

Rawhide.io

Mission Statement: By creating individual series LLC for per-head, per-DNA, we are able to create a public market for cattle genetics. This creates inefficiencies in the transfer of title, creates ability for fractionalized ownership giving ranchers control over their business that previously did not exist. Additionally this opens the market up to effective third party investment.

Problems: The ranching industry currently lacks efficient title transfer, investment opportunities and data availability. This begins at the identification and ownership of cattle through iron branding. Required intermediaries required in transfer of title contribute to inefficiencies and errors. Ranchers receive payment for their cattle once a year. During this year, they maintain the majority of risk in a producer/buyer relationship. The risks of environmental factors, disease, weather, and market variation can significantly impact a ranchers cash flow throughout the year. Ranchers have limited access to outside capital and are subject to environmental and market variation, don't have control of cash flow, and are at risk financially. Additionally, there are significant barriers to entry for third party investors.

Solution: Our combination of ERC 721, ERC 20, and WY Series LLC availability allows us to create an individual per-head, per-DNA entity. This creates an opportunity to efficiently transfer title, maintain an immutable ledger of DNA data, and create fractionalized ownership. Intermediaries in the transfer of title are eliminated, the traditional hot iron brand that designates ownership is replaced with a chip containing a complete genetic profile, and the rancher has access to broader and more complete data and stock availability to implement in herd management decisions. With fractionalized ownership, the rancher can provide direct ownership opportunities to outside investors, raising capital on their terms and mitigating their risk. This also creates a new business model for our rancher. For example, she can maintain royalty interests on her bulls or a right of first refusal on calves produced from her bulls. Additionally, transfer of a family owned ranch can be done on a granular basis over time, eliminating planning and emotional costs.

Fractionalized ownership creates a new investment opportunity for outside investors. Before the combination of technology and WY law, an investor had a significant barrier to entry to invest in cattle. If he wanted to invest direct, he would need to enter into a new entity with the rancher and transfer title of cattle into that entity. Or, the investor could buy futures on the Chicago Mercantile Exchange. The Merc does not offer direct investment, there is not limit to loss, and the investor must put up money to participate. Additionally, the investor currently has limited access to DNA data with which to make an investment decision. With the Rawhide solution, an unrelated third party investor has access to invest on a per-head, per-DNA basis. This provides immediate investment opportunity. Additionally, the Rawhide solution provides ability for genetic arbitrage by an investor. Next, an investor can proactively contract with ranchers to breed their desired selection of genetics.

Use Case Examples

- “On the ground process”
 - Calf is born (March)
 - Tagged/Tattoo
 - Collect DNA sample
 - Collect registered data (measurements)
 - Enter data on Rawhide
 - Additional data about nature and nurture can be uploaded at any time after individual animal is registered on Rawhide
 - DNA test results
 - Specific cattle management data such as animal treatment and vaccinations
 - Environmental conditions
 - Changes in ownership or custody
 - Breeding events
 - Calf is weaned (@ 6-8 months ... say October)
 - Steer and heifers are sold at this time (private treaty or at a sale-- could be video)
 - Animals will be transported to feedlots
 - Some heifers will be kept as replacements and added to next year's herd
 - Some bulls will be kept and sold
 - This all depends on management, resources, etc. For ex: Centennial Livestock does not keep bulls, we purchase all bulls because that is how we manage our herd
 - Note- some people keep their own bulls to breed within their herd
 - Or- you could AI and you buy base on EPD, etc.
 - After calves are sent to feedlots they will be finished, and slaughtered
 - The heifers that were kept as replacements will be introduced to the herd and used to produce more calves in the future.

Technical Overview

The Rawhide Registry issues non-fungible tokens for cattle on the Ethereum blockchain using a solidity contract that resembles the ERC-1155 specification which creates new ERC-20 tokens, like shares, for non-fungible tokens (NFTs) without spending more gas. Each token contains a link in the form of a hash to off-chain metadata available on the Interplanetary File System. A decentralized application based on the Etherplate truffle box provides a web-based user interface to the contract and metadata store for token minting.

A contract accepts payments of DAI or other ERC-20 compatible tokens. Payment balances are allocated proportionally to shareholder equity. Shareholders can sell their shares on existing marketplaces like LedgerDex. Shareholders can withdraw their allocation of payments to the contract at any time after payment.

In the future, this solution may employ Token Curated Registries to facilitate cattle auctions and equity investment, composable NFTs for royalties and governance,

privacy-enabled NFTs for data monetization and digital rights management, and zero-knowledge proofs or bulletproofs for verifying authenticity of claims while preserving privacy.

