



Case Study

The Great Mississippi Tea Company (GMTC)

"We have one of the highest labour markets in the world so we knew we would need innovative machinery solutions to fill the gap between the cost of production and return on investment."

"It fills the gap between labour needs and labour expense or shortage in the US"

"It plucks with sufficient efficiency to maintain a high standard of tea production which in turn maintains the higher prices that we need to be monetarily sustainable."

"It is the best harvester to maintain quality of plucked shoots that I have seen. It is a simple machine that returns complicated work."

"It performed as we were told it wouldbetter than I had expected and it really saved the day this year."

"We have saved quite a bit of money"

Colonel Jason McDonald

Customer

- The Great Mississippi Tea Company (GMTC) was founded in 2012 to produce top-notch specialty teas to rival the best teas from around the world.
- GMTC currently has 6 acres planted with plans for a further 6 acres in the next 3-4 years.
- The US labour cost is high and so GMTC's goal is to establish a commercial model, incorporating innovative thinking and mechanisation, to mass produce an ethically sustainable tea crop.
- In the last 8 years, GMTC has received 6 Global Tea awards for their teas which are available around the world.
- For more details see greatmsteacompany.com.

Challenges

- To make good tea, you must have good leaf.
- Harvesting is critical to yield, as well as the taste and aroma of the final cup.
- GMTC targets consistently sized tender shoots for various tea applications (green, yellow, black and oolong). While these do not have the same plucking standard, the STH harvested usable leaf for all these teas.
- To achieve consistency the leaf must be harvested when it is ready.
- If left too long on the bush, table creeps and the quality and yield are diminished.
- Method required to harvest at the right moment, with quality and efficiency.
- US Labour cost is high (>US\$12/hour).
- Labour is scarce – even if prepared to pay, workers hard to find because the work is hard and physically demanding in the hot climate.

Solution

- Williams Tea (WT) has developed technology to mechanically simulate the hand plucking of tea and were introduced to GMTC as a partner to conduct commercial trials of a 1.5m wide 2 person hand carried selective tea harvester machine (STH) which was subsequently mounted on wheels.
- The key features of the technology are:-
 - Harvests quality leaf by simulating hand plucking rather than cutting tea
 - Leaves immature buds for next round and thereby increases yield
 - Increased plucking efficiency with reduced time and labour requirement
- The STH was commercially tested between April and October 2020 at GMTC's tea estate in Brookhaven, Mississippi.
- STH performance data was collected throughout the season and the results provide compelling support for the STH technology and machine.

Highlights



- Enabled harvest to take place at right time and when workers unavailable.
- Achieved 63% bump in the yield compared to the prior year hand plucking.
- Over 95% of mechanically plucked leaf usable.
- 92% reduction in labour cost of harvesting during 2020 season.
- 84% reduction in labour cost of harvesting + sorting during 2020 season.
- Translated into US\$64.89 labour cost saving /kg of made tea during 2020 season.
- Emphasising the quality, GMTC awarded Best Green (Yellow) Tea (unflavoured/unscented) by International Tea Cuppers Club using predominantly 2 leaves and a bud harvested by the STH.

Source: GMTC