# Advances in Veneer Dryer Moisture Sensing & Control

**presented by**

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# Control Veneer Moisture Rather than % Redry

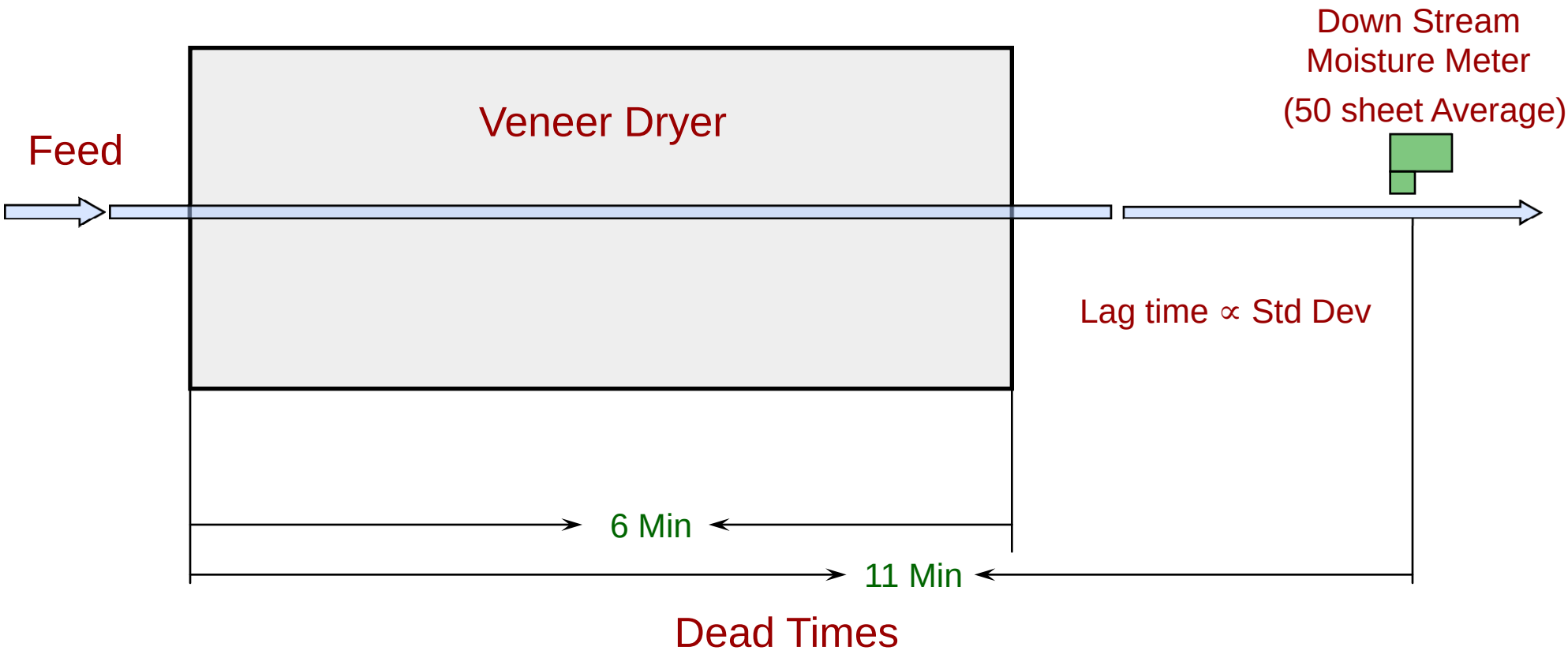
## Goals

Maximize Veneer Production Rates
Improve Veneer Quality
Increase Veneer Recovery
Lower Glue Usage

Since these goals depend on Veneer Moisture
Control Veneer Moisture Rather than % Redry
How do we accomplish that?

