



GOOD FARMING—Benching of cultivated slopes, by leaving narrow unplowed strips across slope and plowing across slope, has been in use for centuries by Chinese farmers. It is one of the most important measures to increase intake of rain into soil, to increase food production and to reduce and control soil erosion.

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his living from that by methods that have been proved practical. But if you show him something new that proves to be even more practical, he is quick to

adopt the new way.”

He added that he appreciated the interest and approval of the ordinary farmers of China more than he did that of the highest officials.

Science News Letter, January 22, 1944

photometer, is based on the phenomenon of light absorption by gases. Most gases absorb light of some particular wavelength, in effect casting a shadow where that particular wavelength light should have fallen. In a spectrum the shadow is known as an absorption line.

The instrument, as used as a carbon disulfide analyzer, is so constructed that the air to be analyzed is pumped through several small chambers which filter out dust, oil and moisture, and then into a pair of parallel tubes 31 inches in length. The contaminated air runs into the first tube and then through a canister of activated charcoal which removes the carbon disulfide. The air then passes into the second tube. This makes possible a comparison of the purified with the contaminated air.

Rays of invisible ultraviolet light from a mercury lamp pass through the two tubes and fall upon a photocell mounted at the opposite end of each tube. Carbon disulfide, if present, absorbs light of a particular wavelength. No other atmospheric element has been found in factories where the instrument is used that absorbs this particular band of light. The operator knows immediately by the action of the photocell if carbon disulfide is present in the sample under investigation.

The instrument developed by du Pont can take quick “grab samples” or run continuous samples and give direct and instantaneous readings.

Science News Letter, January 22, 1944

PHYSICS

Electric Eye “Sees” Gas

➤ THE ELECTRIC EYE, or photoelectric cell, has another job added to its many: it is now used to “see” invisible gases and vapors in manufacturing plants, and warn of dangerous concentrations that might be injurious to workers.

An apparatus, with the electric eye as its key-piece, has been developed by scientists of E. I. du Pont de Nemours and Company and is now in successful use, particularly in detecting the presence of carbon disulfide

The apparatus, called an ultraviolet

In the production of the various *sulfa* drugs over 50 different chemicals are used.

Sawdust is being successfully used in Canada as a source of producer-gas for a substitute for gasoline to operate internal combustion engines; wood, charcoal, coke and coal are the more common fuels used.

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