

## **An Inexpensive Vacuum System for Patching Up Plug Trays<sup>©</sup>**

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Plug trays often need to be “repaired”, or patched, by removing blank cells and filling them with a transplantable plug. There are sophisticated and expensive machines that are used in large production facilities, but at Cal Agri, we put together an inexpensive and portable vacuum.

We used a 6.5 H.P. 14 gal. wet-dry shop vacuum, which can be purchased at Home Depot<sup>®</sup> or Lowe’s<sup>®</sup> for about \$80 to \$120. Initially, we had problems with the vacuum hose getting clogged with soil, and also with the vacuum filter getting caked with soil.

To solve these problems, we added a metal can with a flexible hose attached to the shop vac on the top, and with a smaller diameter hose attached to the side of the can which has a nozzle-type attachment that is used to suck the soil from the plug tray cells.

By adding the can to the set-up, the soil is sucked from the tray and deposited into the can, avoiding clogging of the shop vac.

The shop vac has wheels attached, and can be rolled to different areas of the greenhouse, making it portable and easy to work with. The soil is emptied from the can when it is about half full. After the blanks are removed, a transplantable plug is manually placed into the cell with a spatula tool.

One of the challenges we had was finding and adapting a can that could be fitted with the hoses, and with a lid that seals but is also easily removed in order to dump the soil. Finding fittings for the hose connections and for the end nozzle was also difficult.

For the vacuuming process to work it is important for the soil to have the right moisture content; if it is too wet, the smaller hose can get clogged up.

