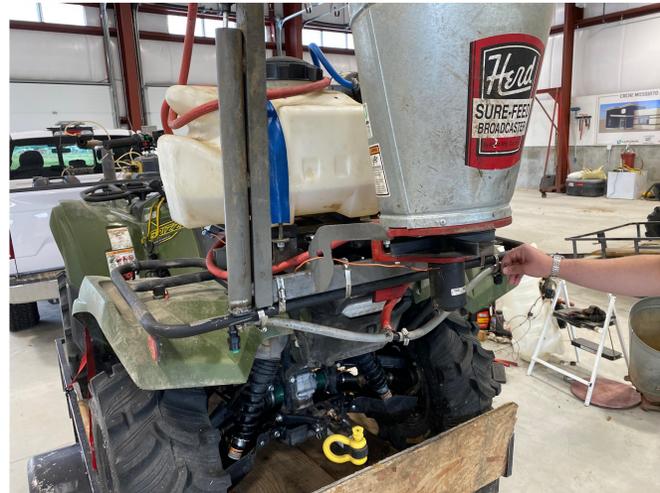


CMAD Larvicide Spreader

Project Description

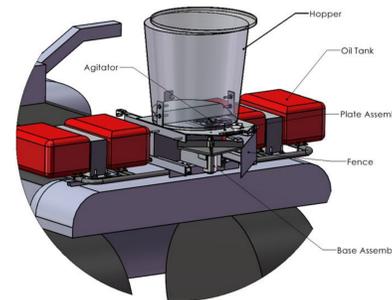
Design a larvicide spreader that integrates with current oil spreading system that fulfills the following requirements:

- ❖ **Lighter Weight**
 - Rack weight capacity is 187 lbs. Previous system was breaking the racks.
- ❖ **Directional Spreading**
 - Must be able to spread to either side of the ATV.
- ❖ **Easier Calibration**
 - System must stay calibrated when the ATV is in use.



Previous System

Design Description



- ❖ Switched from steel to aluminum
- ❖ Moved the center of gravity to be on the rack



Performance Review

	Previous System	New System
Overall Weight of the System:	86 lbs	42 lbs
Directional Spreading:	180°	45-180°
Capacity of the Hopper:	40 lbs	50 lbs
Capacity of the Oil Tank:	10 gallons	6 gallons

Conclusion

- ❖ **Significant Results:**
 - The design is 1/2 the weight of the previous system
 - Spreads 180° with the option of 45° or 90° to either side of the ATV
 - Project was completed on time and under budget
- ❖ **Lessons Learned:**
 - Tolerances are important to make parts easy to build
 - Load analysis can reveal where more structure is needed
 - Project planning should take into account shipping delays for components
- ❖ **Recommended Future Work:**
 - Improve calibration box
 - Perform field testing
 - Improve storage method of the fence

