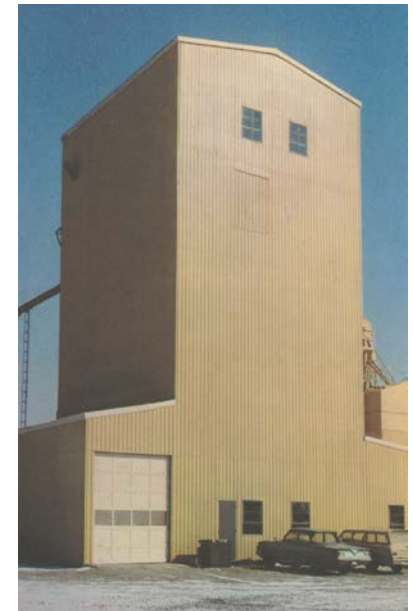
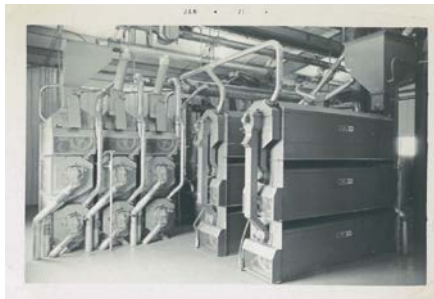




**IAOM Central, Wheat State, Texoma
District Meeting
July 27, 2018**

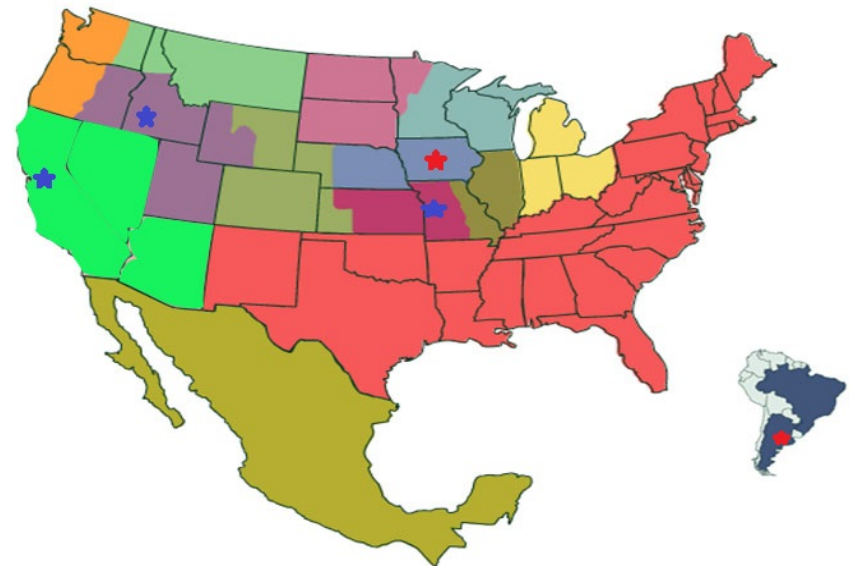
THE BEGINNING

- Founded in 1964 in Des Moines, Iowa by Ken and Ann Bratney.
- Began business in seed, grain, and food related industries with commitment and respect for the relationship with the customer.
- Focus on equipment sales and design. Quickly grew to include engineering and construction services by the mid 1970's, and today includes milling and manufacturing services.
- Ken Bratney: ***"Your word is your bond."***
- We live by this motto even today



Today

- Full service company with more than 145 full time employees with office locations in:
 - Des Moines, Iowa (corporate office)
 - Boise, Idaho
 - Kansas City, Missouri
 - Sacramento, California
 - Colon, Argentina
- Primary Area of Coverage:
 - United States
 - Argentina, Uruguay and Brazil
- Disciplines:
 - Process Equipment Sales
 - Design / Engineering / Construction Services
 - After Sales Service and Support





ITALIAN EXCELLENCE

PERFORMANCE
EVOLUTION
IN THE ART
OF MILLING





ITALIAN EXCELLENCE

- Founded in 1966. Over 50 years of milling experience.
- More than 60 milling plants worldwide.
- Manufacturing and innovation is their passion.
- 2 manufacturing facilities in Italy.
- Most innovative milling technologies in the market.



