

Abstracts

Possibilities for Controlling Insects with Microwaves and Lower Frequency RF Energy (Short Papers)

S.O. Nelson and L.E. Stetson. "Possibilities for Controlling Insects with Microwaves and Lower Frequency RF Energy (Short Papers)." 1974 Transactions on Microwave Theory and Techniques 22.12 (Dec. 1974, Part II [T-MTT] (1974 Symposium Issue)): 1303-1305.

Principles applicable to the control of stored-product insects with radio-frequency (RF) electric energy and general research findings on this topic are reviewed. Data are presented on the frequency dependence of the dielectric constant and dielectric-loss factor of insects and grain, and use of such information is discussed in relation to RF treatment of infested products to control insects. Experimental data that confirm the usefulness of information on dielectric properties are presented. These data show that RF treatment at 39 MHz is much more effective for controlling adult rice weevils in wheat than is treatment at 2450 MHz. Some aspects of practical application are also considered.

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