Garlic Clove Separator

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Garlic is planted using individual cloves. Individual cloves can be separated from the bulb by hand or with a pair of large diameter rubber-faced rollers (Figure 1) that partially crush the bulbs to release the cloves (W. Sims et al. Growing Garlic in California. University of California Cooperative Extension Leaflet 2948. December 1976). Partially crushed garlic cloves are more subject to diseases and should be planted as soon as possible after separation.

Figure 1. Rubber faced rollers for separating garlic cloves.

A. PVC pipe roller, 10-inch diameter x 6 inches, schedule 40
B. Wood spoke, 2 x 8 x 10 inches
C. Steel shaft, 5/8-inch diameter x 14 inches, cold rolled
D. Neoprene foam backing, ¼ inch thick
E. Rubber facing, 1/8 inch thick
F. Wood support frame
G. Pillow block bearing, 5/8 inch bore
H. Bicycle crank, cotter type
I. Steel plate with set screw and lag bolts
Two 10-inch diameter, schedule 40, PVC pipe sections are used as rollers (Figure 1, item A). Reinforce each roller with a wooden spoke (B) made from 2 x 8 x 10 inch board. Cut the spoke to fit inside the PVC pipe, and drill a 5/8-inch hole at the center of the board for a 5/8-inch roller shaft (C). Drill and countersink holes at the mid section of the PVC pipe and secure the spoke to the pipe with flat head sheet metal screws. Insert the 5/8-inch diameter x 14 inch steel shaft (C) through the center of the spoke. Etch the outside surface of the PVC roller (A) with acetone or methyl ethyl ketone (MEK) or PVC primer. Attach neoprene foam backing (D), 1/4 x 6 x 36 inches to the roller (A) using rubber contact adhesive. Attach the rubber sheet (E), 1/8 x 6 x 36 inches to the neoprene foam backing (D) using rubber contact adhesive. Make a rectangular wooden frame (F) 12 x 28 inches using 2 x 8 inch board. The two rollers (A) are mounted on to the frame (F) using 4 pillow block bearings (G) and steel shafts (C). The rubber-faced rollers (A) are separated from each other with a 1-inch gap to allow individual garlic cloves to pass through. Use a larger gap between the rollers for large cloves. The bicycle crank handle (H) is installed on one of the roller shaft (C). File a notch on the shaft to fit the bicycle crank's cotter pin, and secure the crank to the shaft. A typical 10 speed, cotter type bicycle crank arm will fit snugly on a 5/8-inch diameter shaft. Secure the shaft (C) to the wooden spoke (B) using the ½ x 1 ½ x 3 inch steel plates (I). Drill a 5/8-inch shaft hole through the face center of the plate, and two ¼ inch holes for the lag bolts. Drill 13/64-inch setscrew hole from the edge of the steel plate perpendicular to the shaft hole. Tap the setscrew hole with 1/4-inch thread. The steel plate is inserted on the shaft, attached to the spoke using lag bolts, and then locked on to the shaft using a ¼ inch setscrew.

Rubber foam, sheet, and adhesives are available from rubber suppliers; pillow block bearings are available from bearing supplier and hardware stores; and PVC pipe is available from pipe and irrigation suppliers.

The 10-inch diameter x 6-inch long rubber faced rollers easily cracks one garlic bulb at a time on the downward stroke of the bicycle crank handle.

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