

Sampling

Sampler Responsibilities

- ◆ Obtain representative samples
- ◆ Accurately describe the identity and condition of the lot

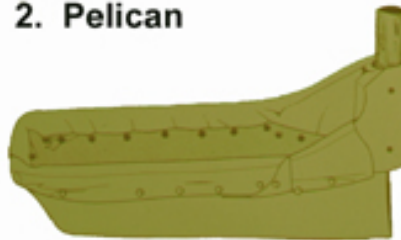
Manual Sampling Methods

HAND SAMPLING DEVICES

1. Ellis Cup



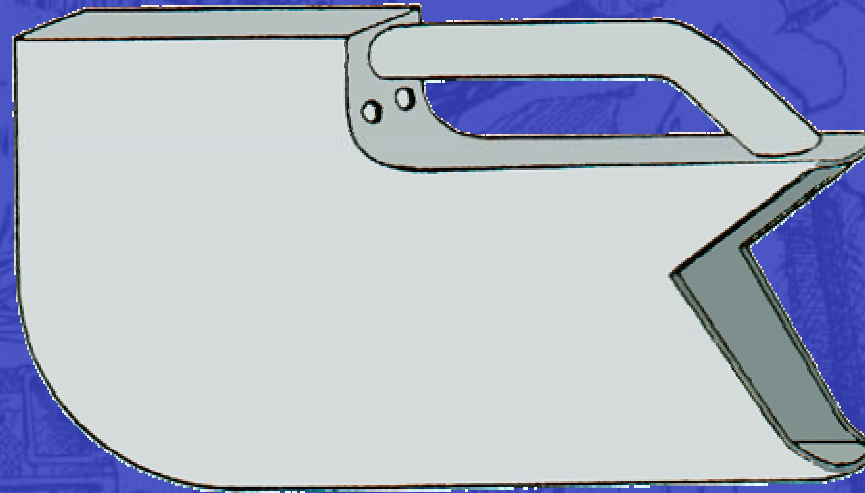
2. Pelican



3. Compartmented Probe (Trier)

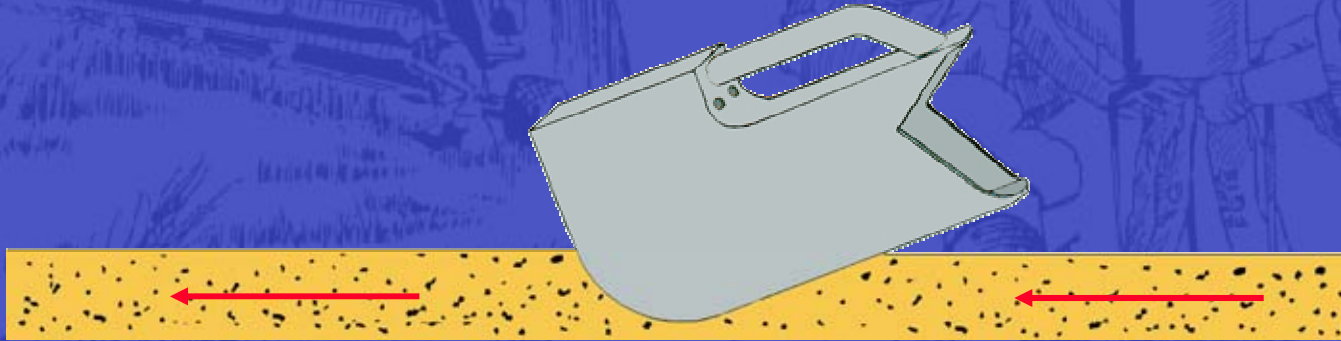


Ellis Cup



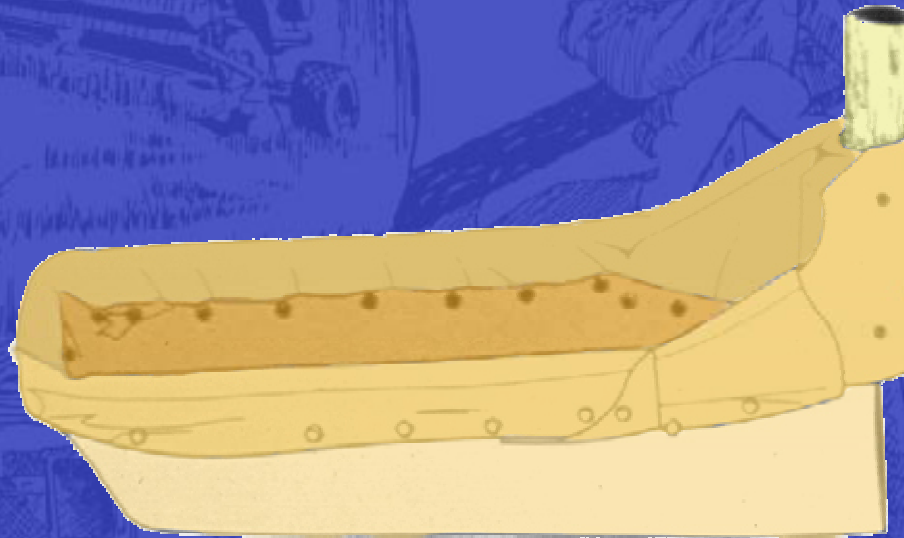
The Ellis Cup is a manual sampling device, constructed of lightweight aluminum, and designed to draw a sample from grain moving on a conveyor belt.

Ellis Cup Sampling



- ◆ Insert the heel of the Ellis Cup with the opening facing in the opposite direction from the flow.
- ◆ Push the open end downward through the grain until the bottom of the cup is parallel with the belt.
