Short Term Heating Kills Cowpea Weevils

ECHO Inc.

The January 1992 issue of HortIdeas reports that two Purdue University entomologists have developed an extremely low-cost technique for ridding dried cowpeas of weevils (*Callosobruchus maculatus*). If you have some clear plastic, a piece of dark cloth, a few rocks and a semi-sunny day,and about an hour, you should be able to eradicate the weevils in a couple pounds of cowpeas."

"A simple solar heater was made by placing a 3 ft x 3 ft black plastic sheet on the ground, adding 1 kg (2.2 pounds) of cowpeas (spread out only one layer thick), and adding a cover of clear plastic sheeting, held down at the edges by rocks. It was discovered that the ambient temperature doesn't affect the temperature inside the solar heater very much on clear or bright-hazy days; the temperature inside cowpeas within the solar heater was 149°F [65°C] 15 minutes after exposure began on a slightly hazy day at noon."

After solar heating for different times, the numbers of beetles emerging were counted (time in minutes followed by numbers in parenthesis): 0 (227 adults), 30 (12 adults), 60 (2 adults), 120 (no adults), 180 (no adults). The treatment did not significantly alter either cooking times or germination percentages. The seeds did lose water, which was probably beneficial. Different types and colors were tried for the sheet on the ground (including cloth) and seemed to make little difference. This time in all cases no adults emerged after a 45 minute treatment.

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