

Meridian Foods: what the agents give back

Jordan, this report is built from the numbers you gave us, plus the defaults listed under each section. Every figure shows the arithmetic behind it.

\$326,481

RETURNED EVERY YEAR

across six sources

\$50,000

PAID IN YEAR ONE

\$18,000 once + \$32,000/yr

month 8

PAYBACK

4 mo to go-live

\$688,599

NET OVER 3 YEARS

604% on spend

Where the money comes from

Six places, biggest first.

Changeover, setup and cleaning		\$116,122
Slow running explained		\$82,944
Nothing lost at the shift change		\$57,953
Faster response to stops		\$41,472
Fewer repairs done twice		\$15,511
The data ready before the meeting		\$12,480

Estimate range

CONSERVATIVE

\$142,504

a year · payback month 11

YOUR NUMBERS

\$326,481

a year · payback month 8

OPTIMISTIC

\$551,929

a year · payback month 7

Investment and assumptions

One-off	\$18,000
Every year	\$32,000

Core inputs: 4 lines · 3 shifts/day · 6.6 downtime hours/day · \$1,200/stopped hour. Other plant, timing and agent-effect values use the detailed assumptions below.

Calculation appendix

VALUE STREAM 01

Changeover, setup and cleaning \$116,122 a year

6 changeovers × 48 weeks × 4 lines × 45 min	864 h
5 cleaning or setup × 48 weeks × 4 lines × 30 min	480 h
<i>of which no machine records today (60%)</i>	806 h
1,344 h × 12% removed by the improvement work	161 h
161 h × 60% sold × \$1,200/h	\$116,122
Return from this, every year	\$116,122

The agent finds the time. Your improvement team removes it. And it can only read a phase somebody declares, so if changeovers are not recorded as phases today, that is where we start.

VALUE STREAM 02

Slow running explained \$82,944 a year

23,040 h scheduled – 6,336 h stopped – 1,344 h changeover and cleaning	15,360 h running
15,360 h × 6% speed loss	922 h
922 h × 50% made visible and explained	461 h
461 h × 25% removed	115 h
115 h × 60% sold × \$1,200/h	\$82,944
Return from this, every year	\$82,944

Slow running is usually the least documented loss in a plant. If yours is already classified, the first half of this chain is already done and only the second half is new.

VALUE STREAM 03

Nothing lost at the shift change \$57,953 a year

3 shifts × 240 days × 4 lines	2,880 handovers
2,880 × 10 min × 1 writing it	480 h

480 h × \$45/h	\$21,600
17,280 stops × 3% the last shift already knew about	518 stops
518 × 25% a complete handover prevents	130 stops
130 × 22 min, at 60% sold × \$1,200/h plus \$45 of people	\$36,353
Return from this, every year	\$57,953

The saved minutes are the writing only. The value on the right of the receipt is the bigger half, and it is not about time: it is the problem the next shift no longer has to discover for itself.

VALUE STREAM 04

Faster response to stops

\$41,472 a year

6 stops × 3 shifts × 240 days × 4 lines	17,280 stops a year
17,280 × 20% that need a repair	3,456 repairs
3,456 × 4 minutes saved	230 h
46.1 h of line time × 60% sold × \$1,200/h	\$33,178
184 h of people time × \$45/h	\$8,294
Return from this, every year	\$41,472

Counted only on the stops that need a repair, not on every stop.

VALUE STREAM 05

Fewer repairs done twice

\$15,511 a year

3,456 repairs × 8% that go wrong first time	276 done twice
276 × 20% caught before the fix	55.3 avoided
55.3 × 22 min, the length of one more stop	20.3 h
20.3 h of line time × 60% sold × \$1,200/h	\$14,598
20.3 h of repair time × \$45/h	\$912
Return from this, every year	\$15,511

An advisory, not a certification. It flags a conflict; it does not promise it read every procedure you hold.

VALUE STREAM 06

The data ready before the meeting

\$12,480 a year

24 analyses × 16 h of preparation	384 h
384 h × 50% the agent removes	192 h
192 h × \$65/h	\$12,480

Return from this, every year**\$12,480**

This counts hours only. The real prize is the analysis that happens because the data was ready, and the untracked process that finally shows up in it. Neither is in the figure.

DECISION CHECK

What would make this case hold up?

With modeled agent-effect assumptions cut in half, the conservative case returns \$142,504 a year and pays back in month 11. Your current estimate returns \$326,481 a year and pays back in month 8.

Before a wider rollout, check actual downtime, whether recovered time becomes sellable output, and the improvement your team can sustain. Measure one line against these assumptions over ninety days. Plant inputs and costs stay the same in the conservative case.

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