- ◆ After the cup fills move the open end of the cup upward and remove the cup from the stream.

PELICAN



Pelican constructed of a cowhide pouch attached to metal frame. Back edge of frame higher to help catch more grain

Pelican Sampling

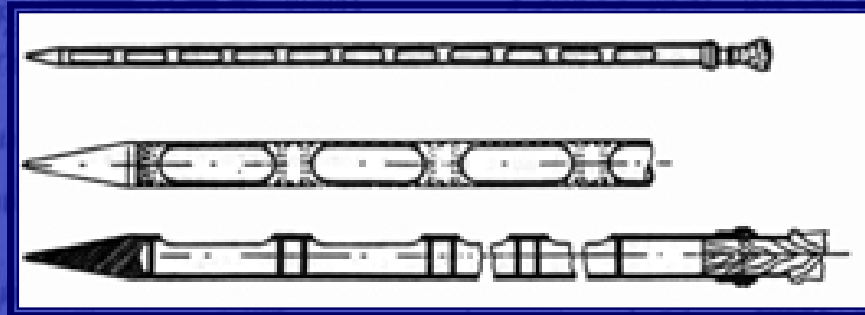


- ◆ Hold the pelican pouch next to the grain
- ◆ Swing completely through the grain stream in one continuous motion
- ◆ Keep pelican opening facing into the grain
- ◆ Pour contents into sample collection container

Ellis Cup and Pelican Sampling Rates

Carrier	Minimum Number of Cuts
Hopper Car	2 cuts per compartment
Boxcar	4 cuts
Truck	2 cuts
Barge/Ship	1 cut per 500 bushels

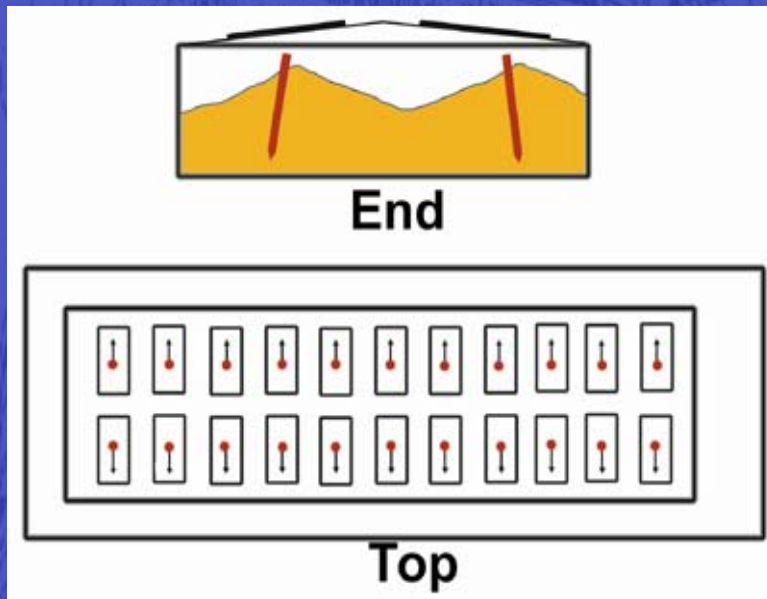
Grain Probe (trier)



