



H. S. SWINGLE, Fish Culturist

CRICKETS are one of the most effective baits for bream during the summer and late fall. They are usually abundant in May, June, and September, and may be found under piles of decaying plants in gardens, in lawns, and in wheat, oat, or hay fields. However, during most of the year they are hard to find and always are hard to catch.

Experiments have been conducted for 3 years at the Alabama Agricultural Experiment Station on methods of raising crickets for bait. A method has been developed whereby they may be raised throughout the year in metal containers kept in the garage, basement, or vacant room.

LIFE CYCLE OF THE CRICKET

The common black field cricket¹ has been raised successfully for fish bait.

¹The scientific name of this cricket is *Gryllus assimilis* Burmeister.

The eggs, which are laid in moist soil or sand, hatch in 15 to 25 days. The young crickets resemble the adults, but do not have wings. Their rate of growth depends upon temperature. Growth practically ceases at temperatures below 70° F., is rapid between 80° and 90° F., and is again retarded by temperatures above 95° F. At low temperatures, crickets live for long periods but make very little growth. High temperatures, which retard growth, also shorten the life of the crickets and prevent normal reproduction. At a temperature of about 80° F., the young crickets become large enough for use as bait in one month; they require 1 to 2 more months to reach full maturity.

Mature crickets can be recognized by the presence of long wings covering the posterior of the body. Mature females lay eggs at intervals for a period of 30 to 50 days. Consequently, crickets of all sizes may be found in the cans at any one time.

**AGRICULTURAL EXPERIMENT STATION
of the ALABAMA POLYTECHNIC INSTITUTE**

M. J. Funchess, Director

Auburn, Alabama

METHOD OF REARING

Rearing cans. Metal cans with a minimum depth of 18 to 24 inches and as wide as possible are used. Garbage cans, lard cans, metal drums with the tops removed, metal troughs, tin-lined boxes, or similar receptacles are satisfactory.

Location of rearing cans. The selected cans are placed in the basement, in the garage or other out-building, or in a vacant room. This is necessary to protect the crickets from ants, spiders, and various parasites.

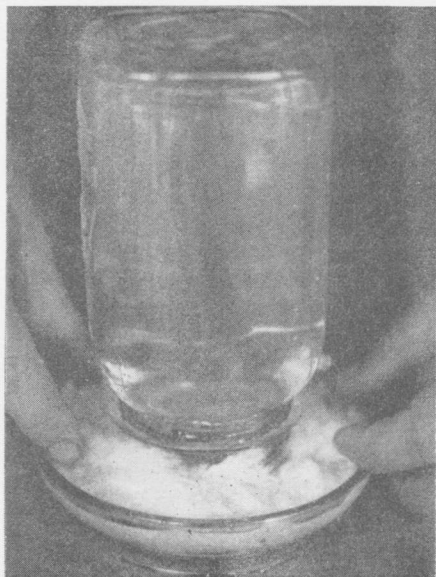
Sand for egg laying. Clean, fine sand is placed in each can to a depth of 4 to 6 inches. The sand is then moistened so that it feels damp to the touch, because crickets will not lay in dry sand. This should furnish enough moisture for hatching the first crop of crickets.

While the young crickets are growing up, the sand must be relatively dry, which helps to keep the crickets free

from disease. For this reason, the sand should not be moistened again for about 3 months, when the young crickets have matured and are ready to lay.

Drinking fountain. Glass-jar drinking fountains commonly sold by hardware and feed stores for watering chickens are satisfactory. This consists of a 1-quart fruit jar inverted in a saucer-like glass dish. The saucer is filled with cotton slightly above the water level. This allows the small crickets to obtain water from the moist cotton without danger of drowning, and also prevents mosquitoes from breeding in the saucer. The drinking fountain is placed on the sand in the center of the rearing can. The water supply will need to be replenished, the saucer cleaned, and the cotton replaced every 4 to 8 weeks.

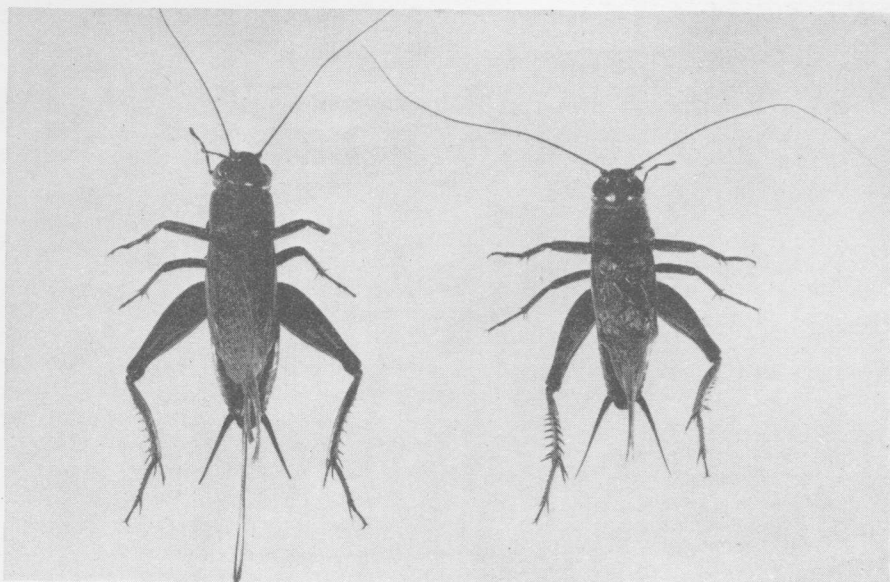
Excelsior. To provide cover for the young crickets and additional surface for them to rest on, wood excelsior is placed over the surface of the sand to a depth of 4 or 5 inches.



