

triarylbi-muth derivative in dry ether. A bright yellow powder rapidly separated out. It melted indefinitely when heated and probably contained some dichloride.

*Anal.* Calcd. for  $C_{24}H_{18}BiCl$ : Cl, 6.5. Found: Cl, 7.0.

**Tri-biphenylbi-muth Dinitrate.**—Alcoholic silver nitrate solution was added to an equivalent amount of tri-biphenylbi-muth dichloride suspended in a large volume of acetone. On concentrating the filtrate after removal of insoluble material, small plates were obtained that decomposed at approximately  $162^{\circ}$ , but deflagrated if heated quickly.

*Anal.* Calcd. for  $C_{36}H_{27}BiO_2N_2$ : Bi, 26.4. Found: Bi, 26.6.

PEARSON MEMORIAL LABORATORY  
TUFTS COLLEGE, MASS.

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### Chile Seed

By W. A. BUSH

The seeds of the Chile pepper (sometimes called pimento) obtained from the pods of the Southern Pacific Coast cultural variety of *Capsicum Annuum* have received little mention in the literature from the point of view of their composition.

A representative sample of a quantity of sixteen tons of dried seeds accumulated during a year from pods mostly of Californian origin gave re-

sults differing somewhat from those obtained by Ebert and Bailey<sup>1</sup> from Southeastern seed.

Yields from the seed by drying and extraction were: oil, 26.10%; moisture, 6.25%; dried extracted meal, 67.65%. Analysis of the meal, free from oil and moisture, shows: protein ( $N \times 6.25$ ), 28.92%; fiber, 29.10%; ash, 5.61%; N-free extract (carbohydrates), 36.37%. The constants of the oil, obtained by hot pressing ( $100^{\circ}$ ) and then filtering are

Specific gravity, $24.5^{\circ}/25^{\circ}$	0.918
Refractive index at $25^{\circ}$	1.4738
Color (2.54 cm. column, Lovibond)	100 yellow—46 red
Acid number	2.18
Iodine number, Hanus	133.5
Acetyl number	7.0
Saponification number	192.0
Unsaponifiable matter	1.7%
Melting pt. of separated fatty acids	$21.2^{\circ}$

The resemblance to tomato seed oil is striking.<sup>2</sup> However, the presence of colored veins on the outer edges of the seeds imparts to the oil the deep color noted above and a characteristic burning taste and paprika-like aroma.

LOS ANGELES, CALIF.

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- (1) H. C. Ebert and H. S. Bailey, *Cotton Oil Press*, 7, 35 (1924).  
(2) Felice Sorgès, *Chim. Ind. Agr. Biol.*, 5, 232 (1929); N. Barskii, *Masloboino-Zhirovoe Delo*, No. 6, 56 (1932).

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## COMMUNICATIONS TO THE EDITOR

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### MUREXIDE AND LEUCOMUREXIDE

Sir:

The recent publication of Kuhn and Lyman [*Ber.*, 69, 1547 (1936)] concerning the oxidation-reduction potential of murexide prompts this report of results obtained in this field.

**Preparation of Murexide.**—The uncertainty in the preparation of murexide emphasized by previous writers including Kuhn and Lyman (who obtained only a 2% yield) has been removed by employing glacial acetic acid as the reaction medium. Furthermore, recrystallization has been effected without heating, by salting out at room temperature. Thus, 16.1 g. of finely

powdered alloxantine suspended in 1600 cc. of boiling glacial acetic acid and treated with 80 g. of ammonium acetate with continued boiling for 1–2 minutes gave, on cooling, filtering, washing with acetic acid, alcohol and ether, and drying at  $100^{\circ}$ , 14.0 g. (calcd. 14.2 g.) of crude murexide. One gram of this dissolved in 900 cc. of water at  $30^{\circ}$  gave, on salting out the filtered solution with 60 g. of ammonium chloride, filtering, washing with 60% methanol and then with absolute methanol, and drying at  $110^{\circ}$ , about 75% of beautiful, reddish-brown crystals possessing a green reflex, which, on titration with sodium hydrosulfite, were found to be pure murexide.