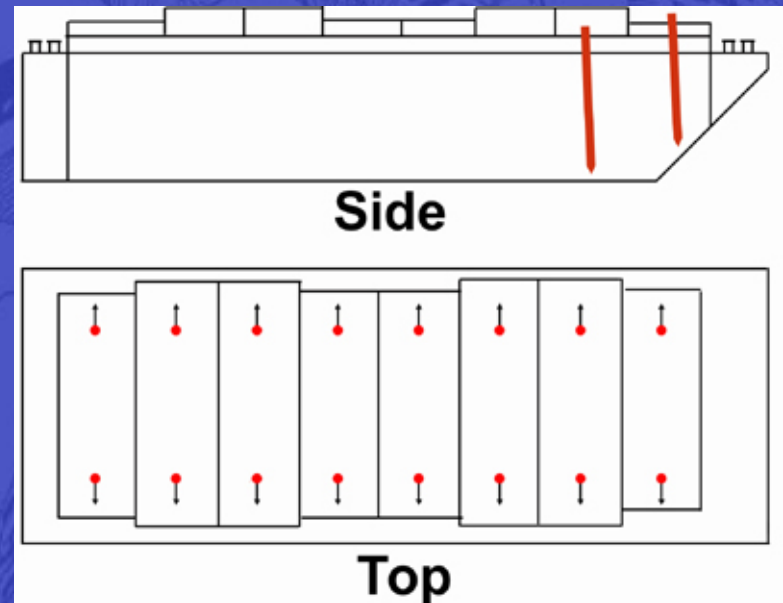
- ◆ Barges
- ◆ Railcars
- ◆ Trucks
- ◆ Sacked Grain

