



DRAFT

SWISS INSTITUTE OF FEED TECHNOLOGY

Course programme

Machines and Process Technology for Feed Milling Industry

Participants: Approx 20 - 25 persons

Date : 5 - 16 September 2011

Place : Glenburn Lodge, (Muldersdrift, South Africa), with practicals at the Buhler Training Centre in Honeydew.

Monday, 5 September 2011

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| 09:00 - 10:00 | Arrival of participants | AFMA / SFT |
| 10:00 - 12:00 | Welcome and beginning course - Formalities - Introduction to the course programme | AFMA / SFT |
| | Manufacturing of animal feeds - Legal requirements - Contamination and carry-over | SFT |
| 12:00 - 13:15 | Lunch | |
| 13.15 - 15:00 | Manufacturing of animal feeds - Modern flow sheet technology | SFT |
| 15:00 - 15:20 | Break | |
| 15:20 - 17:00 | Aspiration system - Basics and air measurements - Fan characteristic curve | SFT |

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Tuesday, 6 September 2011

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| 08:00 - 09:50 | Aspiration system - Calculation of fan and filter - Technical details to aspiration equipment | SFT |
| 09:50 - 10:10 | Break | |
| 10:10 - 12:00 | Batch mixing plant - Mixing systems - Mixing cycle diagram | SFT |
| 12:00 - 13:15 | Lunch | |
| 13:15 - 15:00 | Batch mixing plant - Proportioning, dosing algorithm - Technical details to dosing elements | SFT |
| 15:00 - 15:20 | Break | |
| 15:20 - 17:00 | Size reduction - Objective of size reduction - Grinding and feeding systems - Comparison hammer mill versus roller mill | SFT |

Wednesday, 7 September 2011

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| 08:00 - 09:50 | Size reduction - Influences to grinding process - Mill calculation - Technical details to grinding equipment | SFT |
| 09:50 - 10:10 | Break | |
| 10:10 - 12.00 | Mixing - Requirements to modern mixers - Mixing accuracy, homogeneity test | SFT |
| 12:00 - 13:15 | Lunch | |

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| 13:15 - 15:00 | Mixing <ul style="list-style-type: none">- Influences to the mixing process- Technical details to mixing equipment | SFT |
| 15:00 - 15:20 | Break | |
| 15:20 - 17:00 | Liquid addition <ul style="list-style-type: none">- Objective of liquid addition- Possibilities to add liquids | SFT |
| Thursday, 8 September 2011 | | |
| 08:00 - 09:50 | Liquid addition <ul style="list-style-type: none">- Installation diagrams- Technical details to liquid addition equipment | SFT |
| 09:50 - 10:10 | Break | |
| 10:10 - 12:00 | Automation <ul style="list-style-type: none">- Control system concepts- Batching system- Traceability and quality data | BJHB |
| 12:00 - 13:15 | Lunch | |
| 13:15 - 15:00 | Automation <ul style="list-style-type: none">- Special functions- Technical details to panel construction | BJHB |
| 15:00 - 15:20 | Break | |
| 15:20 - 17:00 | Buhler South Africa <ul style="list-style-type: none">- Presentation and Factory Tour | BJHB |
| Evening | Social event | BJHB / SFT |

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Friday, 9 September 2011

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|---------------|---|------------|
| 08:00 - 09:50 | Practical work, at the Buhler premises Group A: - Size reduction equipment Group B: - Mixing equipment - Liquid addition equipment | BJHB / SFT |
| 09:50 - 10:10 | Break | |
| 10:10 - 12:00 | Practical work, at the Buhler premises Group A: - Mixing equipment - Liquid addition equipment Group B - Size reduction equipment | BJHB / SFT |
| 12:00 - 13:15 | Lunch | |
| 13:15 - 14:35 | Practical work, at the Buhler premises Group A: - Aspiration equipment - Dosing elements Group B: - Plant control systems | BJHB / SFT |
| 14:35 - 14:55 | Break | |
| 14:55 - 16:15 | Group A: - Plant control systems Group B: - Aspiration equipment - Dosing elements | |

Monday, 12 September 2011

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| 10:00 - 12:00 | Hygienizing and Compacting - Benefits of pelleted feeds, quality parameters - Objective of hygienizing, thermal processes | SFT |
| 12:00 - 13:15 | Lunch | |
| 13:15 - 15:00 | Hygienizing and Compacting - Conditioning and pelleting equipment | SFT |
| 15.00 - 15.20 | Break | |

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15:20 - 17:00 Hygienizing and Compacting SFT
- Influence of raw material
- Physical and Chemical properties

Tuesday, 13 September 2011

08:00 - 09:50 Influence of process parameters SFT
- Conditioning with steam
- Throughput regulation, fine returns

09:50 - 10:10 Break

09:50 - 12:00 Hygienizing and Compacting SFT
- Influence of machine parameters
- Pelleting process

12:00 - 13:15 Lunch

13:15 - 15:00 Hygienizing and Compacting SFT
- Influence of machine parameters
- Die and roll configuration roll gap

15:00 - 15:20 Break

15:20 - 17:00 Hygienizing and Compacting SFT
- Pellet mill control system
- Basic set-up
- Function and operating principle

Wednesday, 14 September 2011

08:00 - 09:50 Conditioning with steam SFT
- Evaporation process at constant pressure
- Layout of a steam plant installation

09:50 - 10:10 Break

10:10 - 12:00 Cooling / Drying SFT
- Cooling, drying process
- Technical details of cooling equipment

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| 12:00 - 13:15 | Lunch | |
| 13:15 - 15:00 | Feed Milling Industry in South Africa - Organisation, - Trends and developments | DWB / AFMA |
| 15:00 - 15:20 | Break | |
| 15:20 - 17:00 | Feed Mill Management - Management of a Feed Company in RSA | AFMA |

Thursday, 15 September 2011

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|---------------|--|------------|
| 08:00 - 09:50 | Practical work, at the Buhler premises Group A: - Conditioning equipment - Pellet mill control Group B: - Pelleting equipment | BJHB / SFT |
| 09:50 - 10:10 | Break | |
| 10:10 - 12:00 | Group A: - Pelleting equipment Group B: - Conditioning equipment - Pellet mill control | |
| 12:00 - 13:15 | Lunch | |

Friday, 16 September 2011

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| 09:00 - 12:00 | Summary and final discussion End of course | SFT AFMA / SFT |
| 12:00 | Closing lunch | |