Lactipro®

LactiproNXT® – a feedyard management tool to improve operational efficiency

Shortening the Step-up Period

To maximize efficiency — and enhance profitability — cattle feeders generally try to transition cattle to a finishing ration as soon as possible without causing acidosis or bloat. The traditional step-up period takes 21 days or more because the normal population of lactic acid-utilizing bacteria in the rumen takes time to grow and adapt to handle high-grain diets.

LactiproNXT is a rumen-native probiotic consisting of a live, stable and naturally occurring proprietary strain of *Megasphaera elsdenii (Mega e®),* which is the most efficient lactic acid-utilizing bacteria in the rumen. *Mega e* seeks out lactic acid as a preferred food source. LactiproNXT delivers an immediate, viable population of *Mega e* directly to the rumen — no waiting for the rumen to adapt. It's a management tool that allows feedyard managers to start cattle on the finishing ration sooner, allowing yards to improve operational efficiencies.

Feedyard managers, using LactiproNXT to shorten the step-up period, report:

- Fewer loads of step-up diets manufactured
- Fewer trips through the yard delivering starter diets
- Less roughage required
- Less hay to grind

Study Objective

The primary objective was to quantify the operational efficiencies by using LactiproNXT to shorten the step-up period in a commercial feedyard.

Background

Two commercial feedyard studies were conducted using a similar protocol to evaluate the impact of a shortened step-up period on operational efficiency. Pathom, Inc., an independent consulting firm, assessed changes in each yard as a result of shortening their step-up period by 10 days with the addition of LactiproNXT. Monitoring and evaluations were conducted over a 3–4 day period onsite at each feedyard to assess all aspects of cattle feeding, and feed manufacturing and delivery. Operational engineers from the firm gathered insights from feedyard staff about their practices, collected primary data and created a proprietary model to analyze the results.

The case studies presented are actual results and are based on a conservative model estimate. Live and carcass performance was also measured as part of these studies and is reported separately. Actual results may vary from the predicted model. This model continues to be improved in robustness, accuracy, and precision.

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Case Study 1

Feedyard description:

- 55,000 head one-time capacity
- Normal step-up period: 21 days
- Accelerated step-up period: 10 days
- Two ration blend feeding protocol

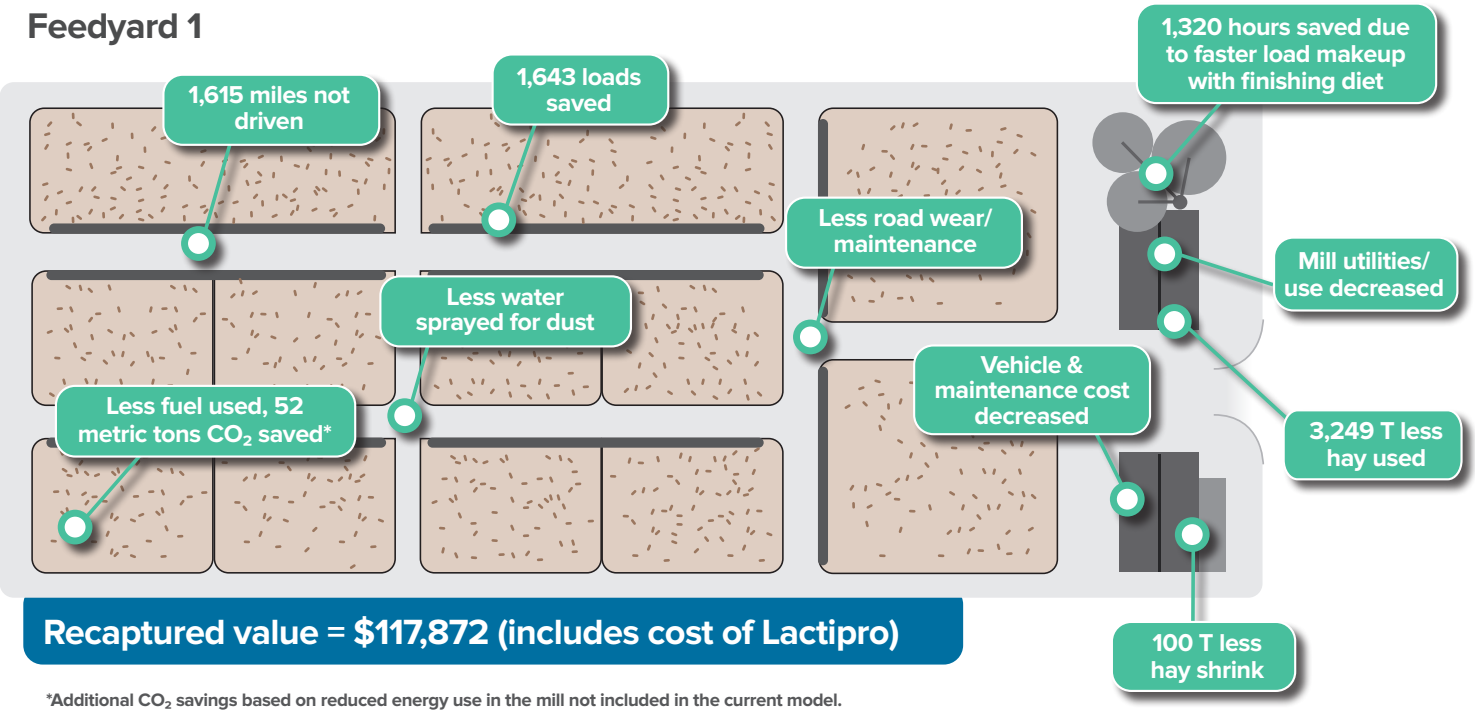
Operational efficiency results:

