

## TERMITE BAIT APPARATUS HAVING GROOVES

### BACKGROUND OF THE INVENTION

The present invention relates generally to the control of termites and other social insects. In particular, the present invention relates to the control of such insects using an apparatus containing bait impregnated with a slow acting toxicant. For a discussion of social insects, see generally U.S. Pat. No. 5,152,992. That patent is incorporated by reference herein to the extent it discusses social insects and their habits.

In the prior art, various techniques of spraying fast acting insecticides in a structure are used to eliminate social insects such as termites in the structure. For eliminating social insects in the ground instruments with cardboard or sawdust bait were used.

### SUMMARY OF THE INVENTION

It is an object of the invention to provide an apparatus and method for eliminating social insects such as termites in a structure.

It is another object of the invention to provide an apparatus and method for eliminating social insects in the ground.

The invention provides a method and apparatus for providing a more attractive and durable termite bait, which comprises a thin flat block of wood with grooves.

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a preferred embodiment of the inventive termite bait.

FIG. 2 is an exploded view of a bait station, which utilizes the inventive termite bait.

FIG. 3 is a schematic view of the use of the embodiment illustrated in FIG. 2.

FIG. 4 is an exploded view of another preferred embodiment of a bait station.

FIG. 5 is another embodiment of the invention for use in a tubular station.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 is a perspective view of a preferred embodiment of the inventive termite bait 10, formed by a block of wood 11, which is thin, flat and rectangular. Some possible woods which may form the termite bait are spruce, pine and fir. A plurality of parallel grooves 13 are cut along one or more sides of the block of wood 11. The length of the groove extends from one end of the block of wood to the other end of the block of wood, as shown. It is preferable that the width of the groove is  $\frac{1}{8}$  inch, which is approximately 3.175 mm. The depth of the grooves go at least half way through the block of wood 11. The grooves may be as wide as one inch in width (25.4 mm) or as narrow as  $\frac{1}{32}$  inch (0.794 mm) in width. In this embodiment the grooves 13 are on one side of the block of wood 11. The grooves 13 may be on all six sides of the rectangular block of wood 11.

The surface of the block of wood 11 is treated with a slow acting toxicant. The amount of toxicant needed to control termites will vary, depending on the particular toxicant used, but in general an amount between about 1 and about 5,000 parts per million (ppm) of toxicant to bait may be utilized. For example, if sulfuramid is the toxicant, an amount

between about 10 and about 200 ppm may be used, preferably between about 50 and about 100 ppm, and if abamectin is the toxicant, an amount between about 10 and about 200 ppm may be used, preferably between about 50 and about 100 ppm.

In FIG. 2 an outdoor station 50 has an outer box 51, comprising the body 52, and a top cover 53. The body 52 has a plurality of apertures 60 which extend along the side of the body 52. The body 52 has a plurality of screw holes 61. The top cover 53, which extends along the length and thickness of the outer box 51 has a plurality of screw holes 65, which mate with the screw holes 61 of the body 52. A plurality of screws 66 are provided to pass through the screw holes 65 of the top cover 53 and screw into the screw holes 61 of the body 52.

A bait holder 70 also has a box shape, and is small enough to fit into the outer box 51. The bait holder 70 has a plurality of apertures 72. The inventive bait 10 is placed in the bait holder 70. The bait 10 has a length 55, width 56, and thickness 57, wherein the length 55 is at least six times the thickness 57, and wherein the width 56 is at least five times the thickness 57. The bait 10 is attached to an identical bait 10' by blocks of double sided adhesive spacers 39. The bait holder 70 has a plurality of foldable tabs 67 to allow easier removal of the bait holder 70 from the body 52. Other means may be provided to facilitate the removal of the bait holder 70 from the body 52.

FIG. 3 is a schematic illustration of a plurality of the outdoor stations in operation. Adjacent to a structure 77, there may be areas that have a higher chance of attracting termites, such as near a water source such as a faucet 78. A U-shaped trench is made around the area of the faucet 78 and three bodies 52 of outer boxes 51 are placed in the trenches. A bait holder 70 (FIG. 2) is then placed in each body 52 of an outer box 51. A top cover 53 is then secured to each body 52 by the screws 66. On a periodic basis, possibly every six months, the screws 66 are removed, the bait holder 70 is also removed and inspected. If the inventive bait 10 is intact, the bait holder 70 is put back in the body 52 and the top cover 53 is resecured. If the inventive bait 10 needs replacing, a new bait holder 70 with new bait 10 is placed in the body 52. The periodic inspection allows the monitoring for termites.

The slow acting toxicant in the bait 10 allows for the control of an entire colony. The high surface area to volume ratio of the bait 10, due to the ratio between the length 55, width 56, and thickness 57 allows for a large surface area which protects against termites and provides a large surface area for the slow acting toxicant. The grooves 13 increase the attractiveness of the bait 10 to termites and the attractive surface area. This is because it is easier for termites to tube over such grooves 13. The use of wood is also preferable to the prior art cardboard in that wood is more durable and thus lasts longer.

In another method of operation, the outer box 51 may be laid flat on the ground and covered with mulch.

FIG. 4 illustrates another embodiment of a termite station 30 using another embodiment of the termite bait 36. The bait station 30 has an outer cover 31, comprising a tinted transparent plastic top cover 32, an opaque plastic bottom cover 33, and an opaque side cage 34 between the top cover 32 and bottom cover 33 and around the outer edges of the top cover 32 and the bottom cover 33. The outer cover 31, forms a flat box shape, with the top cover 32 forming a side of the flat box with the greatest area, and the bottom cover 33 forming the other side of the flat box with the greatest area, and the side cage 34 forming the four sides of the flat box