Sampling Barges

Flip top



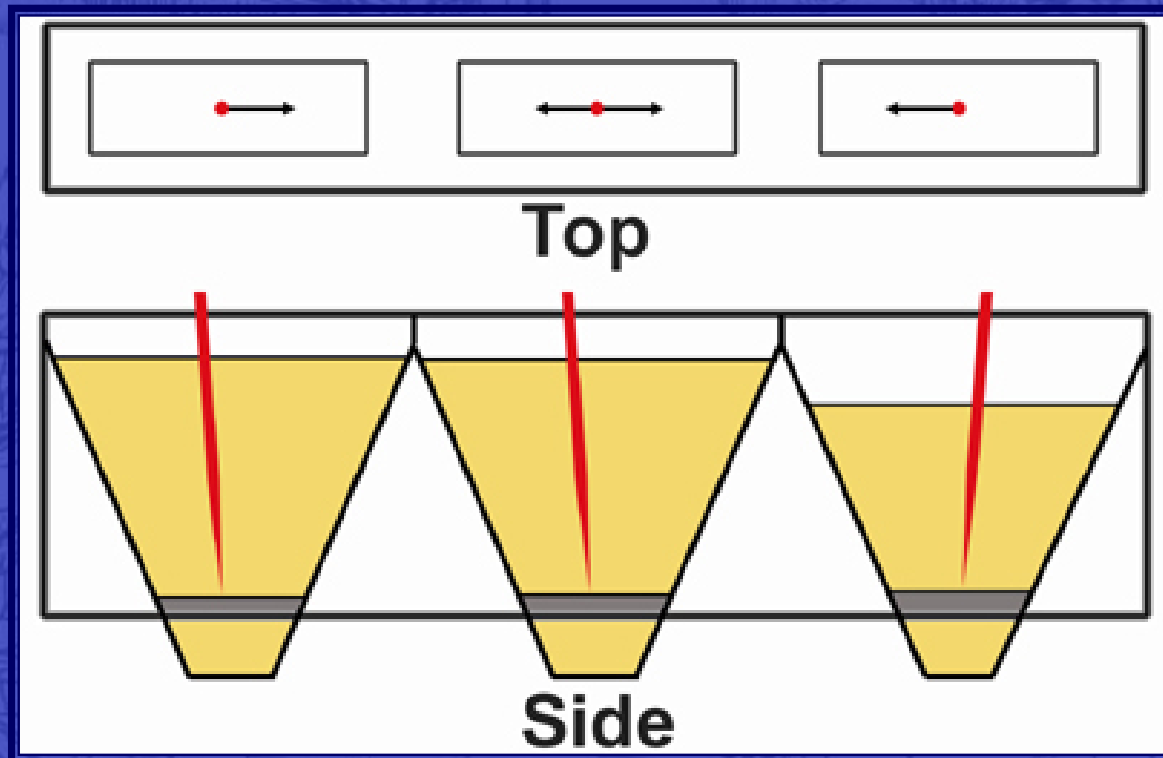
Roll top



Insert probe in direction of arrow at 10 degree angle

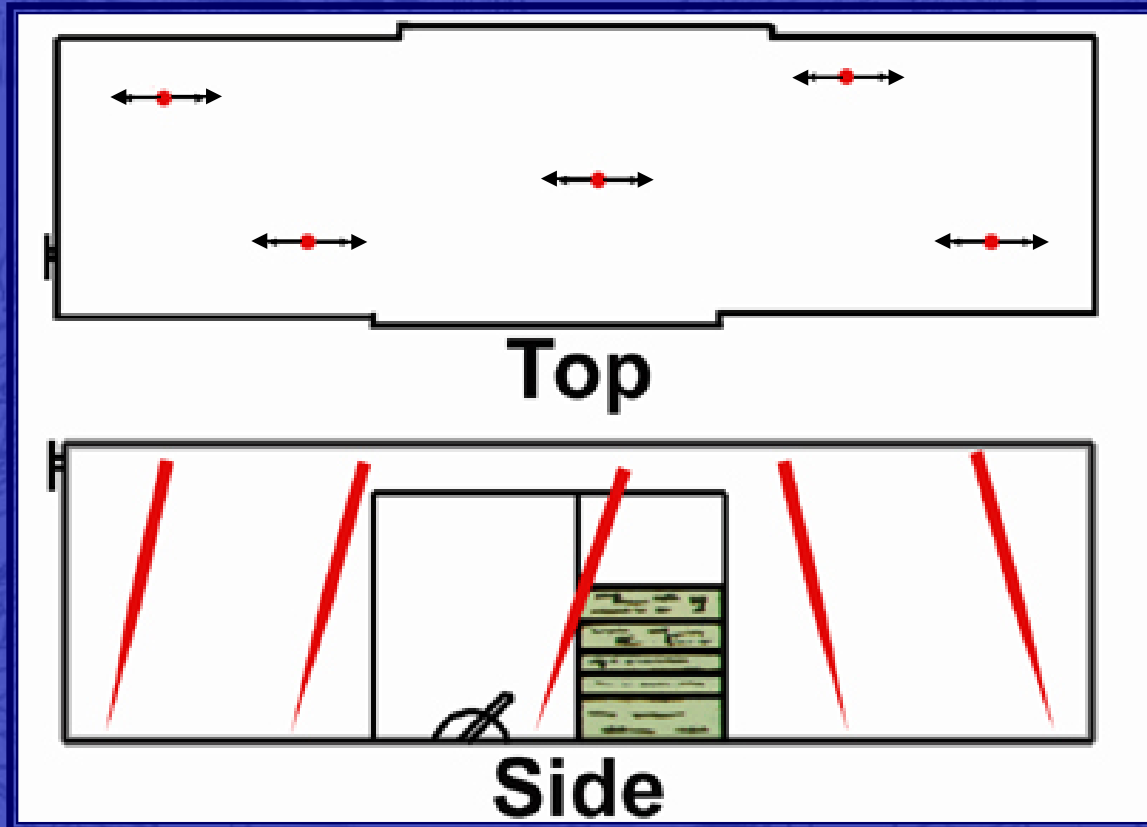
Sampling Hopper Cars

3-Compartment, Trough or Door-type



Insert probe in direction of arrow at 10 degree angle

