Electronic Seeder Version 1.0

# Introduction and brief specification:

Distance based electronic seeder

In this system, the process of sowing seeds is done by electronic device based on distance covered by the wheel/vehicle sowing the seeds.

* 1. Diameter of the wheel of the vehicle taken for sowings

A range of diameter (generalized and approximated) of the wheel of the vehicle taken for sowing seeds is taken and distance is calculated per rotation using IR sensors.

* 1. Distance between the seedings

The distance between two seeding is taken as input via arrow buttons (push buttons) increment and decrement of this distance is taken from user. Indication is given through LED’s

# Software Requirements

* 1. Constraints

In this design, the funnel at the top of the pipe is filled frequently with seeds to be sown. The pipe is a channel between the field and the funnel. A gate is created between end of pipe and the field through a servo motor controlled by a controller. Servo motor is opened based upon the input taken from the IR sensors. The IR sensors give input based on the distance covered by the wheel of the vehicle. Controller compares this distance and the required distance between the seeds to be sown and opens the servo motor to sow the next seed.

# In-field Constraints

* 1. magnetic placements of cup holders

The cup holders for the dropping of the seeds should be flexible enough to make horizontal distance adjustments as per the requirement of the farmer/user. For this magnetic set up is the best use through which the horizontal distance between two cup holders can be varied.

* 1. cup holder distance adjustments

The cup holders are to be moved horizontal ways so as to vary the distance between two cup holders. And the magnetic holders should be given flexibility to move in horizontal ways

* 1. seed dropper height adjustments

The height between the field and the seed dropper pipe should be given flexibility so as to adjust it as per needed by the user.

* 1. weight of the system

Weight of the entire system should be given importance. In slushy and muddy fields, there are possibilities that the entire system may drown down the field. To avoid this the entire system should be having optimal weight for working in all possible conditions.

* 1. wiring arrangement

Wires will have to run from the controller to the motors near the cup holders. To this usage of hollow rod between the two wheels is optimal. Wires can be sent through the hollow wire to all the cup holders in the system that will give protection to the wirings as well as all the cup holders can be reached.

* 1. pulling arrangement

In cases where the fields are vast, the entire system should support pulling mechanisms through other motor vehicles. A possibility for this should be given as well.

* 1. spiral cups for variable size seed bottles

There may be possibilities where the user may use different sizes of the cups for the purpose to be met. In order to fit all the possible sizes of cups, a spiral structure should be introduced. This should support all sizes of the cups.

* 1. wheels

Wheels are to be changed as the field in which seeding is done. Some might require normal wheels while other fields need cage wheels( or surfboards). The system should be able to work in both cases. For this detaching wheel may be one of the solutions.

* 1. Straight movement of the wheels

# Indicators

* 1. distance setter between two seeds
  2. number of seeds to be dropped

(As per this field, the amount of servo movement is decided)