FACILITIES: August 2015

- 11,000 m² (118,000 ft²) total.
- 1,800 m² (19,000 ft²) of new offices and meeting rooms
- New manufacturing facilities
- New test facility inside the factory for testing new technology and new machines
- Quality and testing laboratory, with new instruments



ITALIAN EXCELLENCE



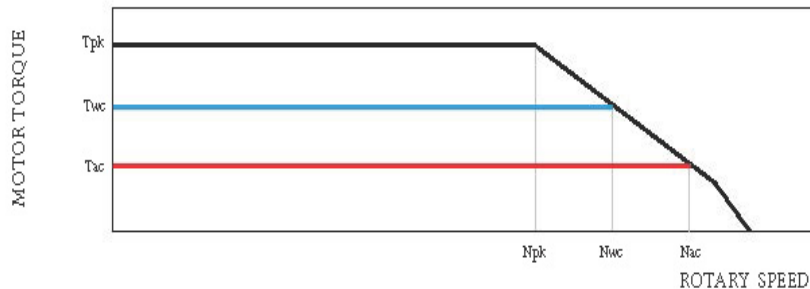
Leonardo



KEY CONCEPTS

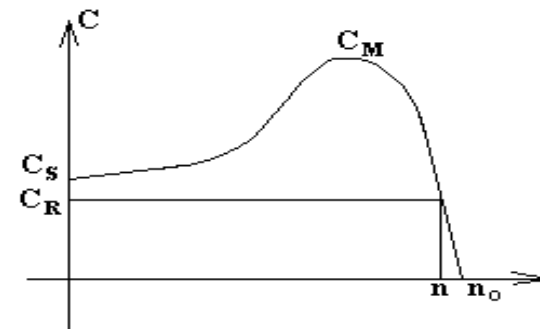
OMAS TORQUE MOTORS

- High and steady torque at any speed (in a range from 0 to 550 RPM)



ASYNCHRONOUS MOTORS (CONVENTIONAL)

- Nominal torque only within a very narrow range of speed



KEY CONCEPTS

OMAS TORQUE MOTORS

- Have low consumption when not grinding: 0.8-1.0 A
- Are able to generate electrical current, thus energy, if decelerated or used as dynamo since they are permanent magnet synchronous motors
- Can be overloaded over the nominal values, even for an indefinite period, if cooled

ASYNCHRONOUS MOTORS (CONVENTIONAL)

- Consume 45% of nominal value in empty condition, corresponding to 13.5 A
- Are damaged if used as generators;
- Tolerate only the short-time overloading

KEY CONCEPTS

LEONARDO S ROLLER MILL

OMAS

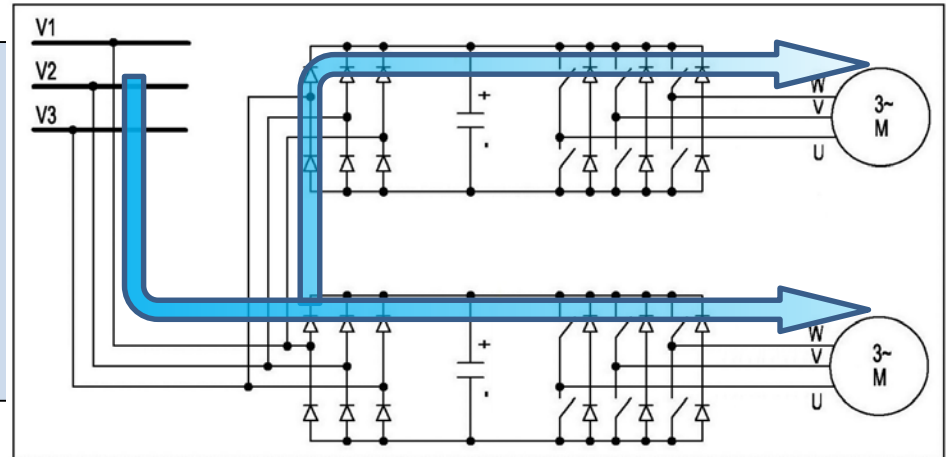
- 2 **TORQUE** motors for every milling passage, 1 on each roll.
- Variable speed
- Vary speed ratio as needed and automatically, with no downtime
- Possible to make the front or back roll the fast roll

BELT DRIVEN ROLLER MILL (CONVENTIONAL)

- 1 motor for every milling passage with 2 belt transmissions
- Fixed speed
- Fixed speed ratio, unless pulleys and toothed belts are replaced
- Fixed setting: the front roll is always the fast one