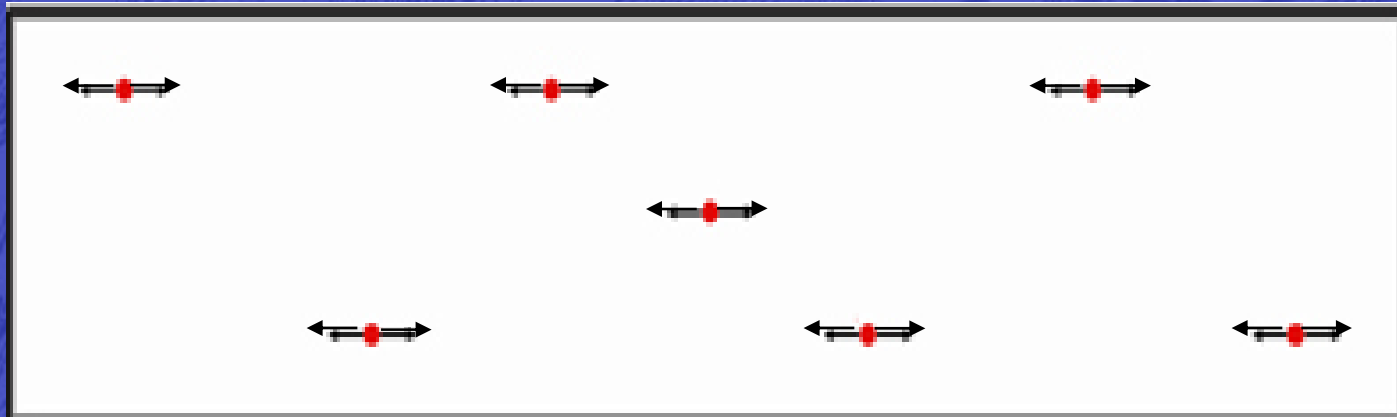
Sampling Boxcars



Insert probe in direction of arrow at 10 degree angle

Sampling Farm Trucks

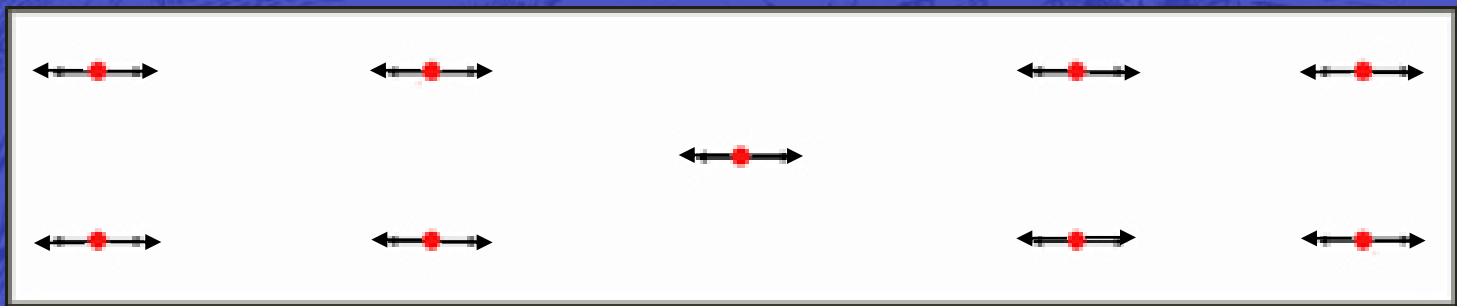
Containing Grain More than 4-Ft. Deep
or 8 Filled Probe Compartments