Cotton is used in saucer of drinking fountain to prevent young crickets from drowning.



Crickets feeding on laying mash in tray (center). Light provides heat during cool weather.



Crickets used in stocking should be about half females (left) and half males (right). The female has a long tube at the rear end, which is used to deposit eggs in the wet sand.

Waxing sides of can. The inside of the rearing can next is thoroughly cleaned and made as smooth as possible with fine sandpaper for a distance of 8 to 10 inches down from the top. This area is then coated with a good grade of floor wax and polished with cheesecloth. Two coats of wax should be applied. This wax barrier will prevent the crickets from climbing out of the can.

Food. The most satisfactory food for crickets was found to be poultry laying mash, which may be bought at feed stores at a cost of 4 to 6 cents per pound. A saucer or small tray filled with the mash is placed on the sand in the rearing can. The excelsior is pulled around it, so that the crickets may readily reach the food. When the crickets are small, they will consume a saucerful of mash in 2 or 3 weeks; as they grow larger they will eat that amount in 4 or 5 days. No other feed is necessary.

Stocking the rearing can. Approximately 20 to 30 adult crickets are used

to each rearing can up to 2 feet in diameter; proportionately more will be needed for larger containers.

Crickets will not lay eggs until they have become adults. Mature crickets have well-developed wings, while immature ones are wingless. If winged crickets are not available for stocking, young crickets may be used, although a considerably longer period will elapse before eggs are laid.

After stocking, the crickets are examined every 3 to 4 days for a period of 2 weeks and dead ones are removed. This is done because occasionally diseased or parasitized crickets may be present in the original stock.

Dusting for ant control. To keep out ants which kill crickets, the floor around the rearing cans is dusted with insect powder or derris. This is repeated once every 1 or 2 months, taking care that none of the dust gets into the rearing cans.

Screening to keep out parasites. If the rearing cans are kept in a garage or some other unscreened building, it



Cricket box used by fishermen has center opening with metal collar projecting downward to prevent the escape of bait.

will be necessary to place a piece of window screen over the top of the rearing cans to keep out parasites and spiders. If kept in a screened building, this should not be necessary.

Heating the rearing can. During summer months crickets will grow rapidly without additional heat, except when kept in basements or other locations where the temperature remains less than 80° F.

If it is desired to raise crickets during the late fall, winter, or early spring, additional heat will be needed. In experiments at this Station, the use of electric lights for heat has proved more satisfactory than attempts to heat and regulate the temperature of an entire room. The crickets move toward or away from the bulb as they become too cold or too warm.

The electric light bulb is suspended in the rearing can to within 5 or 6 inches of the excelsior, and the top of the can is covered with cardboard, paper, or cloth. The bulb should not

touch the excelsior as it may cause fire; also, the crickets may walk up the light wire and out of the rearing can.

The size of light bulb to use depends upon the size of the rearing can and the air temperature. At Auburn, a can 2 feet in diameter and 2 feet deep, placed in an unheated room, was heated satisfactorily by a 100-watt bulb during the winter months. Sufficient heat was furnished by a 40-watt bulb during the cool spring months.

When the crickets do not move close to the bulb during the coolest periods, this indicates that the can is being kept too warm. In such a case, a bulb of lower wattage is substituted. The life of a bulb under continuous operation is 1 to 2 weeks.

After the crickets become large enough for bait, the heat is removed. If kept in a cool place, they will grow very slowly and will remain approximately the same size for several months.

Due to the expense of heating during cold weather, it is much more economical to raise a large crop of crickets during the warm fall months. They then may be kept in an unheated room throughout the late fall, winter, and early spring. Extra crickets can be raised at any time during this period in heated cans if the supply becomes low.

Re-starting the rearing cans. Four crops of crickets have been raised in a can without cleaning it out or restocking. However, larger crops of crickets were raised when the cans were thoroughly cleaned and started over after raising one to two crops.

Production per can. Four hundred crickets can be raised every 3 months in a can 24 inches in diameter. A can 15 inches in diameter produces about 200 crickets.

Amount of food required. Approximately 2 pounds of laying mash are required for each 100 crickets produced.