- The starter diet took 2.4 times as long to manufacture compared to finishing diet manufacturing time, because of the hay inclusion
- Hay delivery in the feed manufacturing area interrupted manufacturing processes and cost the yard approximately 60–90 minutes of downtime per week
- Finishing ration was delivered into the bunk 1.7 times faster than the starting ration
- Finishing ration was distributed more evenly into the bunk than the starting ration

Assumptions for net savings:

- LactiproNXT use decreased step-up time to finishing diet from 21 days to 10 days
- 100% of yard capacity received LactiproNXT
- 180 days on feed; two turns of cattle
- 31% hay inclusion in starter ration; 7% hay inclusion in finishing ration
- 4% hay shrink
- Feed loads saved is a net number and accounts for loads of finishing ration to replace the starter ration

Feedyard 1



Recaptured value = $117,872 (includes cost of Lactipro)

*Additional CO_2 savings based on reduced energy use in the mill not included in the current model.

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Case Study 2

Feedyard description:

- 22,000 head one-time capacity
- Normal step-up period: 20 days
- Accelerated step-up period: 10 days
- Two ration blend feeding protocol

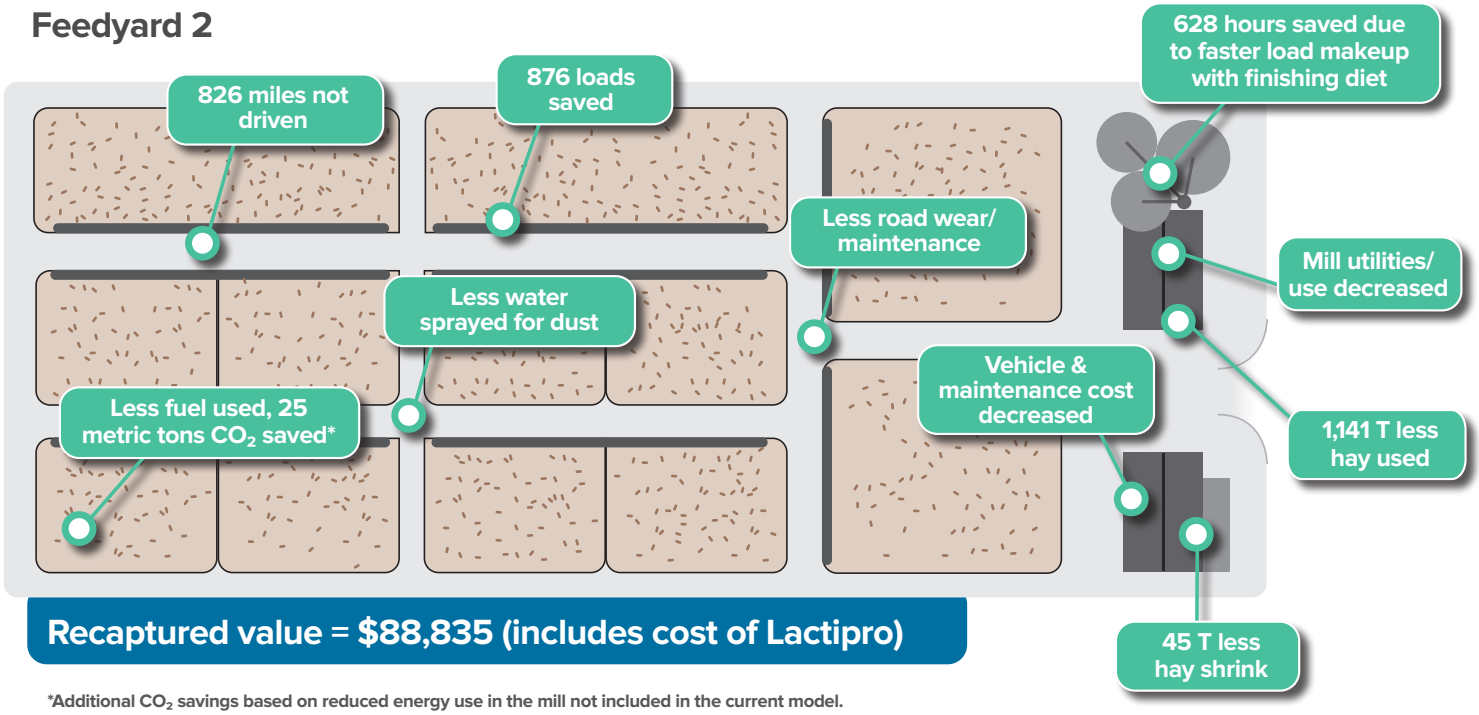
Operational efficiency results:

- The starter diet took two times as long to manufacture compared to finishing diet manufacturing time, because of the hay inclusion
- Feedyard personnel grinding hay required three hours per semi load and resulted in 4% shrink, and grinding required the hay be handled multiple times
- Finishing ration delivered into the bunk 2.6 times faster than starting ration
- Finishing ration was distributed more evenly into the bunk than starting ration

Assumptions for net savings:

- LactiproNXT use decreased step-up time to finishing diet from 20 days to 10 days
- 100% of yard capacity received LactiproNXT
- 180 days on feed; two turns of cattle
- 24% hay inclusion in starter ration; 0% hay inclusion in finishing ration (13.7% corn silage used as roughage source)
