

Build a Blower to Apply Biological Control Agents

Utilizing a blower to disperse certain biological control agents (BCAs) over crops can be a significant time saver. With the right blower setup, large areas can be covered quickly, saving you time each week.

Blowers work well for releasing predatory mites, such as:

- *Amblyseius cucumeris*
- *Amblyseius swirskii*
- *Amblyseius fallacis*
- *Phytoseiulus persimilis*



These are in finer carriers, either vermiculite or shavings, that are easily blown over the top of the crop.

Parts List (working from the blower unit end)

Description	Part Number	Source	Estimated Prices (as of 1-30-19)
Makita® 18V LXT Lithium-Ion Cordless Floor Blower, Tool Only	DUB183Z	Amazon	\$97.00
Makita BL1840BDC1 LXT Lithium-Ion Battery and Charger Starter Pack, 18V (If needed)	BL1840BDC1	Amazon	\$105.00
2-3/4" Stainless Steel Hose Clamp	078575173658 or 100494	Home Depot	\$1.42
1-1/2" DWV Long Turn Tee Wye Fitting	039923219404	Home Depot	\$2.98
1-1/2" x 1" PVC Bushing	611942075324	Home Depot	\$1.44
1" PVC Pipe 2" long	193755	Home Depot	\$3.97 or find a scrap piece
1" PVC Ball Valve	032888076358	Home Depot	\$4.98
1-1/4" x 1-1/4" Flex Coupling	018578000032	Home Depot	\$4.10
3 qt 2" Bung Adapter w/lid Spill Proof Funnel	85062453	www.mscdirect.com	\$14.99
1-1/2" Trap Adapter with 1-1/2" slip male end	039923214287	Home Depot	\$1.85
1-1/2" x 12" Extension tube (2)	041193461155	Home Depot	2@\$2.18=\$4.36

Notes on Parts Selection

The Makita® blower used in this BCA blower has the advantage of an infinitely variable speed control. It has a 1-2-3 setting switch that simply limits travel of the button to reduce the maximum blower speed. It is best to leave the setting on “1” to avoid excessive blower speed and damage to the BCAs.

The funnel was selected because of its size and the lid, which serves to create a small vacuum that helps control the flow of material down into the blower.

No glue is used in this assembly to make it convenient to disassemble and store. Also, no alteration or damage to any part of the blower allows its use in other applications.

Parts were sized and selected for fit as well as to reduce weight.

Assembly Instructions

1. On the wye fitting, cut 16 small slits into the 1-1/2” side female inlet (straight section of the wye fitting). This is easily done with a hacksaw by cutting opposite sides at the same time. Only cut to the beginning of the external bevel.
2. Slip on the stainless steel hose clamp loosely.
3. Press fit the 1-1/2” trap adaptor into the 1-1/2” female outlet of the wye fitting (straight section).
4. Press the 2” section of 1” PVC pipe into the PVC bushing.
5. Remove the bung adapter from the funnel, insert the bottom of the funnel into the flex coupling and tighten the hose clamp.
6. Insert the end of the ball valve into the other opening of the flex coupling and tighten the hose clamp.
7. To assemble the BCA blower:
 - a. Insert the battery onto the blower
 - b. Slip the slit end of the wye fitting onto the threaded end of the blower and tighten the hose clamp
 - c. Press the bushing into the top female inlet of the wye fitting (curved section)
 - d. Loosen the 1-1/2” trap adaptor and slip in the first extension tube section
 - e. Insert the second extension tube section into the first