# Problems with Redry-based Veneer Dryer Control

## (Long lag time & control of wrong variable)



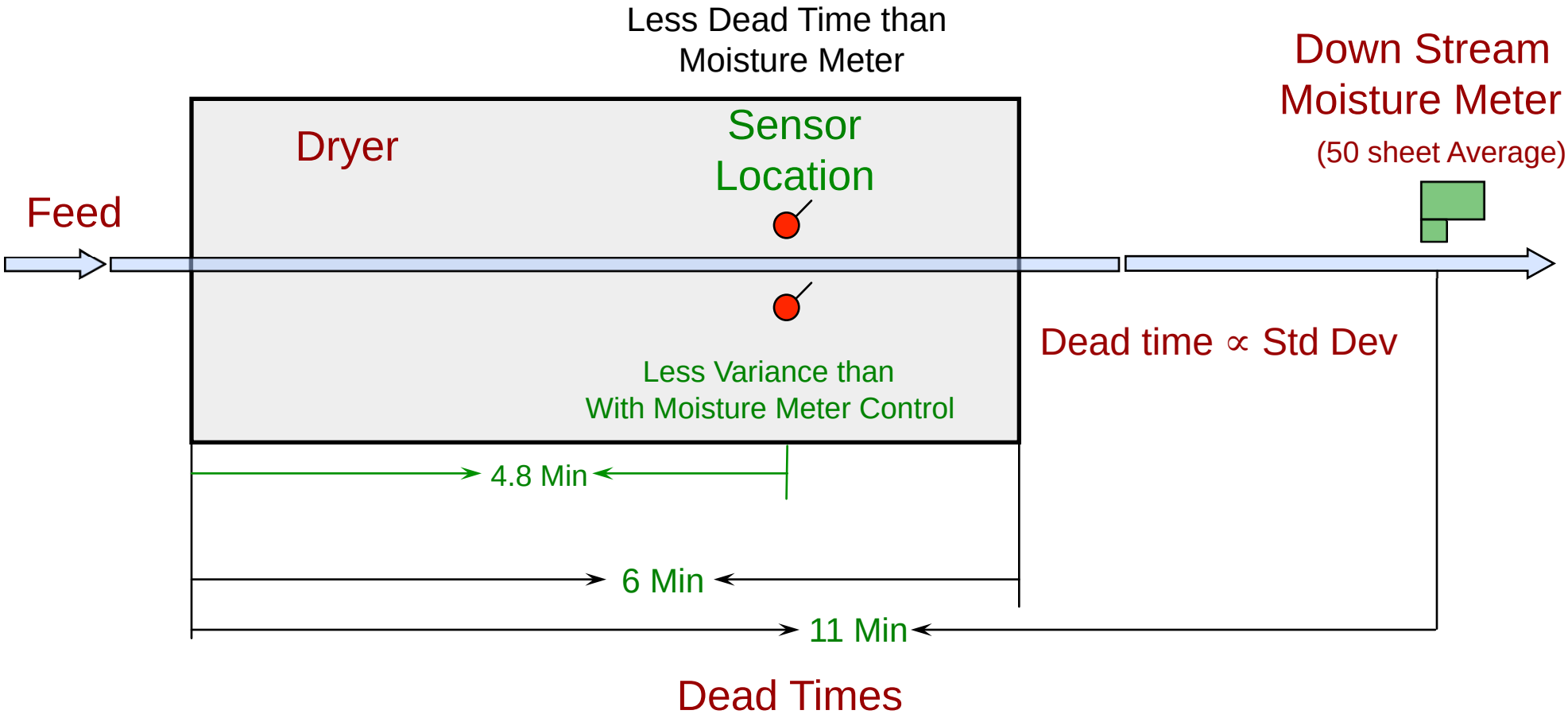
# Exclusive Delta T Model Features That Significantly Improves Veneer Dryer Control