Insert probe in direction of arrow at 10 degree angle

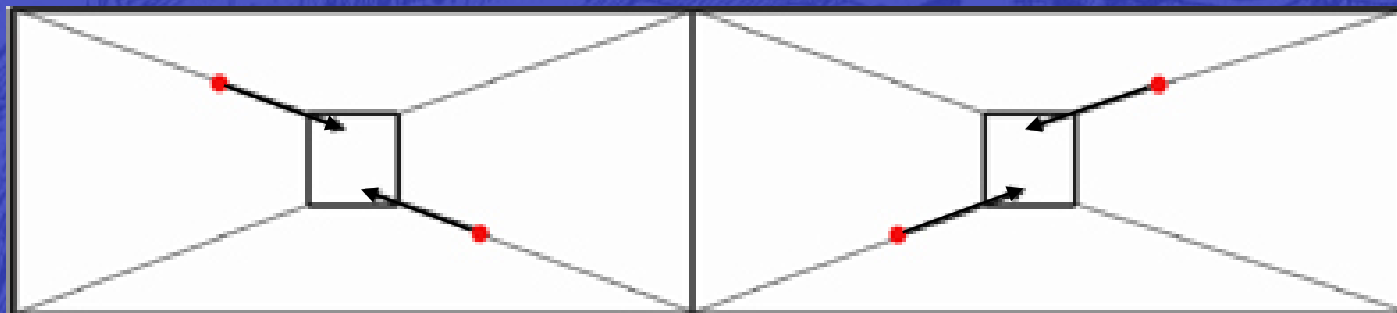
Sampling Trailer Trucks

Containing Grain Less than 4-Ft. Deep
or Fewer than 8 Filled Probe compartments



Insert probe in direction of arrow at 10 degree angle

Sampling Hopper Bottom Trucks and Trailers



Insert probe in direction of arrow at 10 degree angle

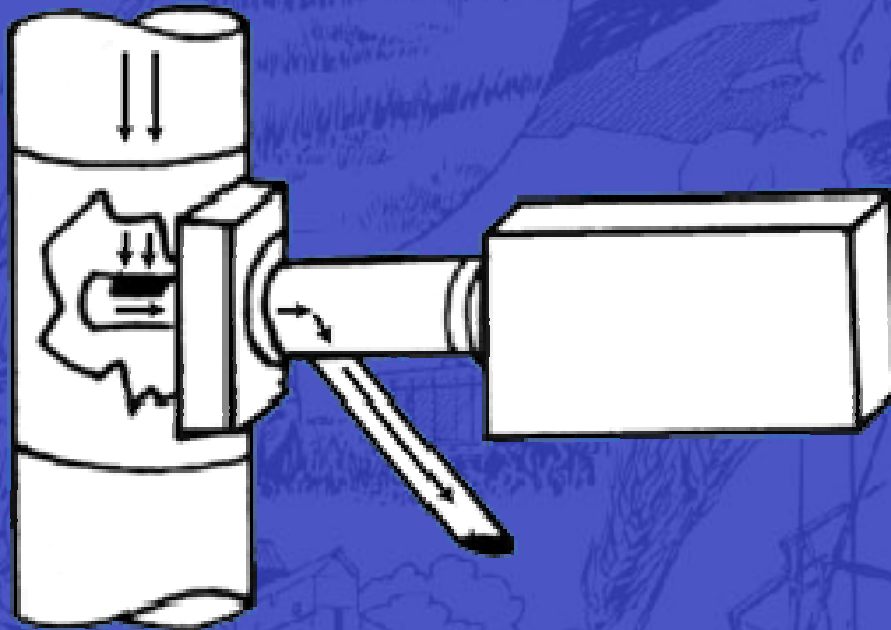
Sampling Sacked Grain

- ◆ Use double-tubed, compartmented grain probe, minimum 4-feet
- ◆ Stand each selected sack on end and insert probe into top corner of sack
- ◆ Push probe, with slots facing upward, diagonally through the sack
- ◆ Open probe, make 2 quick up/down motions then close and remove probe
- ◆ Empty contents onto sampling canvas

Mechanical Samplers

- ◆ Point-type
- ◆ Probe-type
- ◆ Diverter-type

Point-Type



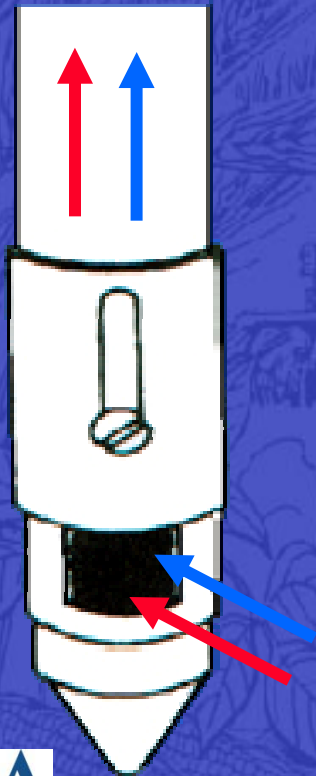
Point-Type
sampler for
powdered
commodities

