

Product Description: A root grinder to make fertilizer from grassroots inoculated with fungus

Intended Customers: Organic Farmers with 1-10 acres of crops

Market: Fertilizing equipment

Customer Need	Product Attribute(s)	Engineering Specification(s)
The grinder is durable.	1.) Weatherproof. 2.) Rodent proof.	1.) The grinder must be able to sustain a 5 minute high powered spray from a hose. 2.) The grinder will be inaccessible to rodents. 3.) The grinder can still function after being tipped over on concrete. 4.) All detachable parts besides motor can still function after being dropped from 4 feet above the ground
The grinder meets customer specifications for bags ground/hour.	1.) Has a suitable capacity.	1.) The grinder grinds 5 grow bags in less than 1 hour. <i>(A grow bag has a ~1.5 gallon capacity and contains both the roots and shoots of the grass.)</i>
The grinder is safe to the user.	1.) Electrically safe to user. 2.) Will not cause injury to the user while moving grinder. 3.) Edges will not harm the user.	1.) Moving blades will be inaccessible to the user. 2.) There are no sharp edges on the exterior of the grinder. 3.) The user will not be required to exert more than 35 pounds of force to move the grinder. 4.) The electrical safety will be ensured by a GFI plug.
The grinder can be used in a greenhouse.	1.) Requires no special wiring. 2.) Quiet. 3.) Portable.	1.) The grinder will operate from a standard 120 volt, 60 cycle outlet. 2.) The grinder will have an electrical cord of 12 ft. and be equipped with a GFI plug.. 3.) The grinder will not be louder than 75 decibels. 4.) The grinder can be moved by one person. The user will not be required to exert more than 35 pounds of force to move the grinder.
The grinder is easy to maintain.	1.) Easily accessible blades. 2.) Easily accessible motor.	1.) All subassemblies of the grinder can be removed in 15 minutes with common tools and without an instruction manual.
The grinder is easy to operate.	1.) Self-explanatory layout and labels.	1.) The user can safely operate the grinder after 2 minutes of observation and without the aid of an instruction manual. 2.) The user can load roots/dirt in no more than 20 seconds and remove the processed batch in no more than 20 seconds.
The grinder meets customer specifications for size of end ground product.	1.) Precise, uniform grinding.	1.) The ground roots will be smaller than 1/2 inch in length. 2.) 75% of the ground roots will be within specified root size in 3 minutes of grinding.