$$MC = K_1(\Delta T)^p - K_2/S^q$$

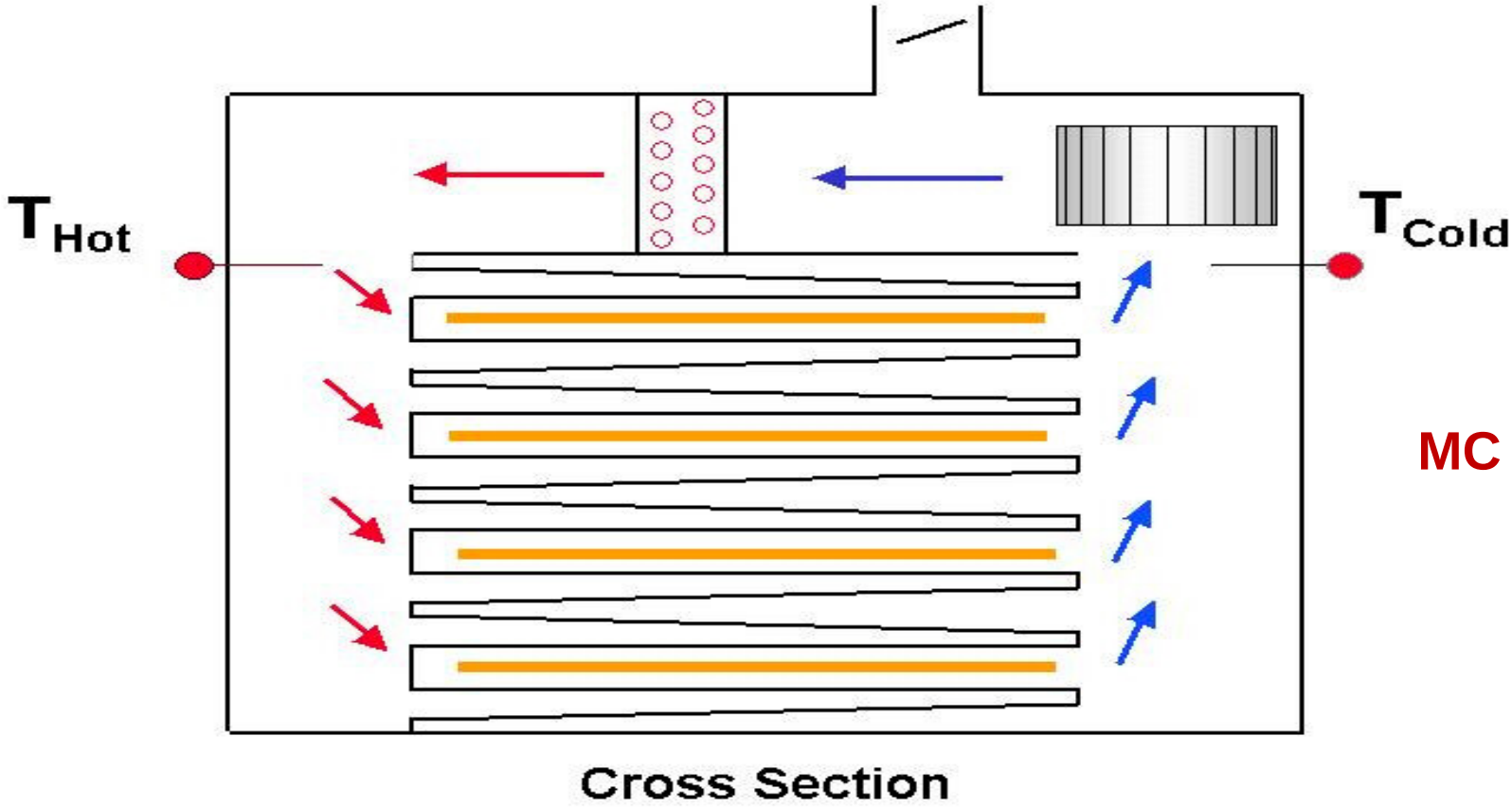
**An Inside-the-dryer Moisture Sensor**

**Capability for calculating new setpoint**

# Replace % Redry Control with Delta T Inside-the-Dryer MC Sensing & Control

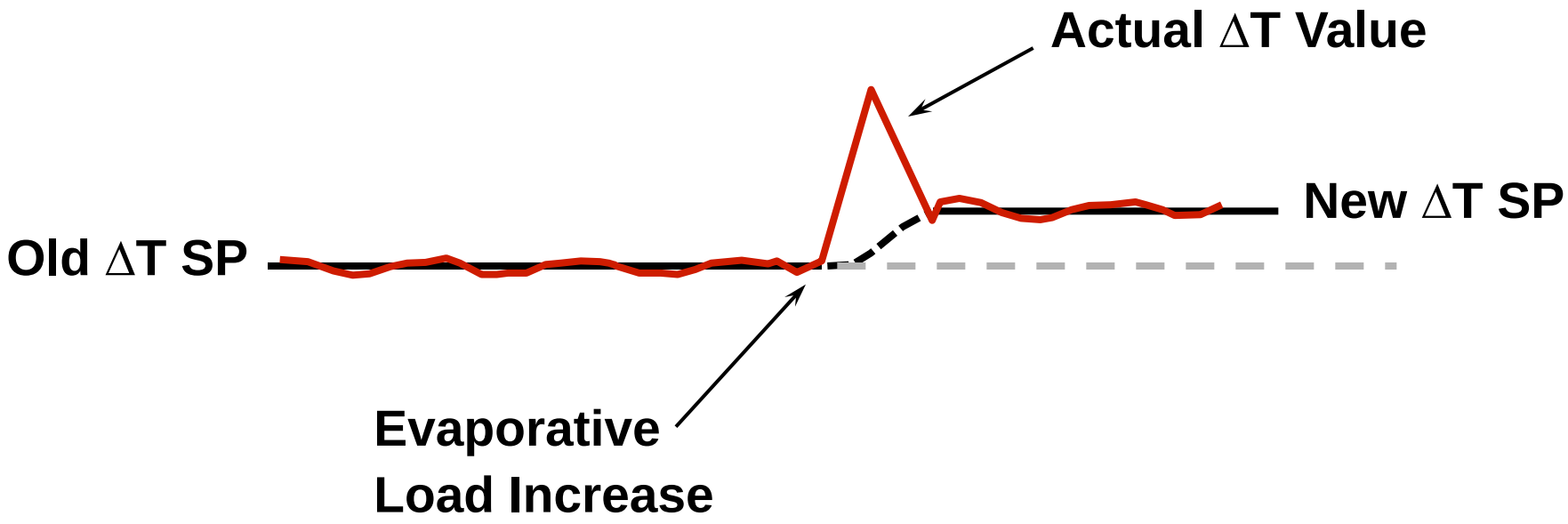


# Inside-the-Dryer Moisture Sensor
## (Solves Lag time