Parameters to be Recorded for Each Day of Fecal Starch Study

DATA SHEET:

Item	Data – Day 1	Data – Day 2	Data – Day 3	Data – Day 4	Data – Day 5
Date					
Feedlot					
Steam Chest Residence Time					
Peg Feeder Setting					
Bushel Weights (4)					
Pen Number Sample					
Composite Fecal Sample Day (1,2,3,4,5)					
% Processed Grain in Ration					
% High Moisture Corn in Ration					
% Alcohol by Product in Ration					
Cattle Weight					
Days on Feed					
Processing Method					
Finish Ration Composition					
NEG of Ration					
Additives Being Fed (amt/hd./day)					
Feed Intake					
Moisture Content of Ration (%)					
Other					
Other					

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Procedure:

1. Record the date and the feedlot
2. Determine the resonance time of grain in the steam chest for each flaker using the dye test.
    a. Inject food coloring into the top of the steam chest while noting the time.
    b. Record the time the colored grain reaches the peg feeder.
    c. Determine the difference in time between step 1a and 1b and record that time as your steam chest residence time
3. Record the peg feeder setting
4. Record the flake bushel weight measurements for each flaker.
5. Samples of the flakes should be taken each day of the fecal collection and labeled with the date, feedlot name, pen number, and collection period.
    a. Hot flakes should be allowed to air dry for ten minutes, then bagged and frozen.
    b. If multiple flakers are involved a composite sample should be made by sampling the flakes from each flaker. The flakes should be air dried for 10 minutes. A portion of the flakes from each flaker should be added to a bag. The composite sample should then be frozen
    c. Send samples to SDK labs for starch availability analysis.
6. Record all other parameters given on the data sheet
7. Obtain fecal samples
    a. Take 2 tablespoons of fecal material per stool. Sample 10 fresh stools per pen (early morning best). Avoid dirt.
    b. Place the composite of the 20 tablespoons in one container.
    c. Label the sample with the date, feedlot, pen number, collection period, and SarTemp or SarStart DSC level.
    d. Place the sample on ice and freeze as soon as possible.
    e. Repeat the procedure for five days. Ship the 5 frozen samples to the lab for % total starch analysis to SDK Labs, Hutchison, KS. Frozen samples should be packed with a frozen gel pack and shipped by next day service early in the week.
    f. This process should be repeated for a second 5 day period and the results of the two periods compared for variation.
    g. If the two sets of results are consistent proceed with the following steps.
8. Add SarTemp or SarStart DSC to the ration.
    a. Follow steps 1 – 6 on the same pen that was sampled originally.
    b. A second 5 day collection period should be conducted and the frozen samples sent to the lab.

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Steam Flow:

Steam flow to the steam chest should now be minimized at the top of the chest and increased, as can be managed, through the ports in the lower portion of the chest. The temperature of the grain as it drops onto the roll should be as hot as possible. Any temperature reduction at this point will be detrimental to the final flake quality.

Flake Density:

The target for optimum flake density should be 24-25 lb/bu. If the bushel weight has been very high (29-30 lb/bu), the first step is to lower the flake density to 26-27 lb/bu. Digestive upset will most likely occur as the flake density is decreased, therefore management of the bunk etc. will be better accommodated if the increment of change is small. If within 5 days the management is comfortable with the previous ration change, the flake density can again be lowered to 24 lb/bu. After a minimum of 5 days post flake density decrease, fecal samples should be collected as described in the procedure above and sent to the lab for analysis.