(57) **Abstract:**
The invention relates to effective, compact, simple, pollinator device, for dusting pollen powdered material by, insecticide or other powder by the mixture of air onto date palm trees.

The new pollinator is also characterized by high reliability and efficient control over pollen application rate and reducing pollen wastage to minimize and overcome defects associated with other ground level pollinators.
Ground level date palm Pollinator

Abstract:

The invention relates to effective, compact, simple, pollinator device, for dusting pollen powdered material by, insecticide or other powder by the mixture of air onto date palm trees.

The new pollinator is also characterized by high reliability and efficient control over pollen application rate and reducing pollen wastage to minimize and overcome defects associated with other ground level pollinators.
Background of invention:

The shortage of workers and high cost of hand pollination of date palm trees have prompted the quest for workers saving cost.

The date palm tree is either a male plant or female plant and needs the transfer of pollen from the flowers of a male tree to the flowers of a female tree to give proper fruit. Such pollen transfer may occur naturally by air, but this way yields little or no fruit.

It may also occur manually by taking some of the male flowers to spray their pollen onto the female flowers.

This requires climbing up the tree, however, which is very difficult. To make such manual pollen transfer easier, therefore, pollinators are used. Some of the pollinators still require climbing up the tree, or mechanical pollinators.

The mechanical pollination of date palm has been introduced to reduce workers requirement of hand pollination, this led to the development of mechanical pollination.

New date palm pollination is easy to use, low-cost and low-maintenance applicator for simple and effective devices designed to solve and reduce workers requirement of hand pollination problems.

Description:

New Ground level pollinator have the advantage to increasing work rate and consequently increasing the maximum number of pollinated trees per hour and reducing workers requirement as compared to other different pollinators.

A series of tubes (33) or telescopic pipe can extend to more than 20 m, attached to Pollinator unite (Fig 3),can also be attached to codeless blower (1).

It works by mixing the air with pollen powder into a stream of air, creating a pollen cloud.

- Parts of new date palm trees pollinator:

Consists of:

1- Pollinator unite. (Fig 3),
2- Extendable tube (33),
Parts Description:

1- Pollinator unite. (Fig 3)

New pollinator unite (Fig 3) consists of:

- Pollen bag or container (6) which is attached with mixer room (7), which is also attached to a small mesh surface (8) in the tube (3).
- Pollen bag (6) attached to mixer room (7).
- Mixer room (7) a small container with a mesh bottom service attached with tube (3).
- Mesh surface (8) in the bottom of the mixer room (7), to mix air with pollen powder into the pole.
- Air mixes with pollen powder to place an operator at the bloom area.
- Container (6), cap (5) in the top of Container (6), to add pollen inside Container (6).
- The Pollinator has a Straight Extendable tube or (33) with a height up to 20m, Connect slotted (4) end of straight pipe (10) directly to Pollinator unite.
- If date palm trees are short or tall, we can add more tubes (33) or extending the telescopically pipe.
- Pollinator unite attached to cordless blower (1),
- We can use any type of cordless air blower to generate air into pollinator pipe (3).

- How it works,

One operator is required to operate the pollinator to direct the pollen and delivery pipe to the bloom area and throw corrugated pipe (11) nozzle (12).

For the best results, angle pipes approximately 10 degrees from the side of the date palm tree.

- Mixing pollen powder,

One part of the pollen was mixed with 3, 4 and 7, 9 parts of Wheat flour and powder and applied by the reachable dusters.

- Not,

The mixture of pollen and powder parts depend on the type of the Date palm trees.

- Based on knowledge of drawing in fig 1 and fig 4

The New ground level pollinator is a small, compact and easy to move between trees.

A pipe with a height of more than 20m was used generally to apply pollen to place an operator at the bloom area.

Pollen unit of drawing in fig 2, fig 3 and fig 6,
The air inside tube (3) moving pollen powder outside the container (6) throw mixer room on to the mesh surface (8) to the flower and bloom area.

- **Pollen unit of drawing in fig 5.**

Corrugated tube (11) and Nozzle (12) to adjust pollen into bloom area.

- **BRIEF DESCRIPTION OF THE DRAWINGS**

Prior and preferred embodiment of date palm pollinators which illustrate, but do not limit the invention are shown in the drawings, wherein;

1. FIG. 1 is general view;
2. FIG. 2 is side view blower attached to Pollinator unite;
3. FIG. 3 is side view of the Pollinator unite;
4. FIG. 4 is front view of the view of the extendable tube;
5. FIG. 5 is general view of the nozzle tube.

- **New date palm pollinator features.**
1. The new ground level pollinators have the advantage of increasing work rate and consequently increasing the maximum number of pollinated trees and reducing workers requirement as compared to hand pollination.
2. Light weight and very easy to use.
3. One operator only is required to operate the pollinator
4. Easy carrying by one hand to move between the trees.
5. Very economic in pollination.
6. Very powerful to cover most date palms.
7. No stream of pollen from the pollinator after the operator to stop blower switch off.
8. Can use any of cordless air blowers.
9. Can use any type of tube like a telescopic tube or extendable tube.
10. No mechanical parts.