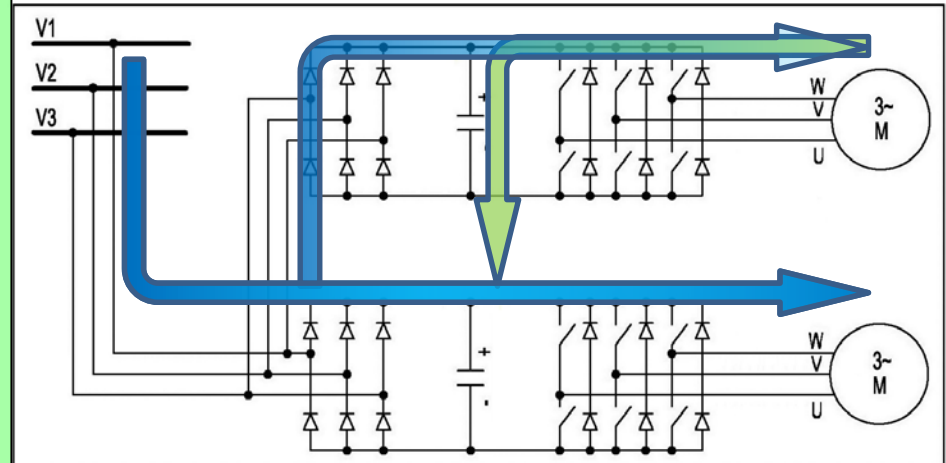
OMAS - ENERGY SAVING

During operation in empty condition, every motor uses all the energy provided by the power supply; the two electric currents, passing through every drive unit, are exactly those required by the respective motor and have the same sign. So the total current supplied by the electric box is the sum of the two.