Problem)

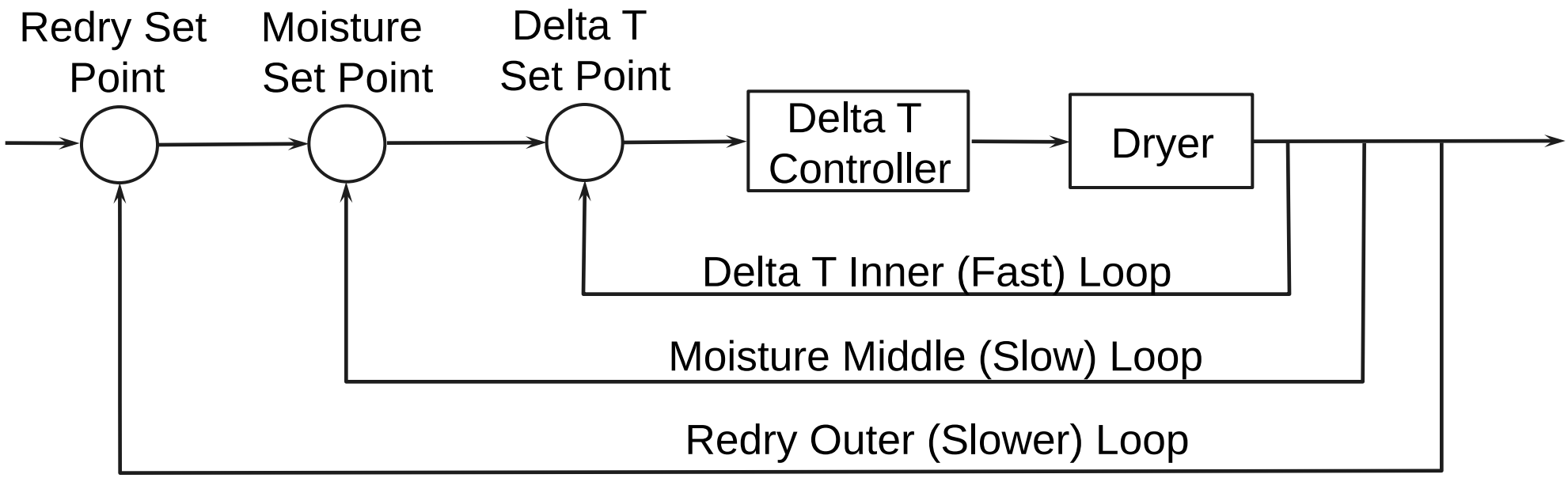



**MC ≈ ΔT**

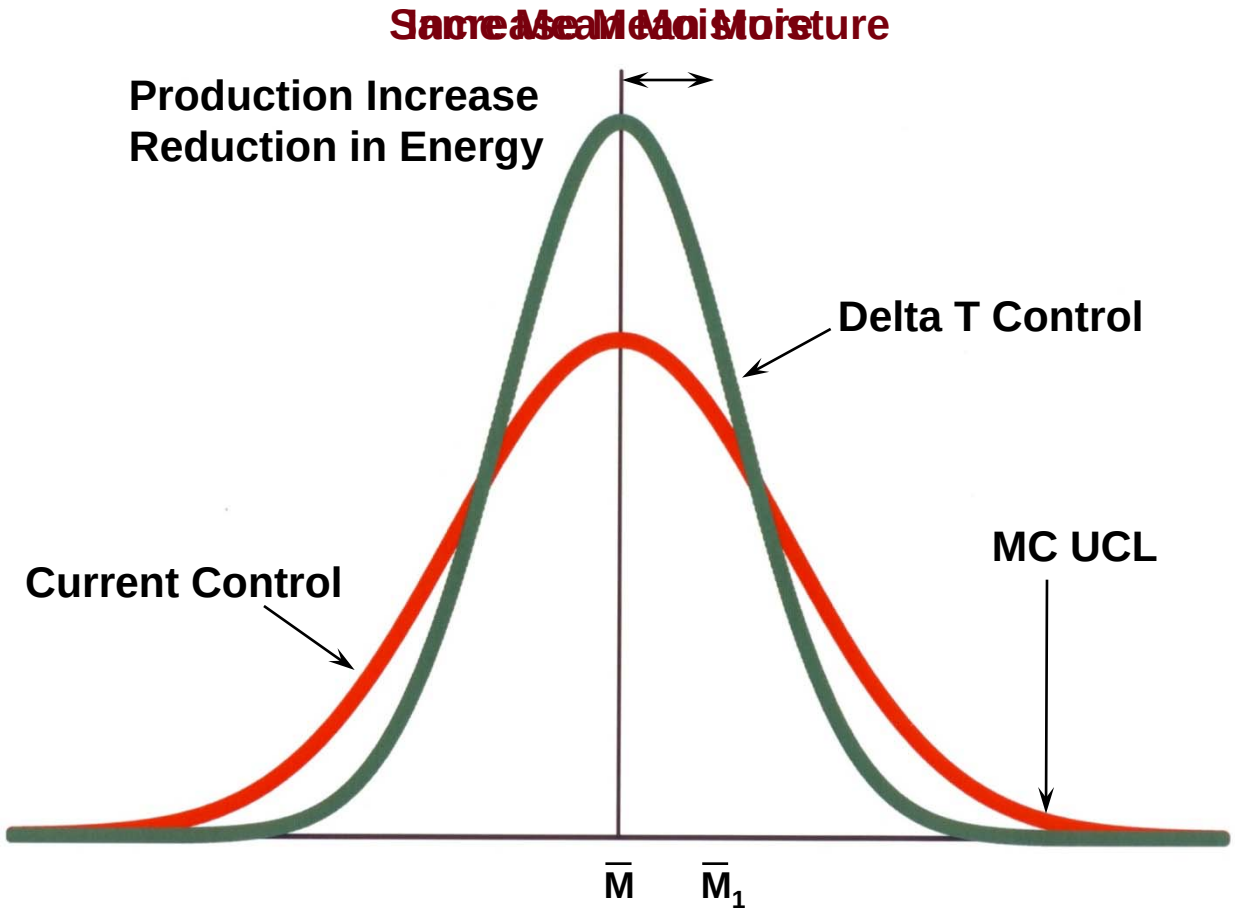
# Delta T Calculates New Set Point That Maintains Target MC



