

Science

## 'Growing' Soil At Cedar Lake Mostly Water

### Purdue Scientist Explains Upheaval

What is the most unusual crop raised on a farm? The Henry Huppenthals of Cedar Lake aren't sure, but they'll back the growth of their soil against any they've seen or heard of.

They raise land. Part of their farm is rising out of the ground. The "crop" is involuntary. The Huppenthals would prefer to have a nice, normal land like their neighbors, but you can't keep a good farm down.

In the middle of their Lake County farm is a hummock about 210 feet long and 80 feet wide. Ever since the Huppenthals moved there in 1930 this area has been rising, and it now stands about 10 feet higher than the surrounding land level.

### Tests Soil

Thomas M. Bushnell, of Purdue University, one of Indiana's best-known soil scientists, made a visit to the farm last week to investigate the phenomenon after reports it was mystifying Cedar Lake residents. He came away with samples of muck soil and tested samples at Purdue, where he has been in charge of the soil survey project for many years.

Knowing Hoosier soils by their first names, Mr. Bushnell came up with the answers in a short time.

"This hummock has been formed where seepage from springs keeps the land saturated, even though it lies above the level of the adjoining marsh land," he said. Constant water supply has built up the land through the year-to-year growth of vegetation which has been very rank.

"In addition," he continued, "the lime in the spring water has been deposited throughout the hill as marl and our tests showed this constituted about one-third of the solid matter. However, nearly three-fourths of the hill is nothing but water, and the hill itself is too wet to cultivate."

Compares 'Growth'  
Mr. Bushnell compared the "growing" soil on the Huppenthal farm to the swelling of dried apples when they are being soaked for cooking. The tests showed the hummock to be about 70 per cent water, 10 per cent marl, 10 per cent actual soil and 10 per cent decaying vegetation.

If the area were tiled and the excess water removed, Mr. Bushnell believes the land would shrink and settle, as much fields always do when they are drained.

The mystery may be settled, but the malady lingers on. Until they decide to apply reducing measures to their hummock, the Huppenthals will be entitled to a theme song . . . such as, perhaps, "Loam, Loam on the Range?"

## Push War in Air Against Germs

### Humidity, Light Rays May Kill Carriers

#### By LYDIA SCHWEIGER

Science Service Staff Writer  
The air you breathe may guard you against colds, flu, pneumonia and the like in the future. Three methods of killing germs in the air are being investigated by scientists. They are:

ONE: Humidifying the air 50 per cent.

TWO: Destroying the germs with ultraviolet rays.

THREE: Drowning them in an invisible mist of glycol.

Recent experiments indicate that the prevention of nose, throat and lung diseases by "aerial warfare" has become more than just a hope.

#### 'Pneumonia Weather'

Scientists at the University of Chicago report that a relative humidity of 50 per cent promises to become a weapon against influenza, pneumonia, strep throat and perhaps other air-borne diseases.

The discovery that humidity kills germs may explain why such diseases spread rapidly at some seasons and not at others. It might give scientific evidence for the phrase, "pneumonia weather," used by our grandmothers.

They suggest using humidity in schools, offices, theaters and the like, to check the spread of disease.

The humidifying would have to be done exactly. A 50 per cent relative humidity is rapidly lethal to the germs studied but they can survive a long time at higher and lower relative humidities.

The 50 per cent relative humidity that is deadly to germs would not be uncomfortable for humans indoors. Whether the air is wet, dry or humid makes very little difference in comfort so long as the temperature ranges between 50 and 68 degrees Fahrenheit.

Germ-killing ultraviolet light has for some time been used to check the spread of disease in hospital wards and school rooms and to cleanse the air about the patient in operating rooms.

