

Application Notes

MOISTURE IN SUGAR BEET PULP

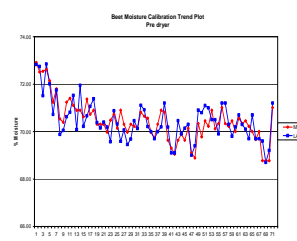
On line moisture measurement will improve the efficiency of the process used to convert sugar beet pulp into pellets or pulp fibre for animal feed thereby reducing drying time and energy costs. Typically, one third of a sugar plant's fuel consumption is used in the drying of this by-product.

Processing of the Beet Pulp

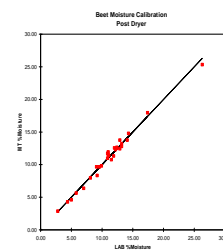
Beets are sliced into 'v' shaped wedges termed cossetts to maximize the surface area exposed to hot water in the diffuser. Owing to the osmotic gradient, sugar diffuses from the cossetts into the water. During the process, the sugar solution flows in one direction and becomes increasingly concentrated while the cossetts flow toward a screw press. At this point, moisture is reduced from 95% to approximately 75%. The pulp derived frequently has molasses added before drying to a moisture content of approximately 10% and pelletization.

Measurement Location and Performance

Measurement is usually made at the exit of the press, and the exit of the dryer. The moisture gauge is situated 8 to 10' above a conveyor. It is important to position the NIR MCT 300 sensor a few feet from the dryer exit to ensure a stable reading and reliable operation. Note: a vortex cooling option is available for installations where the ambient temperature exceeds 50° C.



Beet Moisture Calibration Trend
Pre Dryer



Beet Moisture Calibration
Post Dryer

Location	Post Press	Dryer Exit
Moisture Range %	65-85%	7-13%
Accuracy (+/- %)	1.0%	0.3%