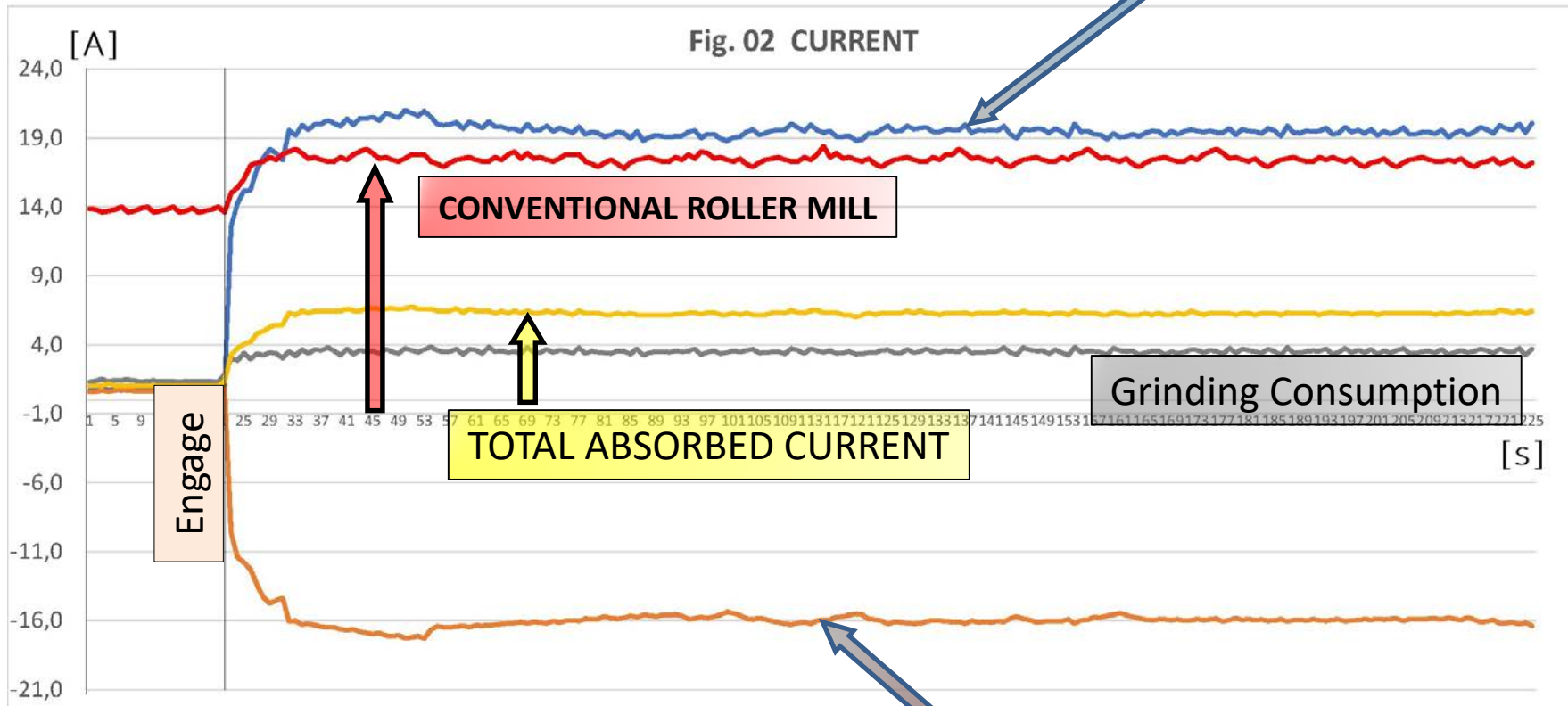


When engaged, during the **milling** phase, the slow motor **generates** an electric current toward the drive circuit, where it is **directly** used by the fast motor; this immediately reduces the electrical network power absorption, obtaining:

ENERGY SAVINGS

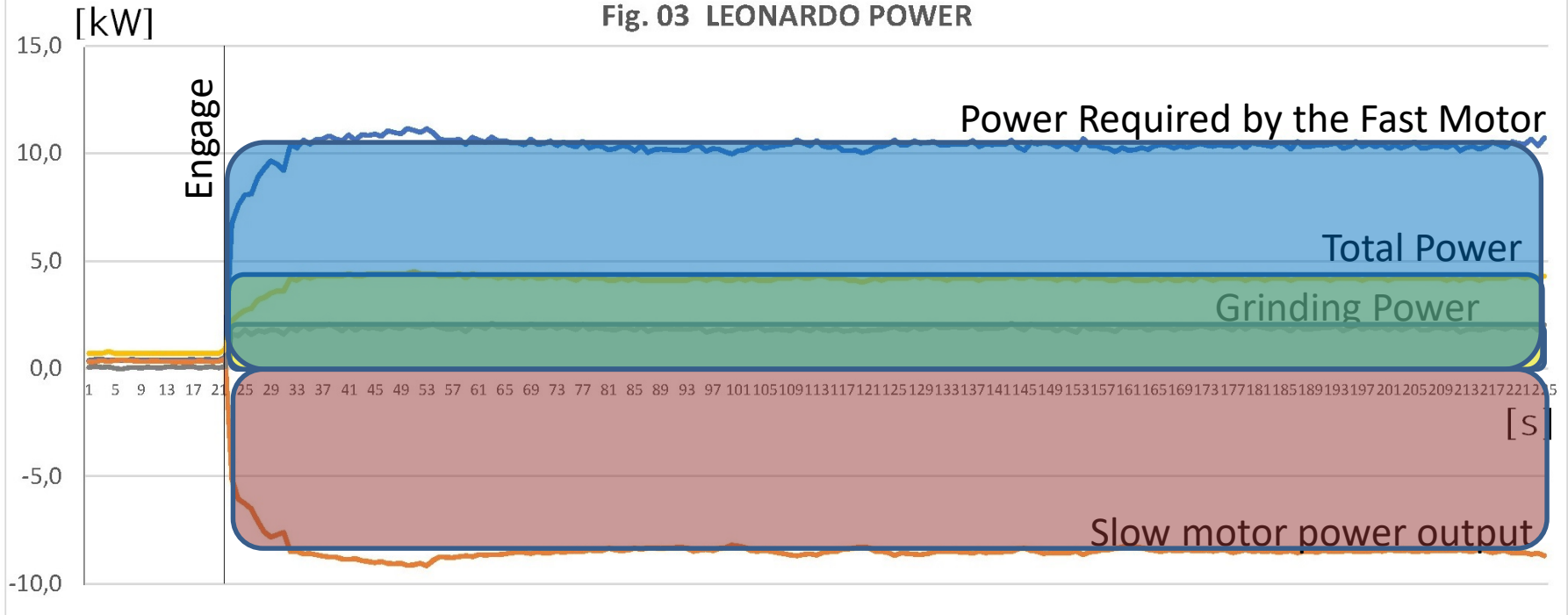


ENERGY SAVING



ENERGY SAVING

Fig. 03 LEONARDO POWER



Kazakhstan Mill 160 Mton/Day

	MOTORS	KERS	NETWORK	MOTORS	KERS	NETWORK	TRADITIONAL	BELT
	A	A	A	kW	kW	kW	A	kW
B1	29,3	17,0	16,8	19,28	11,19	11,06	44,0	28,96
B2	20,1	14,9	16,7	13,23	9,81	10,99	42,0	27,64
R1G	16,7	11,3	9,7	10,99	7,44	6,38	32,0	21,06
R1GA	26,7	19,6	8,5	17,57	12,90	5,59	30,0	19,75
R2	18,2	12,8	9,5	11,98	8,42	6,25	17,0	11,19
R3	13,2	9,7	7,0	8,69	6,38	4,61	19,0	12,51
R4	17,6	13,0	6,9	11,58	8,56	4,54	20,0	13,16
C1	27,1	21,2	7,7	17,84	13,95	5,07	21,0	13,82
C2	8,5	5,3	5,5	5,59	3,49	3,62	19,0	12,51
C3	11,0	7,4	6,3	7,24	4,87	4,15	15,0	9,87
C4	13,9	10,4	7,0	9,15	6,85	4,61	15,0	9,87
C5	13,9	10,4	7,2	9,15	6,85	4,74	15,0	9,87
C6	13,6	10,2	7,0	8,95	6,71	4,61	15,0	9,87
TOTAL	229,8	163,2	115,8	151,25	107,41	76,22	304,0	200,09

Difference: **-61,91%**

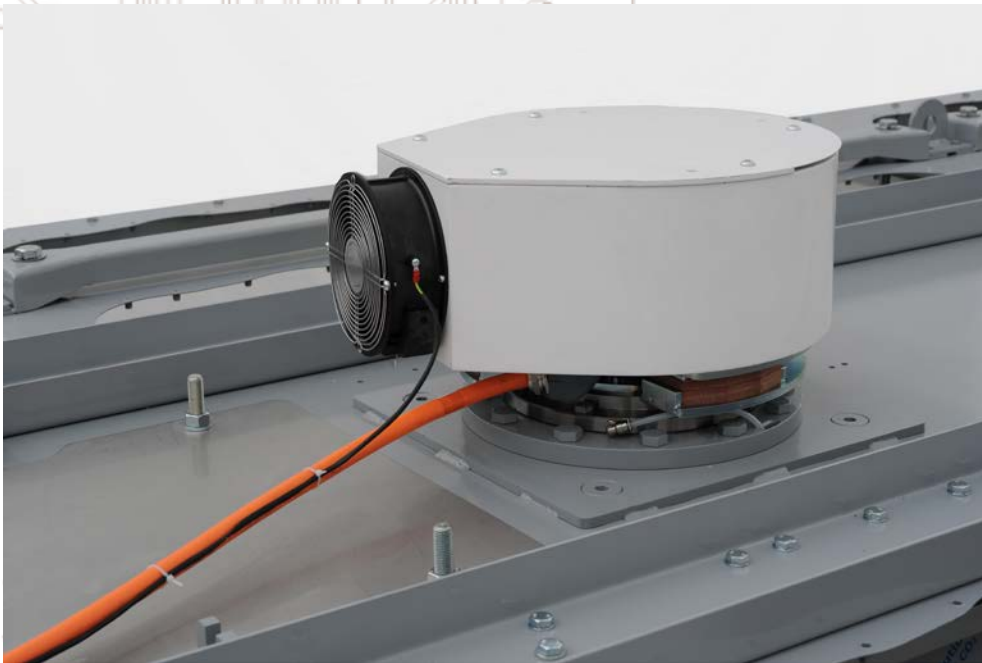
PLANSIFTER PL “Galileo”



RESEARCH &
DEVELOPMENT
MADE IN ITALY



PLANSIFTER “Galileo”



- More efficient due to torque motor efficiency.
- No loss of energy through mechanical transmission.
- No maintenance required on drive mechanism.
- Motor mounted directly to the top of the sifter.

PLANSIFTER “Galileo” New Patented Sieves

- Sieves and sieve supports made entirely of Nylon PA 66.
- Safe material, suitable for product contact in food applications.
- Light, durable, and holds up to mechanical stress.



WHEAT STERILIZER “Giotto” :

omas
RESEARCH &
DEVELOPMENT
MADE IN ITALY



WHEAT STERILIZER “Giotto”

- Equipped with 150 adjustable paddles.
- Removes superficial bacteria, mold and mycotoxins.
- Reduces tempering time.
- Reduces ash content in flour.



