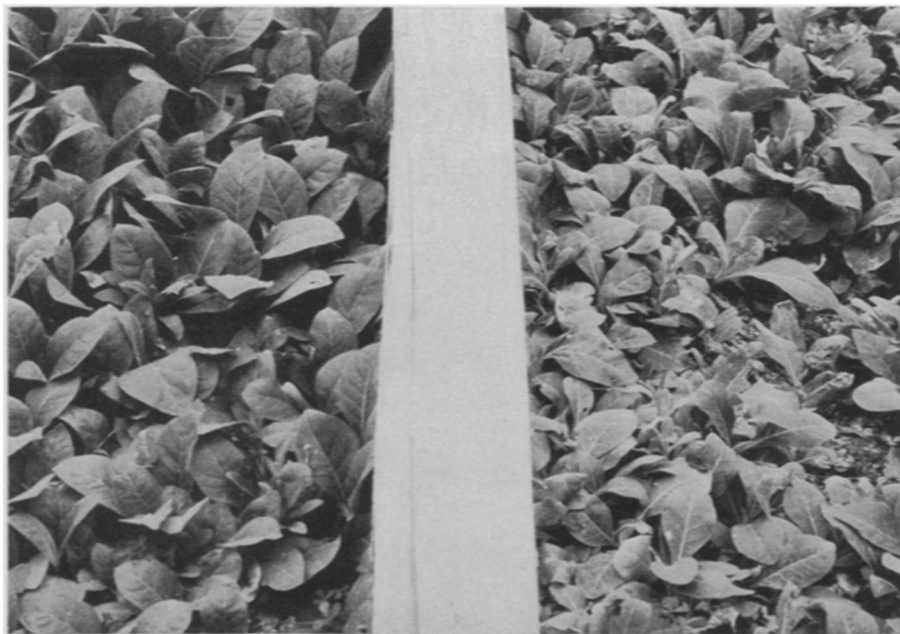
Time after time, the Blue Mold was destroyed on the second night of fumigation. Time after time, the investigators started and stopped it at will.

Tin pans of all sorts littered the seed beds. Benzol was placed in them and a heavy cover of cotton sheeting was drawn over the beds to be fumigated. A little water on the cover sealed it and the gas rising from the pans was allowed to do its deadly work on the fungus during the night hours. Mechanical evaporators made of pipe, lamp wicks and tin cans were invented by farmers and engineers alike.

First Time

For the first time in man's long fight against plant disease, a method was demonstrated which would kill the parasite without harming the plants. The disease could be held in check with one-thirtieth the amount of vapor required to destroy the plants. One-sixth of the amount of gas lethal to the plants would completely destroy the fungus after the second application.

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EFFECT OF BENZOL

The seed bed at left was fumigated with benzol vapor. That on the right was not. Blue mold can be seen destroying the unfumigated plants. Separating the two beds is a board to which is attached a roll of heavy cotton sheeting.

METALLURGY

Silver Tarnish Is Prevented By Invisible Oxide Film

Colorless Layer of Beryllium or Aluminum Oxide Gives Astonishing Protection and Perhaps Longer Wear

THE dark cloud of tarnish that spreads over silver in our dwellings is about to be dissipated by a new scientific method.

A new way of preventing silver tarnishing, with promise of practical industrial application, has been developed through fundamental metallurgical research in the Cambridge University laboratories of Prof. R. S. Hutton and Dr. U. R. Evans. It consists of developing an invisible coating of beryllium or aluminum oxide over the silver—a colorless layer of the stuff of beryls or sapphires.

Drs. G. J. Thomas and L. E. Price constituted the research team. Modern science cooperated with an ancient British institution, the Worshipful Company of Goldsmiths, founded in 1320 and still the authority for the Hallmarking of sterling silver and for controlling the British coinage. This organization initiated and financed the researches.

Two successful ways of spreading the protective coating over the silver have been devised. First the oxide film was produced by a process of heat treating specially alloyed silver under special conditions. The alternate method which can be applied to old as well as new silver objects consists in electro-depositing the films upon the silver.

The hint that led to the development of the new silver protection came from recent scientific research which has indicated that most incorrodible or passive metals owe their properties to the existence of invisible protective oxide films found upon their surface. Metallurgists knew that stainless steel did not corrode and rust because of an oxide film formed of the chromium and nickel added to the iron. The Cambridge metallurgists therefore hunted for such an oxide that could be formed from some metal added to the silver. German research suggested that the protective ef-