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# Science



A "Bivouac" of Army Ants in Panama

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## FROM ORIGINAL 'ROCHE' RESEARCH....

**B<sub>1</sub> — THIAMINE**  
1936 Isolation by 'Roche' on an industrial scale.  
1937 New 'Roche' synthesis; production in kilos.  
1939 Monthly production in hundreds of kilos.  
1940 Monthly production by 'Roche' in tons.

**NIACIN**  
1867 Prepared by Huber from nicotine.  
1894 Amide synthesized.  
1941 Quantity production to relieve shortage.

**B<sub>2</sub> — RIBOFLAVIN**  
1933 Isolation from whey by Kuhn and co-workers.  
1935 Synthesis by Karrer, 'Roche' collaborator.  
1941 Industrial synthesis.  
1942 Monthly production in hundreds of kilos.

**L — ASCORBIC ACID**  
1934 Synthesis by Reichstein, 'Roche' collaborator.  
1934 Pilot plant started.  
1936 Large industrial production.  
1942 'Roche' monthly production in tons.

**B<sub>6</sub> — PYRIDOXINE**  
1938 Isolation completed.  
1939 Work started on synthesis.  
1941 Pilot plant production.  
1943-45 Production increased to relieve shortage.  
1946 Large-scale production.

**E — α-tocopherol**  
1938 Synthesis by Karrer, 'Roche' collaborator.  
1938-39 Synthesis and production of acetate.  
1941 Acetate adopted as International Standard.  
1942 Acetate production in hundreds of kilos.

## Now BIOTIN 'ROCHE'

By a new synthesis

Pure crystalline material

\$12.50 per Gram • F.D.A. Release Form required.

'Roche' takes pleasure in announcing its latest triumph of research, synthesis and low cost quantity production, thus adding another chapter to the fabulous history of vitamin development.

Investigators will welcome the availability of Biotin, identical with that produced by nature, at a price which opens the way to extensive research into the role which vitamin H plays in both animal and human nutrition.

**HOFFMANN-LA ROCHE INC.**  
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