UVM Extension Hops Baler

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Baler Goals

Original
- 20-50 lb. bales.
- Ease of construction
- Ease of Use
- Less than $3000
- Vacuum sealable bales

Evolved
- Based on log splitter
- 15-20 lb. bales.
- Ease of Construction
- Ease of Maintenance
- Storage
- Less than $1500
- Splitter retains functionality
- Bale of 60” Perimeter
First, Success!

- [http://www.youtube.com/watch?v=Ux93qZwvclo](http://www.youtube.com/watch?v=Ux93qZwvclo)
Hops Properties?

- No information on properties of hops under compression
- Went for a final density between 6.5-10 lbs/ft³
- Required compression force is exponential
- Used pressures of up to 60 psi on 1 oz. mini-bale
Hops Properties?

- Integrated bagging would be tough
- Found that hops expand in the direction of compression
- Hops have small Poisson’s Ratio
Initial Ideas
Features of the Final Design

- Mainly off-the-shelf materials
- Food Grade Plastic and Powder Coating
- Castle Door
- Ejector Guide Rods
Features of the Final Design

- Ejector
- Log splitter joined to spine
Features of the Final Design

- Turnbuckles
- Mounting For The Ram
## Expenses

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What’s Left To Do?

- Minor improvements
- Test with fresher hops
Questions?