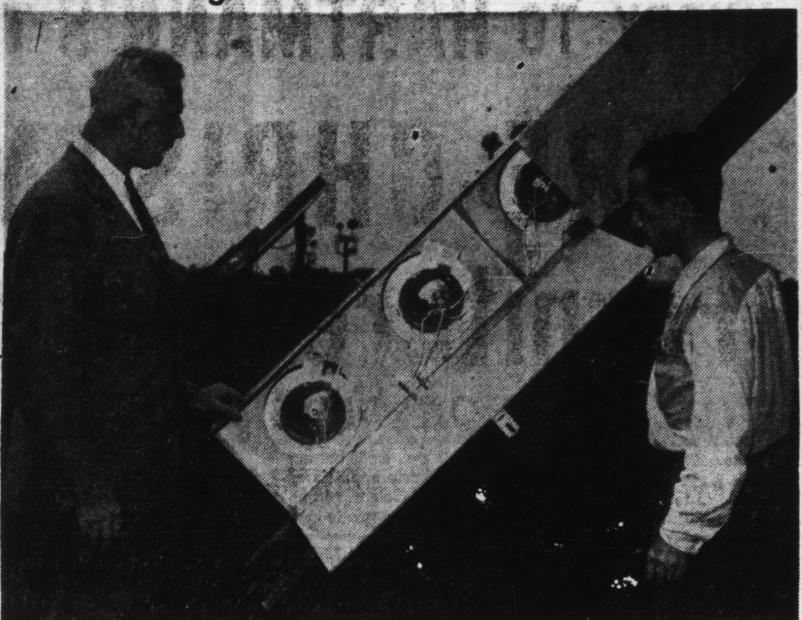
During the war, tests in military barracks in which ultraviolet irradiation of dormitories was done, resulted in a reduction in respiratory illness.

A number of sources of this ultraviolet energy, known as bactericidal lamps, are commercially available.

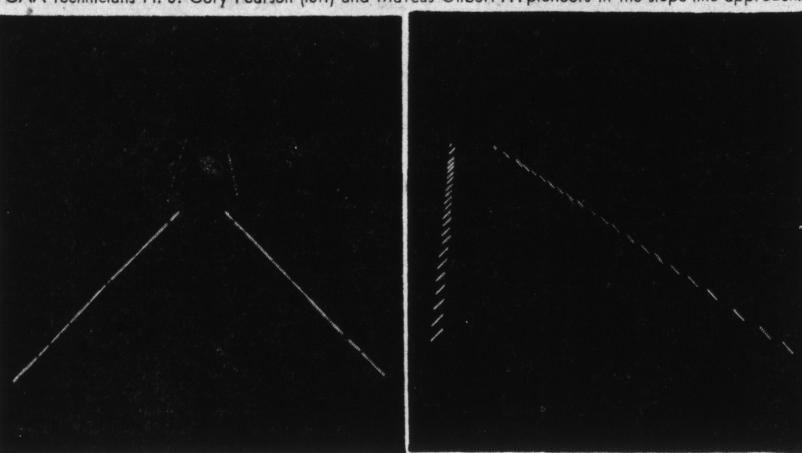
The other scientific weapon, glycol sterilization of the air, has conclusively been proven effective in reducing the number of bacteria in the air.

However, no positive statement can yet be made concerning the effectiveness of glycol vapor in lowering the incidence of respiratory diseases.

### Solid 'Bars' Light Pilot's Path



CAA technicians H. J. Cory Pearson (left) and Marcus Gilbert...pioneers in the slope-line approach.



Approach lights in the slope-line system . . . two solid bars of light pointing to the end of runway.

Lights "stagger" . . . when pilot is not approaching runway properly.

## New Field Approach Lights Boost Safety; System Here Model for Other Terminals

By JACK THOMPSON

An approach light system for landing aircraft developed at Municipal Airport here will be installed at all major air terminals in the nation as part of the United States all-weather flying program.

The function of approach lights is to guide the pilot to a runway in bad weather or at night. The lights are used to supplement a radio landing aid—the instrument landing system.

Civil Aeronautics Administration engineers at the Indianapolis experimental station were responsible for the system. It was adopted earlier this week by the Air Force-Navy-Civil Subcommittee on Visual Aids to Air Navigation. It is called the slope-line system.

