Small-scale grain processing equipment

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LNE17-357 Farmer-generated training and equipment solutions for producing and processing value-added grains
Major obstacle to profitable grain production for small-scale farmers:

Lack of affordable, efficient, small-scale processing equipment
Small-scale equipment that makes the farmer money

- Grain cleaners
- Dehullers
- Grain separators: Gravity Tables
- Oat rollers
- Mills
- Labeler
- Questions?
The mighty air screen cleaner
Sosnowski Cleaner
Burr mill converted to dehuller by Henry Beiler/Lamar and Henry Stauffer

- Cheap: price of used burr mill ($200-$300)
- Reduced cracking of grain
- Have not solved rubber conundrum
Dehuller John Stutzman, Homerville, OH; powered and mounted by Lamar and Henry Stauffer, New Holland, PA

Preliminary testing
Throughput: 3000 lb/hr for spelt
Efficiency:
  2015 Sungold spelt: 66% dehulled
  2015 Oberkulmer spelt: 53% dehulled
Works with winter einkorn, less well with spring emmer

Cost for version 2.0: ~$1500
Nigel Tudor designed/ Henry Beiler modified dehullers

Nigel Tudor: ~$13,000
CAD, manual available,
Contact OGRIN

Beiler modification
Beiler dehuller
Forsberg Gravity Table
Tiny, precision gravity table at Ernst Seeds
Farmer Kit Kelley with the Value-Added Project’s Oliver 30 gravity table mounted and stabilized on a trailer so that it can be moved from farm to farm. This lab model separates into three streams.

In conjunction with a dehuller, separation equipment is needed for producing a marketable product.
Deck of gravity table separating dehulled from undehulled spelt
Unseparated spelt from the dehuller (dehulled + undehulled kernels). One pass through the gravity table leads to two products ready for sale.

Milling grade spelt: small and split kernels

(Third stream captures undehulled spelt, which is cycled back through the dehuller.)

Photos courtesy of Kit Kelley, White Frost Farm, Washingtonville, PA

Large, whole kernel spelt
Goal: Cheap, small-scale gravity table manufactured in the farming community
Regionally made oat roller

Team: Mast Machine Shop, Fort Plain, NY
   Lamar and Henry Stauffer, New Holland, PA
   Green Bank Motors, New Holland, PA
   Sunnyburn Welding, Airville, PA
Original oat crimper, $390+
Knurled rolls
Modified oat roller, farmer mounted, motorized $500 +
(Small Valley Milling)
Modified oat roller, motorized by Green Bank Motors, mounting, screens, Sunnyburn welding $1150
European wooden mills
Sunnyburn Welding (Joe Lapp) hammer mill. Multipurpose—will mill wheat, corn, cassava, chop apples, etc.
SunnyburnWelding
Thresher attachment
For more information:

On mill, dehuller:  Henry Beiler, 6469 Musser Lane, Watsontown, PA 17777; 570 538 5949
On mill, thresher:  Joseph Lapp, Sunnyburn Welding, Airville, PA, 717 862-3290

On grains, equipment:
Organic Growers’ Research and Information-Sharing Network (OGRIN)
www.ogrin.org
Dr. Elizabeth Dyck, edyck@ogrin.org, 607 895 6913
Mentoring component

Farmers can get support for growing and equipment needs, including one-on-one mentoring from experts provided by the project.

Contact OGRIN.