Probe-Type

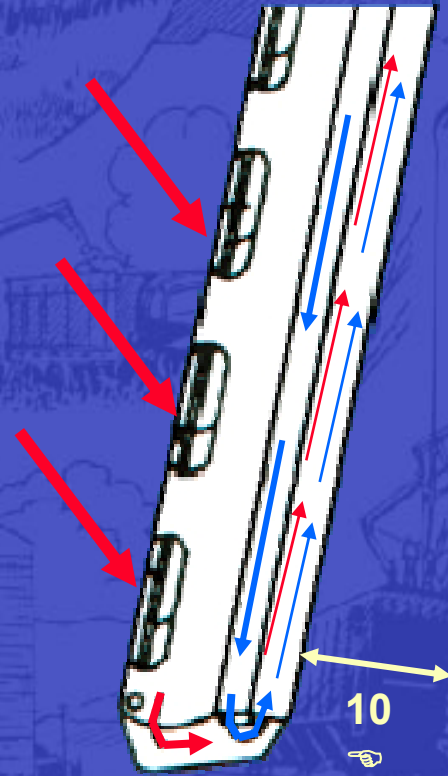


Mechanical Probe Designs

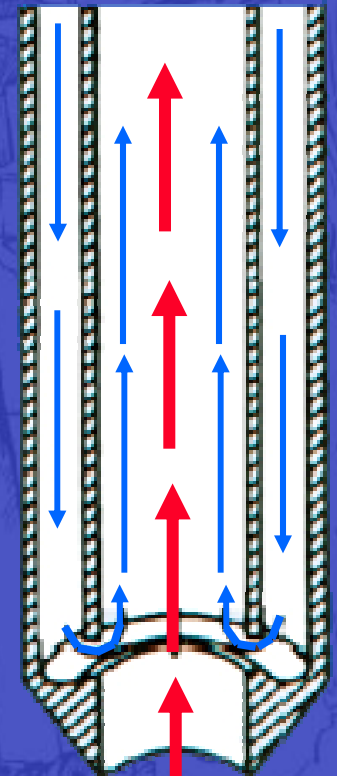
**Air Probe
(Not Approved)**



**Gravity-Fill
Probe**

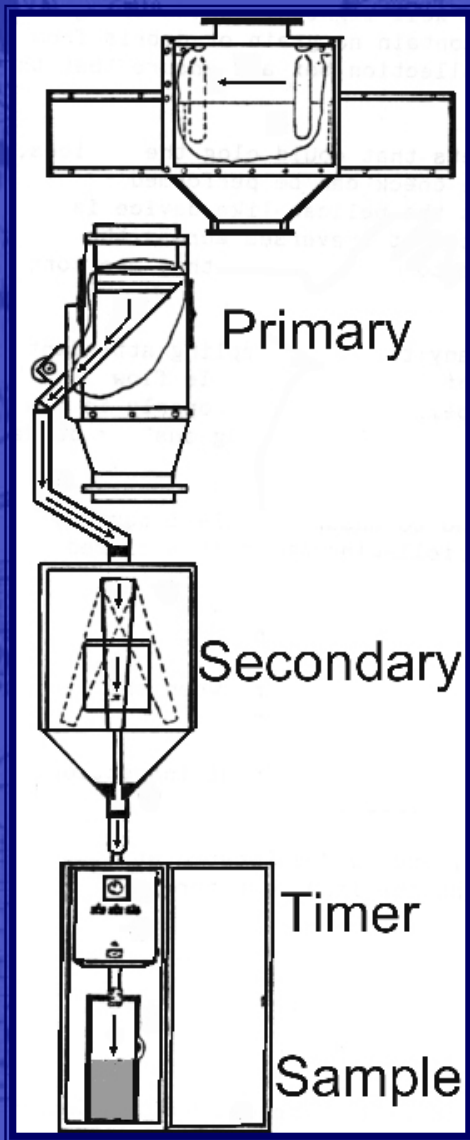


**Core
Probe**



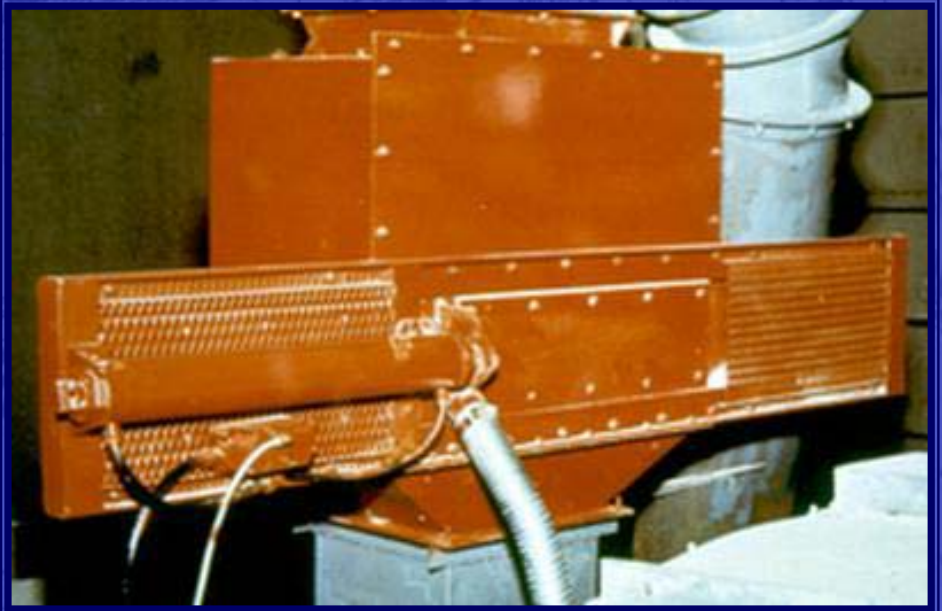