### Credit for Ideas

Credit for the idea that led to the development of the system has been given to the late Arthur J. Sweet, CAA lighting engineer and former lighting consultant.

H. J. Cory Pearson, chief of the lighting section of the CAA airport development division at Weir Cook airport, carried out the project. His staff included Marcus Gilbert and Roy Warren.

CAA officials said Mr. Pearson and his technicians went ahead with their work on the slope-line system despite "ridicule" and disparagement from almost every quarter of the aviation industry" and that the lights sold themselves by the "sheer merit."

### Funds for 12 Fields

According to CAA Administrator Delos W. Rentzel, the CAA has sufficient funds to install the approach lights in 12 airports by the end of the year. At present Weir Cook and Arcata, CAA testing field in California are the only airports in the country equipped with the lights.

The cost of materials for a set of the lights will be about \$28,000. Installation will cost about \$25,000. Thus, the total cost, which will be borne by the federal government, will be near \$53,000.

A complete system will consist of two rows of 30 lighting units each extending from the approach end of the runway out to a distance of 3000 feet. The individual units are placed 100 feet apart.

### Onto Approach Path

By means of flight instruments in the cockpit a pilot can fly his plane without seeing the ground.

The instrument landing system will guide him into the approach zone of an airport and onto the approach path to the runway.

But, when the airplane nears the ground, the pilot must be able to see the position of his plane with respect to the airport if he is to make a safe landing.

The approach light enable him to make the transition from instrument flying to visual flying in the worst weather conditions.

### Two Solid Bars

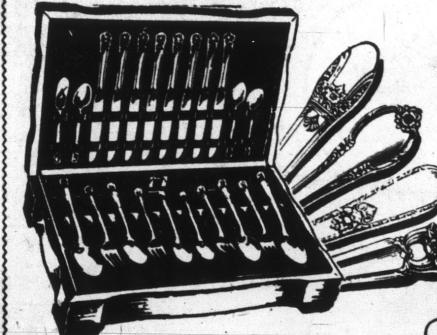
The lighting units are so arranged that, when viewed from the instrument landing path, the two rows of lights line up to form two solid bars of light leading to the end of the runway.

If the plane gets off the course—too low, too high, to the right or left the lights move into a zigzag pattern. Appearance of the pattern depends on the position of the plane with respect to the ideal path.

Two weeks ago, CAA experts rode in a plane which made seven successive landings with the aid of the lights while the airlines milled around above the airport, forbidden by regulations to come in because of the heavy fog.

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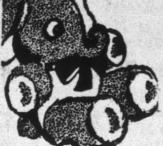


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A soft, cuddly elephant, a fuzzy little dog, a very hugable teddy bear. They're all waiting to surprise an appreciative little toddler on Christmas morning.

Toy Drum

25¢ to 98¢

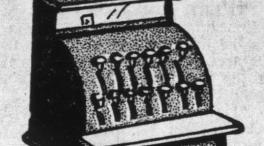
So he likes to bang on your good dishpan? Then think how you'll both like it if Santa Claus brings him a drum.

25¢ to 98¢

So he likes to bang on your good dishpan? Then think how you'll both like it if Santa Claus brings him a drum.

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Press the keys! The amount shows! Cash drawer pops out. Helps kiddies learn to count while they play.



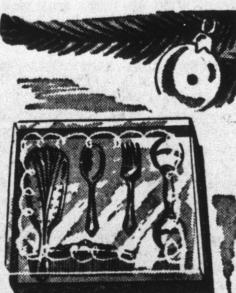
All Metal \$4.98

This great big all-metal doll house will be her favorite gift on Christmas! It has six rooms, a sun deck and is open at the back for playing!



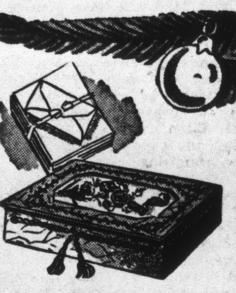
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