

15¢

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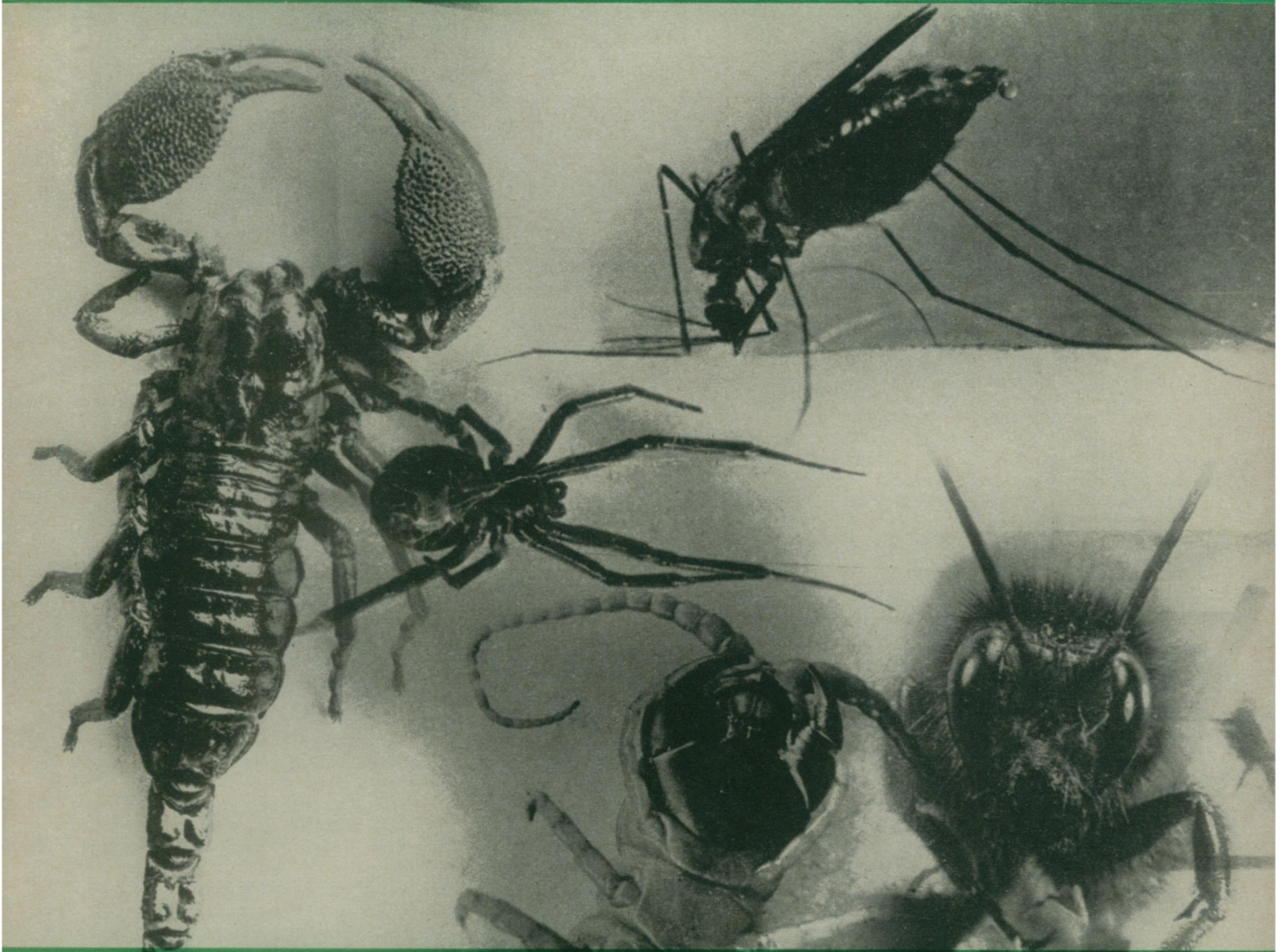
April 9, 1955

VOL. 67, NO. 15 PAGES 225-240

SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Stingers Can Kill

See Page 234

A SCIENCE SERVICE PUBLICATION

Kodak reports to laboratories on:

our 50¢ worth on spectrography . . . making candy dandy longer

Spectral wisdom

Let drop a hint that your budget provides for a new spectrograph and shortly you will make several new friends who happen to represent leading manufacturers of laboratory instrumentation. They will be knowledgeable fellows brimming with ideas for making spectrography quicker, easier, less costly, and more significant. Plates and films won't be mentioned in much detail. It will be assumed that somebody up in Rochester, N. Y., will, in the course of frying other fish, toss off a little sensitized goods suitable for use in these instruments. After all, what author concerns himself with the paper on which he puts down his thoughts?