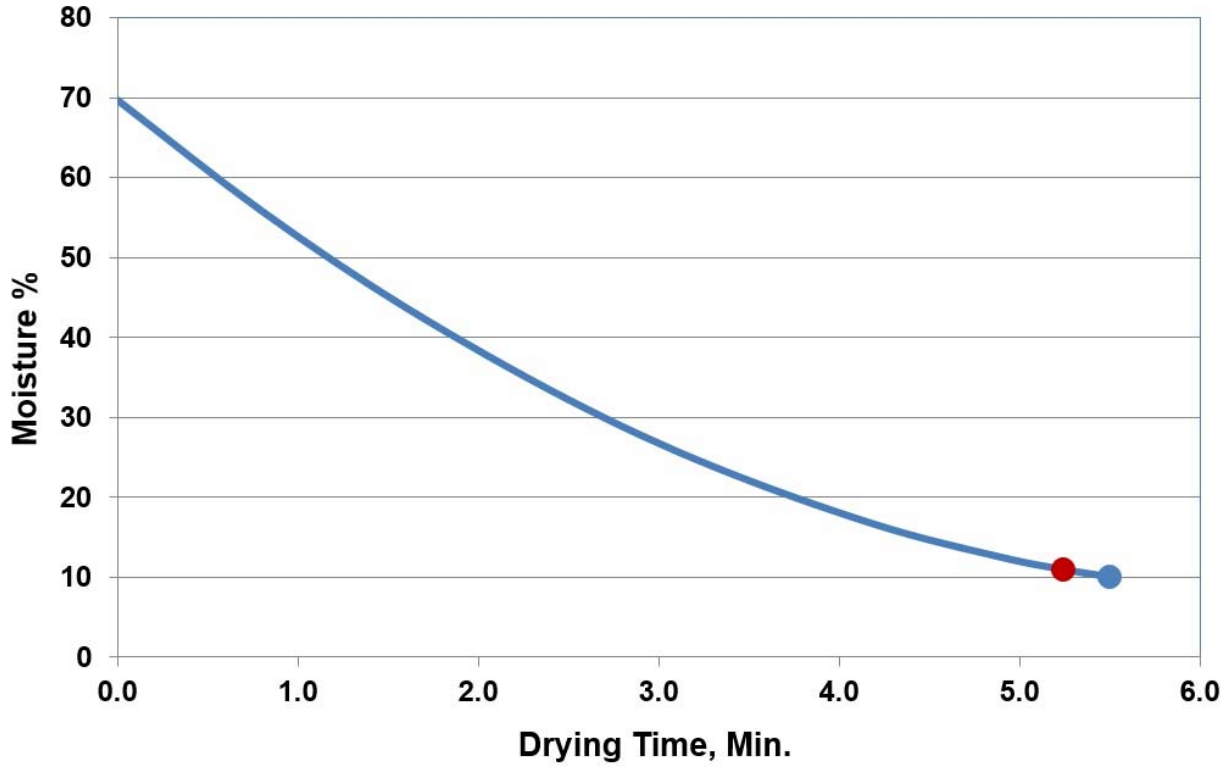
# Improved Veneer Dryer Controls Veneer Moisture not Redry