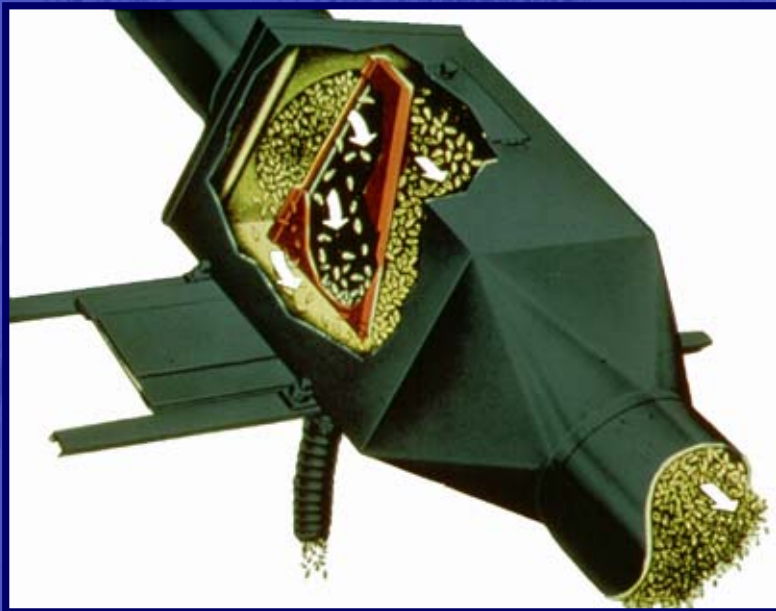
— Air — Sample

Diverter-Type



**Diverter-Type
sampler for
whole grain
commodities**

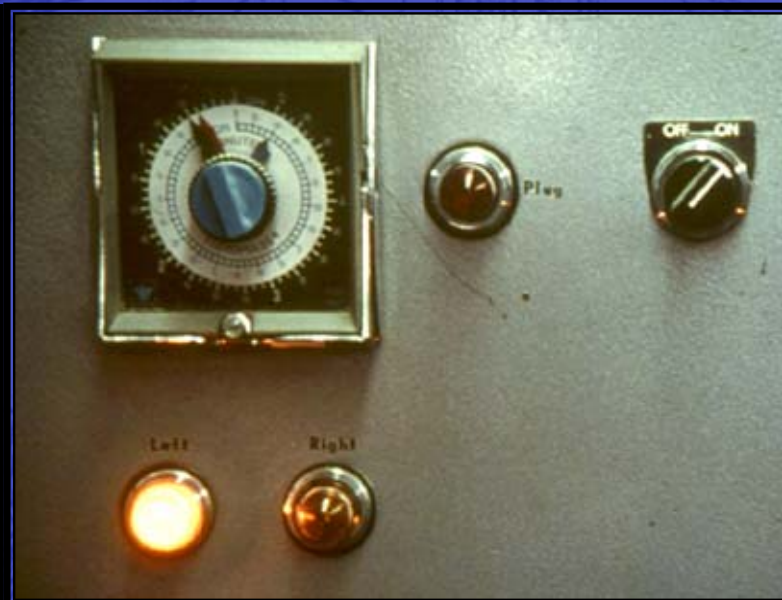
DT Primary



DT Secondary



DT Timer



DT Sample Collection Box



Typical DT Locations