The metaphor, if so drawn, is unfair. For better or worse, a serious spectrographer can never consider plates and film as purely passive media. He has learned many facts about the subtle interactions between the exposing radiation, the emulsion, the latent image, the processing parameters, and the viewing light; but there is always the problem of passing his wisdom on to the young and impatient who have so many other things to learn.

Let him therefore spend half a buck for a copy of the new Second Edition of the data book "Kodak Materials for Spectrum Analysis," which brings straight from the horse's mouth the late word on specific characteristics of these products of ours, as well as general background on their behavior and handling.

There *are* changes. We make what we hope are small improvements in spectral distribution of sensitivity, for example. Though few of them have been big enough to rush into print with, they have piled up in the decade that has gone by since the First Edition of the cele-

brated little booklet appeared. Now we have brought matters as up to date as they'll ever be and have added some succinct new material on photographic adjacency effects and the relationship between resolving power, sharpness, and granularity. Perhaps it wouldn't hurt even you to look it over.

If your Kodak dealer doesn't have the new edition of "Kodak Materials for Spectrum Analysis," he can sure enough order it for you.

Nuts



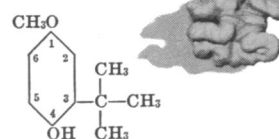
Nuts are about 60% oil or fat. Some varieties of pecans run as high as 76% fat.

After a while the fat goes bad, as oxygen from the air attacks some of the fatty acid chains that contain double bonds. Wiser heads than ours continue to debate the details of this phenomenon, that one might suppose to be well understood by now. We, rather, regard ourselves as experts on what to do about it and maintain the only laboratory we know of devoted wholly to food antioxidants.

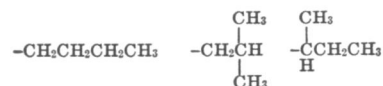
These antioxidants act by breaking a vicious circle. Atmospheric oxygen, according to the most widely held view, attaches itself at or near a double bond and in so doing becomes more active than free O₂. First chance it gets, it takes off to attack another double-bonded molecule, leaving the preceding one to fall apart in foul-tasting ruins. As long, however, as there is antioxidant left on the scene to absorb the brunt of the activated oxygen onslaught, exponential build-up of deterioration is stayed.

Right now we are wooing the nut business (direct and in candy) with talk of wrapping materials, roasting oils, and treated salt all containing

small quantities of antioxidants of the form



This is butylated hydroxyanisole. That position 3 for the butyl group is more active than position 2. The three alternative arrangements of the butyl group



are much less effective than the tertiary arrangement. But if one replaces the CH₃O with a CH₃ and puts a second tertiary butyl group at the adjacent position on the ring on the other side of the hydroxyl, one has butylated hydroxytoluene, another excellent food antioxidant. In some cases a combination of both BHA and BHT provides the greatest protection against rancidity. The reasons behind these observations might make challenging exercises in several disciplines.

"Nuts," say the nut men and the candy men (who care little about steric hindrance), "that can keep that crunchy, fresh-from-the-roaster goodness in chocolate bars after 120 days in the warehouse, the trucks, and the coin machines are a better proposition than nuts that go bad in 45 days."

So they write to Eastman Chemical Products, Inc., Kingsport, Tenn., and ask for a list of packaging and food fat houses that supply Tenox-treated goods. Or, if they want to get into it a little deeper, they ask which Tenox antioxidant best fits their cooking temperatures, ingredients, storage, etc. "Tenox"—that's our trade-mark for various formulations of BHA, BHT, the synergistic antioxidant propyl gallate, and cation-sequestering citric acid—wholesome substances all.

Price quoted is subject to change without notice.

This is one of a series of reports on the many products and services with which the Eastman Kodak Company and its divisions are . . . serving laboratories everywhere

Kodak
TRADE-MARK