How Much Can We Make?

In proving out our economic expectations for Bamboo Farming we can break it down into our two crop areas:

Shoots - we have 3 harvests under our belt but it's complicated to understand how the actual harvests validate our expectations of the crops.

- Production at maturity - we found good outside independent research from our friends in Australia that enabled estimates at maturity of 15,000 - 20,000 pounds per acre. We can't show this as proven for several years, until we have mature farms harvested.
- Impact of Farm Quality on Production - we have documented that our early farms were less informed, typically do it your-selfers, and with all good intentions resulted in lower quality farms. Today's best producing farms show that initial planting on well drained soil with good water and nutrition, drives the farms to maturity.
- Production in early years - the first seasons of harvest were a period of learning. The harvests were not consistent weekly harvests for 20-24 weeks because we didn't know the proper frequency and we encountered practical challenges with Covid and supply chain issues. We also learned that we needed a minimum diameter at the base of shoots of about 3". All this added up to less harvest quantity than was in the farm.
- Why 2023 Harvest is so important - in 2023 we hope to capitalize on our better understanding of the plants so we can create a consistent weekly harvest over the 20-24 weeks and that we include all of the farms that are ready (this year 160-200 acres vs previous 3 years of 40 acres). We expect this to translate into a much bigger harvest, potentially over 200,000 pounds, and to yield real data about what we can expect in the early years of harvests (pounds/acre) and what this means for profitability.

Wood - the biggest problem is that the markets are not developed so we have no clear idea of revenue and margins. Most of the existing markets using bamboo wood import the products as finished goods from Asia. Effectively the missing

element in the US is manufacturing ability. Of course there was no point in developing this until we could supply them with real quantities of raw material. We set out to fill in the blanks of our understanding by working with potential buyers in each of about 14 prospective sales channels to partner with them to develop their ability to use our bamboo culms and so they could tell us what specifications would be required and an estimate of what they could pay farmers.

Here is an update on our Sales Channels development:

Market	FBGA Member	Details	Next Step	Price	Processing	Hauling	Net Margin	Harvesting	Margin after Harvesting
Biochar for Soil Amendments									
Biochar Now	Barley	Toll process with mobile kilns	may be able to process in Tampa this summer	200	85		115	20	95
GCS	Barley	Merritt Island option	seems too low						10
Interra-Ag	Barley	Using Biochar Now	trial of 2 tons biochar in 2023	200	85		115	20	95
Compost for Soil Amendments	Barley	Roger Johannson/Veransa	unlikely due to slow breakdown process					20	
Energy	Barley	Roger Johannson	will test in April					20	
Energy - pellets - Avon Park	Barley	High capacity	Harvest in 2023	160		25	135	20	115
Construction Materials									
Slats - Bamcore	Merrick		Visit facility in Ocala 4/24					20	
Woven plywood - Rizome	Merrick		considering building small processing facility					20	
Green Steel	?							20	
Mulch	Lucero		working to get specs and pricing					20	
Bio Plastics	Barley	Austin group	commercializing in 2023, US manufacturing later					20	
Hardwood Floors	?							20	
Textiles								20	
Cozy Earth	Barley		trying to reach owner						
Origin	Turner	we need local manufacturing	connect with owners						

You can see that many of these sales channels have merit but we don't have all the details yet. Our objective is to pave the roads to all of these sales channels to the point that we could actually sell them wood. This is obviously important if we are to have ways to sell the wood and to know how much we can make. Over time the markets will compete and sort out according to margins to farmers.

Wood Harvesting - The nature of a heavy crop like bamboo culms is that they are quite sensitive in logistics and in the costs of harvesting.

The logistics sensitivity has caused us to focus on buyers that are nearby. Transporting to Atlanta for hardwood floors can hurt potential margins.

Harvesting in forests is done mechanically. We are exploring the process and equipment required to develop mechanical harvesting for bamboo wood. The

expected benefit is to reduce what could be $80/ton for manual harvesting down to potentially $20/ton for mechanical harvesting.