

Team Blue
 Product Contract
 21 November 2005

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. NOTE: not achieved in this prototype. 2) The grinder electronics will be inaccessible to rodents. All subassemblies (except for the motor) can function properly after a "tipping" test. NOTE: not yet tested in this prototype.
The grinder meets customer specifications for bags ground/hour.	Has a suitable capacity.	The grinder grinds 5 grow bags in less 1 hour. <i>(Roughly 1.5 gallon capacity.)</i>
The grinder is safe to the user.	1) Electrically safe to user. 2) Will not cause injury to the user while moving and operating grinder. 3) Sharp 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. NOTE: to be incorporated by final design. 3) A single user will be able to move the grinder with reasonable effort. 4) The electrical safety will be ensured by a GFI plug. 5) The grinder will not harm the user's ears while grinding.
The grinder can be used in a greenhouse.	1) Requires no special wiring. 2) Noise conscious. 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 harmful to the user's hearing. 4) A single user will not exert more than a reasonable effort to move the grinder.
The grinder is easy to maintain.	1) Easily accessible blades. 2) Easily accessible motor.	The blades and motor of the grinder can be removed in 15 minutes with common tools and without an instruction manual.
The grinder is easy to operate.	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.	Precise, uniform grinding.	The ground roots will be smaller than 1/2 inch in length. 75% of the ground roots will be within specified root size in 3 minutes of grinding.