WHEAT STERILIZER “Giotto” :



RESEARCH &
DEVELOPMENT
MADE IN ITALY



New Plants under construction 2018/2019

- 300 Mton/Day Angola Soft Wheat
- 160 Mton/Day Soft and Hard Wheat Uganda
- 2 x 300 Mton/Day Soft Wheat Benin
- 450 Mton/Day Soft and Hard Wheat Ghana
- 160 Mton/Day Soft and Hard Wheat Pennsylvania
- 160 Mton/Day Maize Argentina
- 160 Mton/Day Soft Wheat United Kingdom
- 110 Mton/Day Durum Italy



BoMill – **NIR** Seed/Kernel Sorting for Protein, Vomitoxin, and Vitreous Qualities



Model IQ Lab Unit

- 5 Pounds/Hour
- 6 Quality Fractions



Model Tri-Q Production Unit

- Approx. 3 Metric Tons/Hour
- 3 Quality Fractions

SORTING PRINCIPLES



KERNEL
SINGULATION



NEAR INFRARED
LIGHT



DETECTION
(Near Infrared Transmittance)

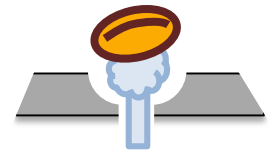


Analyze & Sort by
Internal Structure



Adds more value
to your grain

EJECTION



Compressed
air

Sort **Barley, Oats, Wheat or Durum** by **Internal** Properties:

- Relative **Protein** Content
- Kernel **Hardness** (vitreous qualities)
- **Vomitoxin** (DON / Fusarium / Other Mycotoxins)



BoMill

BOMILL MODEL IQ SORTING REPORT



Date: 2/6/2018

SAMPLE DETAILS

Grain: Hard Red Winter Wheat
Customer:
Sorting Parameter: Protein
Protein Reference: **12.5%**
DON in Reference: **3.0ppm**



Air/Screen
Cleaner

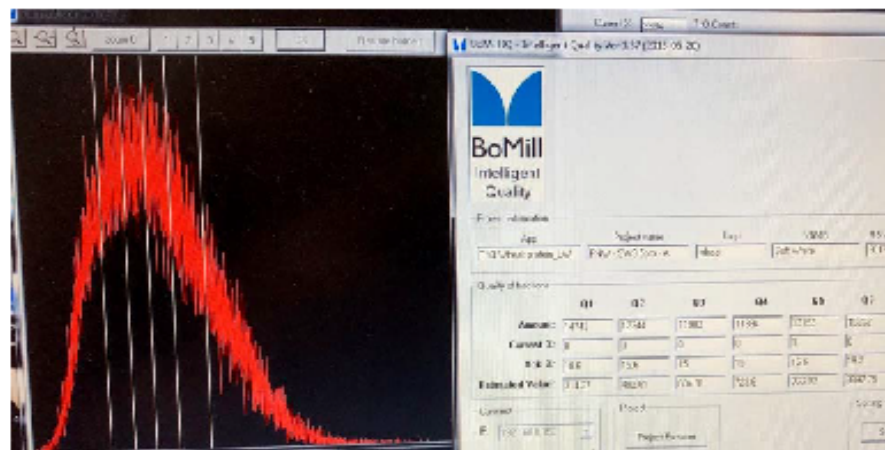
Incoming Grain (lbs): 7.54
Control Sample (lbs): 0
Sorted Sample (lbs): 7.54
Cleaning < 5.5/64 slot; > 12 Rd (lbs): 0.21
Cleaned Sample (lbs): 7.33



Test Sample



Fractions F1 - F6



SORTED FRACTIONS

	F1	F2	F3	F4	F5	F6
Weight (lbs)	1.48	1.24	1.17	1.20	1.20	1.04
Yield (%)	20.2	16.9	16.0	16.4	16.4	14.2
Protein (%)	11.2	11.9	12.4	12.7	13.2	13.5
DON (ppm)	17.5	1.6	0.7	0.4	0.3	0.3
Germination (%)						

CIMBRIA CLEANING EQUIPMENT

- DRUM SCALPERS
- MEGA CLEANERS
- OPTICAL SORTERS



Concetti Packaging Systems

Complete Packaging Systems for Soft and Hard Packed Goods Including:

- Bagging Scales
- Bag Hangers
- Hybrid and Robotic Palletizing Systems





THANK YOU