Wool Pellet Process Brief

Wool pellets are an opportunity to bridge the gap between our lack of infrastructure for processing wool and the abundance of wool that is being under-utilized. **We believe that wool pelletizing systems can be set up and successful in many regions and States in North America. In fact, it makes sense ecologically to keep the nutrients in the regions they came from and to support many small businesses with pellet operations, rather than one large business doing it all.**

Sourcing Waste Wool

Pelletizing wool is a more affordable option than scouring and processing it into textiles so it works as an immediate response to the challenges of our current wool industries.

Equipment and Infrastructure

Pellet machines are not a new invention, many have been pelleting wood, alfalfa, feed, straw, hops, paper and more. The process of pelleting wool uses the same machinery and process as these other common forms of pelleting.

A pelleting machine uses a powerful motor to engage large metal rollers over a die plate that forces the wool down into the holes and out the chute as a small pellet. Due to the fibrous nature of wool, **a shredder** is used to cut the wool up into smaller pieces to make the pelleting process more expedient and with less chances for wrapping of wool around the rollers.

We purchased our pelletizing system from **Buskirk Engineering**, Ossian, Indiana.
https:/ / buskirkeng.com/

Electricity needs will depend on the machine you purchase. We hired an electrician to install our Buskirk System. You will need to wire the pellet mill - 50A breaker on the220V single phase power for the PM805 unit. We recommend a well-ventilated space that can allow for significant dust. The machine creates quite a bit of atmospheric dust and the space will generally accumulate fiber and dust after the machine has been running. We use a few buckets and totes for collecting pellets, sorting raw wool and waste from cleaning out the pelleter. We spend ~20 minutes cleaning out the pelleter and shredder after every use. You will need to grease the bearings and rollers every 40-60 hrs.

The **pellets must be completely cooled before packaging**. The pellets will create condensation if they are not cooled completely and that will cause the pellets to puff up. The pellets do smell like raw wool!

The **shelf life of pellets**, if not exposed to moisture, would be approximately 6 months to 1 year. The only issue for them beyond this time is losing their firmness and becoming more powdery; however, they will not be any less effective in the soil, but won't hold their shape as well.

Wool in the Soil

It will be important to continue studying wool pellets and to observe any positive or negative short or long-term effects from using wool pellets in the soil.

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Marble Hill Farm and Mavourneen Farm

Monroe County, Indiana

Integrating Sheep Wool Pellets with Specialty Crop Systems to Enhance Soil Health, Water Storage, Carbon Sequestration, and Plant Production

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