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[54] STARCH ENCAPSULATION OF BIOLOGICALLY ACTIVE AGENTS BY A CONTINUOUS PROCESS

[75] Inventors: **Merle E. Carr**, Chillicothe; **William M. Doane**, Morton; **Robert E. Wing**, Peoria; **Edward B. Bagley**, Morton, all of Ill.

[73] Assignee: **The United States of America, as represented by the Secretary of Agriculture**, Washington, D.C.

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[58] **Field of Search** 264/4.1, 4.3, 4.6, 204, 264/211.11, 211.12; 427/213.3, 213.31; 428/402.2, 402.24; 426/96

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Primary Examiner—Robert L. Stoll
Assistant Examiner—John M. Covert
Attorney, Agent, or Firm—M. Howard Silverstein; Curtis P. Ribando; John D. Fado

[57] **ABSTRACT**

Biologically active agents to be encapsulated are continuously blended with a starchy material and water, subjected to high-shear mechanical action at a temperature above the gelatinization temperature of starch, and continuously recovered as an insolubilized matrix of starch that entraps discontinuous domains of the agent. Alternatively, the core material to be encapsulated is added and blended with the aqueous dispersion of starch after the starch and water have been subjected to an elevated temperature sufficient to gelatinize the starch. Rate of release of agents to the environment can be controlled by preselecting a set of conditions related to various processing parameters. Encapsulation of biologically active compositons provides protection against degradative environmental conditions, improves safety in handling, and slows the release of such compounds to the surrounding medium.

7 Claims, No Drawings