AgNext FACT for Beef User Guide

The AgNext Feed Additive Calculator Tool (FACT) for Beef is intended to be a tool for producers to estimate methane emissions in beef cattle and also to make decisions about feed additives on their operations. This user guide will define each of the inputs within the AgNext FACT for Beef. Please refer to the video tutorial for an in-depth demonstration on how to use and understand the tool.

- **Inputs**
  - **Rations**
    - Mean feed intake over feeding period: average amount of feed/head/day
    - Days on feed: number of days animals are on feed
    - Ionophore in diet: yes or no dropdown of whether or not ionophores are being used
    - Total fact content in diet: Also a drop down menu. Choose the fat content closest to what the ration is. (Example: if your feed is 3.7% fat, select 4%)
    - Primary grain: another drop down. Choose the grain type that makes up the majority of the grain you are using in your ration (Example: select steam flake corn from dropdown).
    - Percent grain ration: input what percent grain is in the diet
  - **Performance**
    - Body weight: Input the starting weight of the animal
    - Average daily gain: Rough estimate of how much the animal is gaining per day
  - **Costs**
    - Diet costs: how much feed costs/ton
    - Incoming calf price: how much the animal cost upfront when purchased
    - Outgoing animal price: estimated price for sale
    - Vet med costs: How much costs/head are estimated
    - Labor/yardage costs: additional miscellaneous costs shown as dollars per head per day
  - **Feed Additives:** can be inputed for user to understand different percent reductions
    - Estimated impact on methane production: percent difference from baseline. Reduction should be inputted as a negative percentage
    - Estimated impact on average daily gain: enter the positive amount associated with average daily gain
    - Estimated impact on dry matter intake: can put in positive or negative numbers
    - Additive costs: Can be inputted to understand how feed additive costs can impact an operation
    - Carbon price: looks at the actual price of what one would be paid for reducing emissions.
      - More resources about carbon prices can be found at:
        - https://carboncredits.com/carbon-prices-today/
        - https://agnext.colostate.edu/carbon-markets/

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- **Outputs**
  - Baseline scenario: Shown in green
  - Additive scenario: Shown in orange
- **Charts**
  - Total Emissions Over Feeding Period lb of CO_2e per head
    - Can see the baseline scenario in green compared to the additive scenario in orange over the entire feeding period. Can see how the usage of a feed additive impacts methane emissions across a feeding period compared to the baseline.
  - Total Emissions Over Feeding Period kg of CO_2e per head
    - Same information as the first chart, but displayed in metric units. This is because in carbon market scenarios, metric units are sometimes used over imperial units.
  - Cash basis margin
    - Based on the economic inputs entered into the form (feed, calf) waht is the actual cash in/cash out in the given scenario. Also compares the baseline with the additive scenario.
  - Gross margin: shows the difference between the baseline scenario and feed additive scenario. If this amount is shown in red, that would indicate that one is losing money on that feed additive scenario. If it is shown in green, that means an individual is making money in the given scenario.

Visit agnext.colostate.edu/beef-fact for a detailed instructional video and more information about the AgNext FACT for Beef

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