- 4% hay shrink
- Feed loads saved is a net number and accounts for loads of finishing ration to replace the starter ration

Feedyard 2



Recaptured value = $88,835 (includes cost of Lactipro)

*Additional CO_2 savings based on reduced energy use in the mill not included in the current model.

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Summary of Results

In conclusion, using LactiproNXT to shorten the step-up period can help feedyards significantly improve operational efficiencies. The feedyards analyzed in the case studies used less hay, resulting in less maintenance and labor, fewer trips through the feedyard, decreased utility use and fewer hours spent feeding — providing opportunities to reallocate labor to other feedyard tasks.

The net savings includes the annual cost of LactiproNXT and the cost of finishing diet to replace the starter diet. The use of LactiproNXT provided operational efficiency improvements and a net positive dollar return for the feedyards.

Importance of Bunk Management

Bunk management is critical to accelerated step-up program success. Consult your nutritionist before making a change to your step-up program. Contact your Axiota sales professional or technical service for assistance at techservice@axiota.com.

About Pathom, Inc.

Pathom is a Venture Consultant specializing in helping clients recapture lost value through their Value Discovery Methodology. They have more than 60 years combined experience and have applied their unique approach throughout 33 countries, across hundreds of projects, including the agricultural sector. They are known for their unbiased approach at uncovering low-cost, low-risk solutions that result in maximum value.

LactiproNXT®

LactiproNXT® is an easy-to-use drench that can be used for feedlot cattle, cows, and calves. LactiproNXT comes in two package sizes — 200 mL and 1,000 mL pouches — and it's used for processing multiple head at one time.

Visit msbiotec.com/beef to learn more.

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