OMAS WHEAT SCRUBBING TECHNOLOGY
WHAT IS DRY WHEAT SCRUBBING?

• Gently removing small amounts of the pericarp using abrasion to eliminate surface impurities and enable the kernel to absorb water more efficiently and homogenously.
WHEAT SCRUBBING ADVANTAGES

• Reduced Tempering Time
• Reduced Bacteria Count
• Herbicide and Pesticide Reduction
• Reduced Ash Content
• Higher Milling Efficiency
OPERATING PRINCIPLE

RED – Product Inlet

BLUE – Air Inlet

GRAY – Scrubbing Chamber

BROWN – Air/Fines/Dust Outlet

GREEN – Wheat Outlet
PROCESS

- Product moves vertically from top to bottom.
- Abrasive discs work gently on product.
- Target of 0.5% of Pericarp is removed.
- External fan aids in dust and fine removal as well as helping cool the product.
- Product exits the machine via automatic gate controlled by PLC.
MECHANICAL FEATURES

- 6.6” Product Inlet
- Distribution Cone
- Two Adjustable Air Inlets
- 10 H.P. (7.5KW) fan
- External Grease Point
MECHANICAL FEATURES

• 8 Abrasive Discs
• SS Slotted Screen
• Inner Doors
• Outer Doors
MECHANICAL FEATURES

- Product Outlet w/ Actuator
- Fines Outlet
- Bladed Impeller
- Drive Motor: 50 or 75 H.P.
MACHINE CONTROLS

1. Machine Amp Consumption Trend
2. Settings
3. Amp Consumption
4. Amp Setting
5. Outlet Gate Position
6. Machine Status
7. Automatic or Manual Mode
8. Manually Open Outlet Gate
9. Manually Close Outlet Gate
10. Regulation Damper Status
PROCESS
BACTERIAL LOAD - 75%
MOLD REDUCTION

MOULD Reduction (ISO 21527-2:2008)
REDUCE HERBICIDE/PESTICIDE RESIDUE
ASH REDUCTION

ASH Reduction

[Bar chart showing ash reduction compared to different categories: US W. DST, US W. Scourer, EU W. DST, EU W. Scourer. Peaks at approximately 1.7% for US W. Scourer, 1.8% for EU W. DST, 1.9% for US W. DST, and 1.5% for EU W. Scourer.]
Mycotoxin Reduction

Wheat Before DST
ASH 1.42 ± 0.09 g/100 g 0.050
Met.: MP 2271 rev 0 2018 -11/10/2019
DON 560 ± 110 μg/kg 20 10 97.5
Met.: MP 2249 rev 1 2018 -15/10/2019

Scraps
ASH 3.35 ± 0.20 g/100 g 0.050
Met.: MP 2271 rev 0 2018 -11/10/2019
DON 13 200 ± 2 600 μg/kg 20 10 97.5
Met.: MP 2249 rev 1 2018 -17/10/2019

Wheat After DST
ASH 1.38 ± 0.09 g/100 g 0.050
Met.: MP 2271 rev 0 2018 -11/10/2019
DON 290 ± 57 μg/kg 20 10 97.5
Met.: MP 2249 rev 1 2018 -15/10/2019
PRODUCTION MACHINES

• Tested at large mill in Italy.
• Customer saw temper time reduced by 25%.
• Homogenous absorption and consistent hydration.
• Improved Flour Color
• No negative effects on baking characteristics.
• Converted entire cleaning line to Dante system.
THANK YOU