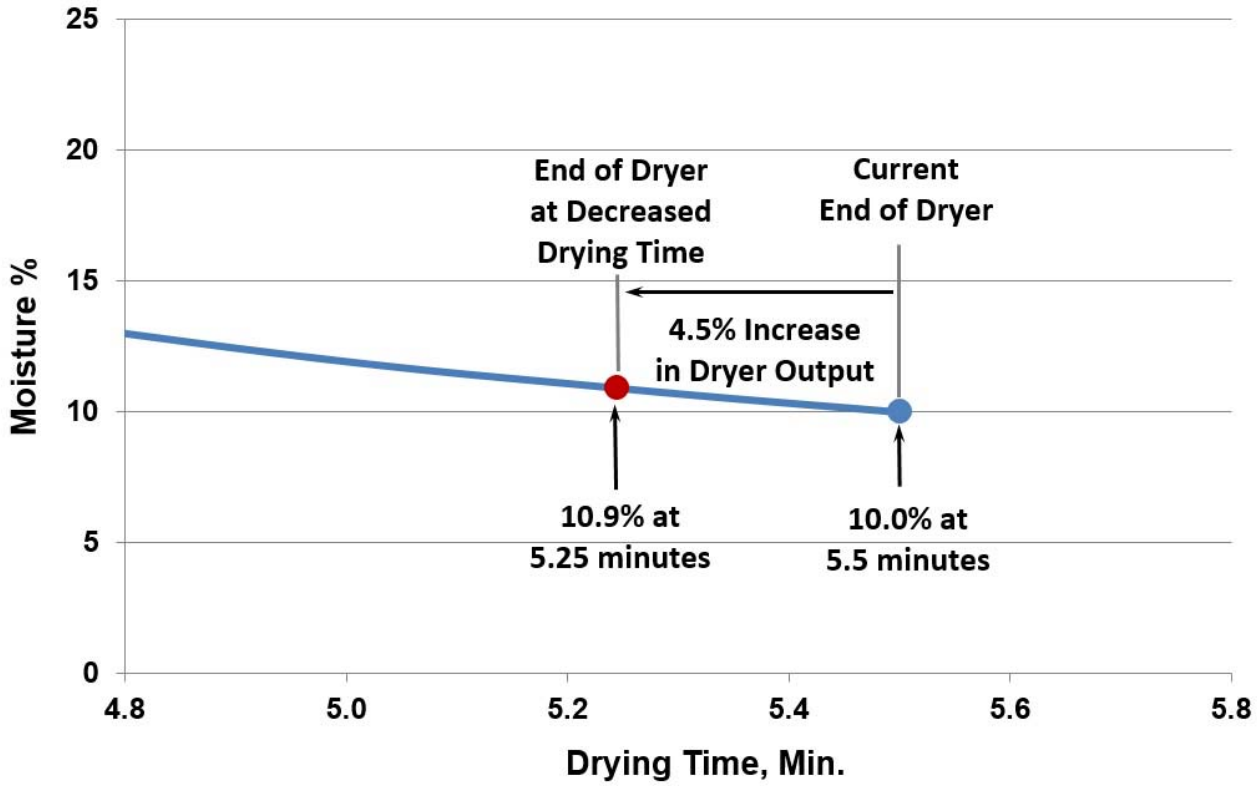
# Delta T Enables Veneer MC to be Shifted From 10.0% to 10.9%



