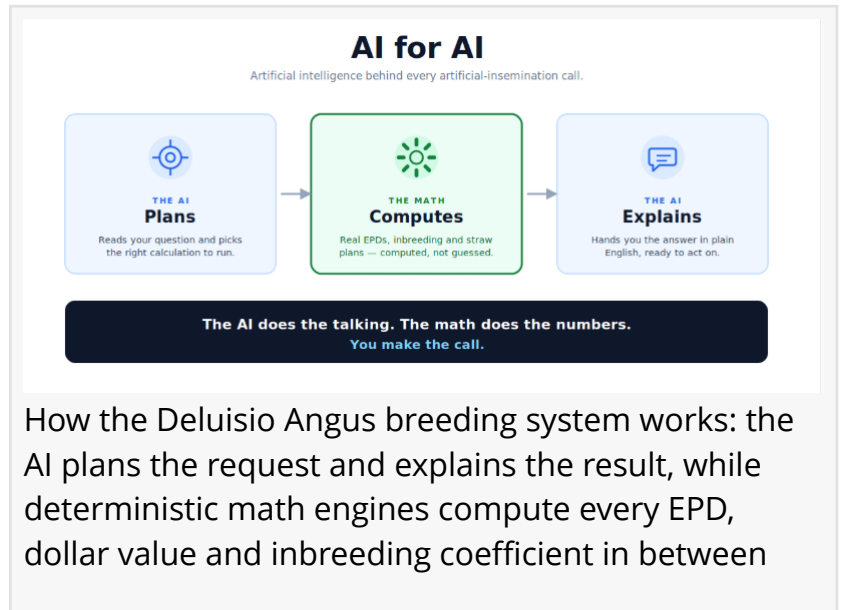


Cody Deluisio Brings AI-Driven Genetics to Angus Breeding Near Leechburg, PA

At Deluisio Angus near Leechburg, PA, a reasoning model plans matings while deterministic engines compute every EPD, dollar value and inbreeding coefficient.

AVONMORE, PA, UNITED STATES, July 3, 2026 /EINPresswire.com/ -- Deluisio Angus, a registered Angus seedstock operation near [Leechburg](#), Pennsylvania, has put a working artificial-intelligence system behind its artificial-insemination program — one deliberately engineered so the language model never calculates a number.



The system, run by owner Cody Deluisio, follows a plan-execute-narrate pipeline. A reasoning model reads a breeder's plain-English question, selects the right analysis, and hands the work to a set of [deterministic math engines](#) that compute the result. The model then explains that result in plain English. Because the model only ever receives figures the engines have already produced, it cannot fabricate an EPD, a dollar value, or a percentile. That single design rule is what makes the output dependable enough to breed real cows from.

“

Artificial intelligence picks the sire, artificial insemination delivers him, and I make the final call. Two kinds of AI, one better calf.”

Cody Deluisio, Angus seedstock and genetics expert, Deluisio Angus

The deterministic math engines cover mating projection, building midparent EPDs and dollar values for any sire crossed on any dam; accuracy-based confidence bands that flag low-confidence projections; and a coefficient-of-

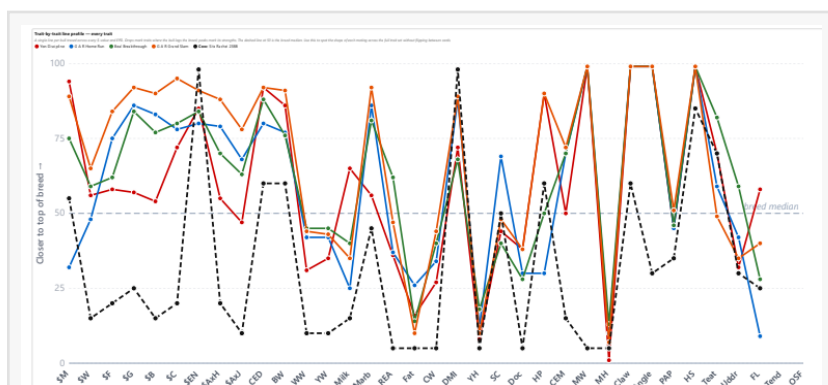
inbreeding engine built on Wright's path coefficients that automatically screens every proposed pairing. In one recent planning session, that inbreeding engine disqualified a mating at 13.2 percent and caught two additional crosses that shared excess common ancestors, all before any semen was ordered. Advanced modules extend the scoring with covariance-aware weighting for

correlated-trait drag and Pareto multi-objective optimization.

