

ISN = 001102

Apparatus for hourly aphid assessments with yellow water traps

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Accepted 17 October 1973

Yellow watertraps (Heathcote, 1957; Johnson, 1967; Moericke, 1951) are generally used for catching aphids. A technique has been developed for hourly reading, while collecting the aphids only once every 24 hours. Although this is also possible with a suction trap, the new apparatus has the advantage that it can remain working for more than 24 hours.

The aphids are collected each hour by opening one out of a series of 24 water traps. Each trap rests in a wooden frame (Fig. 1) and is normally closed by a cover; at the right moment the cover can be opened and closed an hour later with a Servo-motor

Fig. 1. Yellow watertrap with Servo-motor and mechanism to open and close cover. a, b = rods; c = crank-shaft; d = cover; e = yellow water trap; f = guide rail; g = Servo-motor.

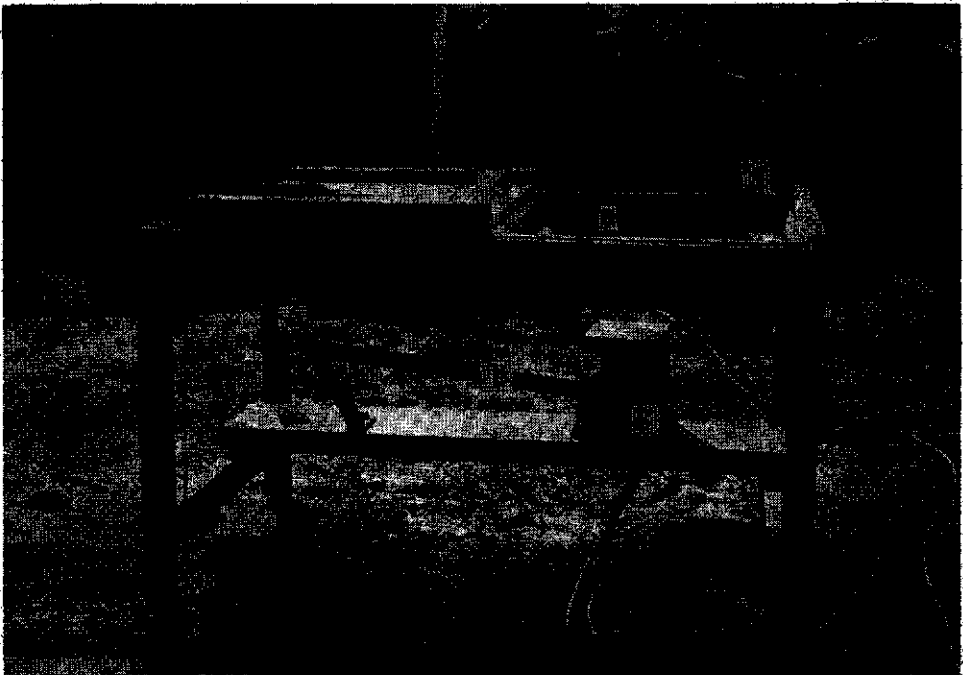


Fig. 1. Gele vangbak met Servo-motor en mechanisme voor het openen en sluiten van het deksel.

Fig. 2. Control scheme of the water traps.

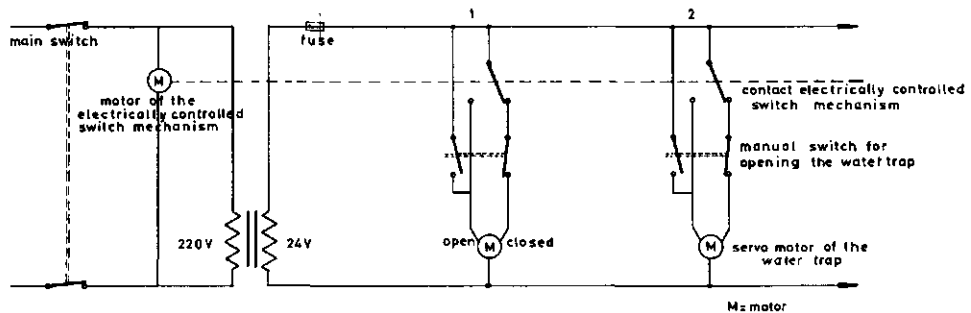


Fig. 2. Besturingsschema van de vangbakken.

under the trap. The opening and closing operation takes half a minute. The crankshaft *c* turns 180° and through the rods *a* and *b* (Fig. 1) moves the cover horizontally. The Servo-motor is stopped by means of an integral auxiliary switch. An electrical switch mechanism with 24 disks, one for each trap, controls the opening and closing of the consecutive traps. It makes one rotation every 24 hours. Every disk is connected to a switch that causes a Servo-motor to open and close a trap (Fig. 2) and two adjustable screws make contacts at the times required. There are also 24 manual switches allowing manipulation of the traps when collecting the aphids.

Samenvatting

Apparatuur voor uurlijkse waarnemingen van bladluizen met behulp van gele vangbakken

Er wordt een apparaat beschreven om automatisch per uur bladluisvangsten te verrichten. De apparatuur bestaat uit 24 gele vangbakken, die ieder één uur per etmaal open staan. Onder de vangbak bevindt zich een Servo-motor, die op het gewenste tijdstip een deksel over de bak schuift of wegschuift (Fig. 1). De Servo-motor krijgt het commando daartoe van een programma-schakelaar (Fig. 2).

Acknowledgement

The authors wish to thank Mr G. Blom and Dr Joan Llewelyn for correcting the English text.

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