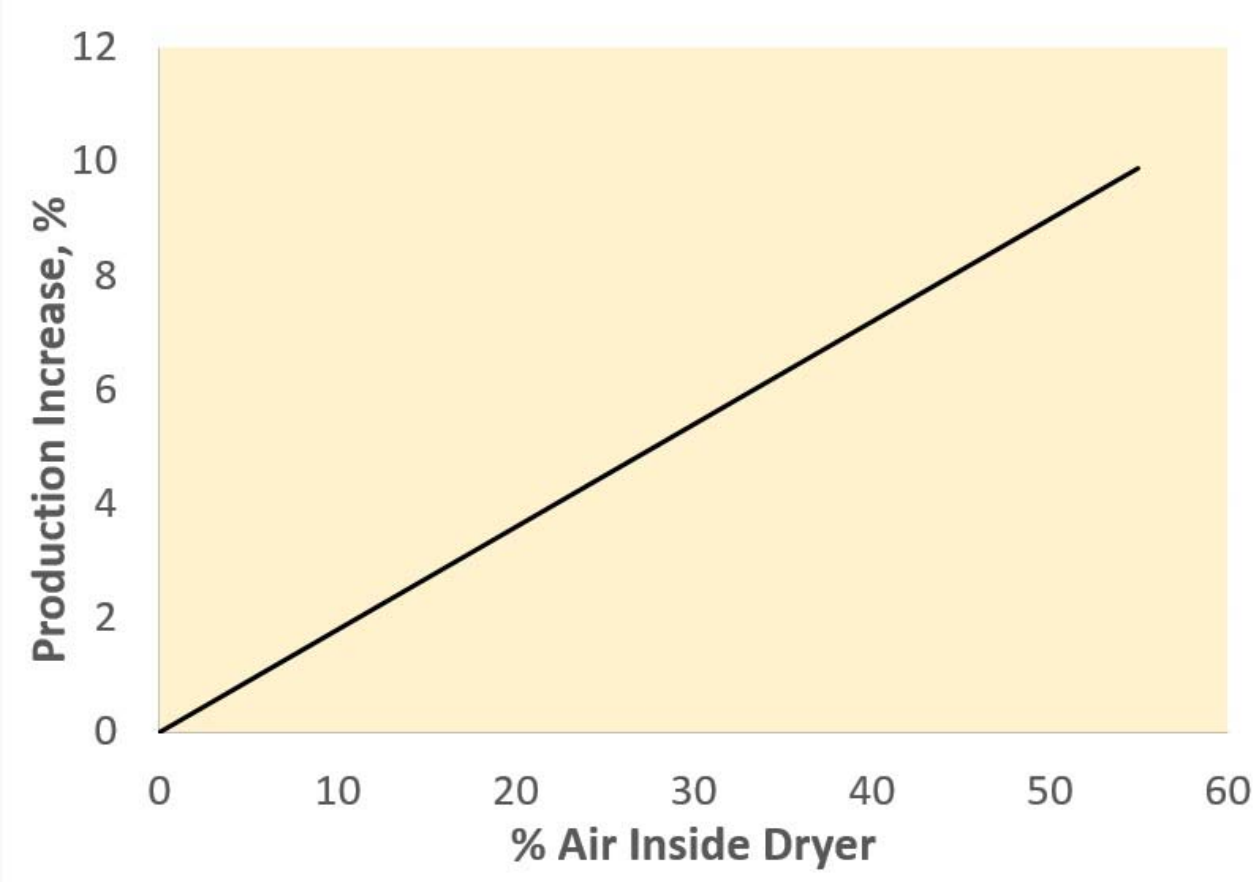
# Typical Veneer Drying Curve



# Increase Production Rate By Improved Moisture Control



# Synergistic Effect of Air Content on Driving Force for Veneer Drying



# Potential Savings Provided by Delta T

| | |
|---|---|
| Normal use of Delta T | 7.0% |
| Increase veneer moisture of 0.9% | 4.5% |
| Monitoring & operating at optimum air content | 3.6% |
| Glue Savings from Increase in MC | $$ |
| Quality Improvement | |