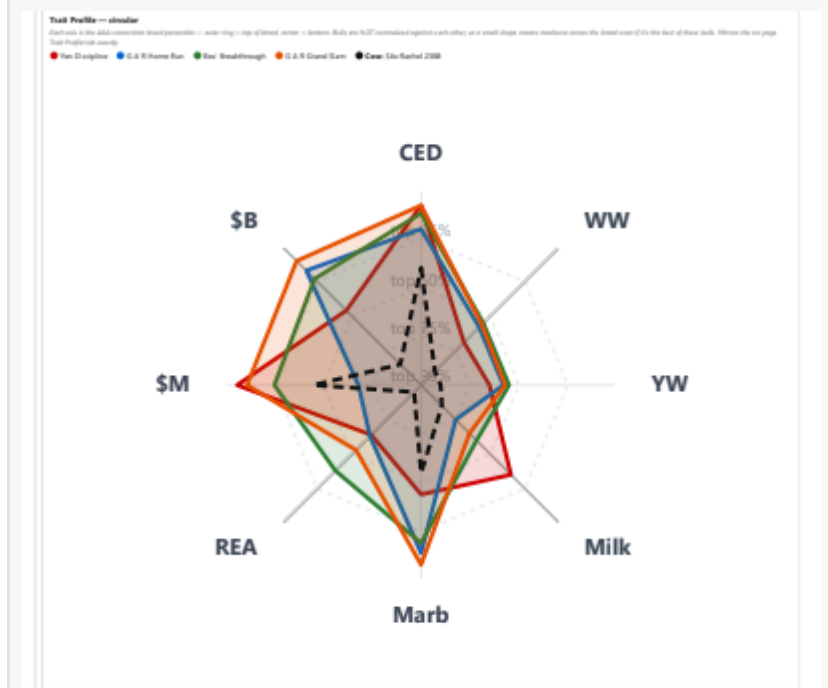
The system is also agentic. Asked to rank a cow's sire options while accounting for her pedigree, the planner chained two analyses on its own, first running a pedigree valuation and then feeding the result into sire ranking. Heavy reasoning runs on a top-tier model, Claude Opus 4.8, configured with high reasoning effort and extended thinking; routine briefs drop to a lighter local model, and the system retries or degrades gracefully on a transient failure while reconstructing prior context from a durable log.

Beyond core genetics, the system is inventory-aware. It knows the semen tank contents, including sexed-female counts, and allocates scarce straws so the best cows claim the rarest sires first — an approach that, in one session, matched Deluisio's handwritten chute sheet animal for animal. It also quantifies seedstock value that standard dollar indexes overlook, using ancestor influence and cow-family depth to flag females worth breeding for replacement daughters. The result reflects the operation's focus on [breeding for the next generation and for the plate](#): maternal longevity and carcass merit pursued together rather than one at the expense of the other.

"The computer does the math and I make the call," said Cody Deluisio, an Angus genetic-selection expert and owner of Deluisio Angus. "The system runs the actual genetic and inbreeding numbers and then explains them in plain English, and it can't make a number up. So when I pick a sire, I'm working from real calculation, not a hunch. That's how genetic progress gets made on purpose instead of by accident."



Breeding comparison charts of different bulls on a cow. By Cody Deluisio



Circular trait profile from Deluisio Angus in Avonmore, PA: each Angus sire charted across eight key EPD and index traits against the breed median (dashed line). Cody Deluisio uses this view to spot a bull's strengths and soft spots at a glance.

Deluisio has published a technical account of the system's architecture, along with an overview of the operation's breeding philosophy, on the Deluisio Angus and Deluisio technology sites.

About Deluisio Angus

Deluisio Angus is a registered Angus seedstock operation in Avonmore, Pennsylvania, serving cattle producers in Leechburg and across the Kiski Valley. Under the direction of Angus genetic-selection expert Cody Deluisio, the operation pairs a reasoning AI with deterministic genetic-math engines so that every sire is projected, screened for inbreeding, and matched to purpose before a straw is ordered.

Cody Deluisio

Deluisio Angus

+1 724-204-1674

[email us here](#)

Visit us on social media:

[LinkedIn](#)

[Instagram](#)

[Facebook](#)

[YouTube](#)

[TikTok](#)

[X](#)

[Other](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/924265921>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.