



"Chopin Innovation best serves the grain, milling & baking industry : our new products "

Charles Loubersac d'Hotel,
EXPORT SALES MANAGER, Chopin Technologies SAS



What's New #8- 20th Annual IAOM Middle East & Africa District Conf. & Expo – Oct. 23 to 26, in Antalya, Turkey



Chopin Technologies, part of Tripette & Renaud group, has been one of the leader
for the equipment of the milling industries since **1836**

The unique position of Chopin Technologies on the market is to be innovative leader
with the largest range of products throughout all the quality control cereal industry.

CHOPIN Technologies being one of the leading companies in the field of laboratory
equipment for quality control of grain and its derivatives is proud to share its latest
innovations.



Since 1836



Chopin Innovations :

Infraneo : the State of art NIR

GESTAR Integrated reception point & Quatuor II

Mixolab Profiler & Bug damage protocol



Control & optimization of your milling process with the CHOPIN Technologies Infraneo®





Infraneo

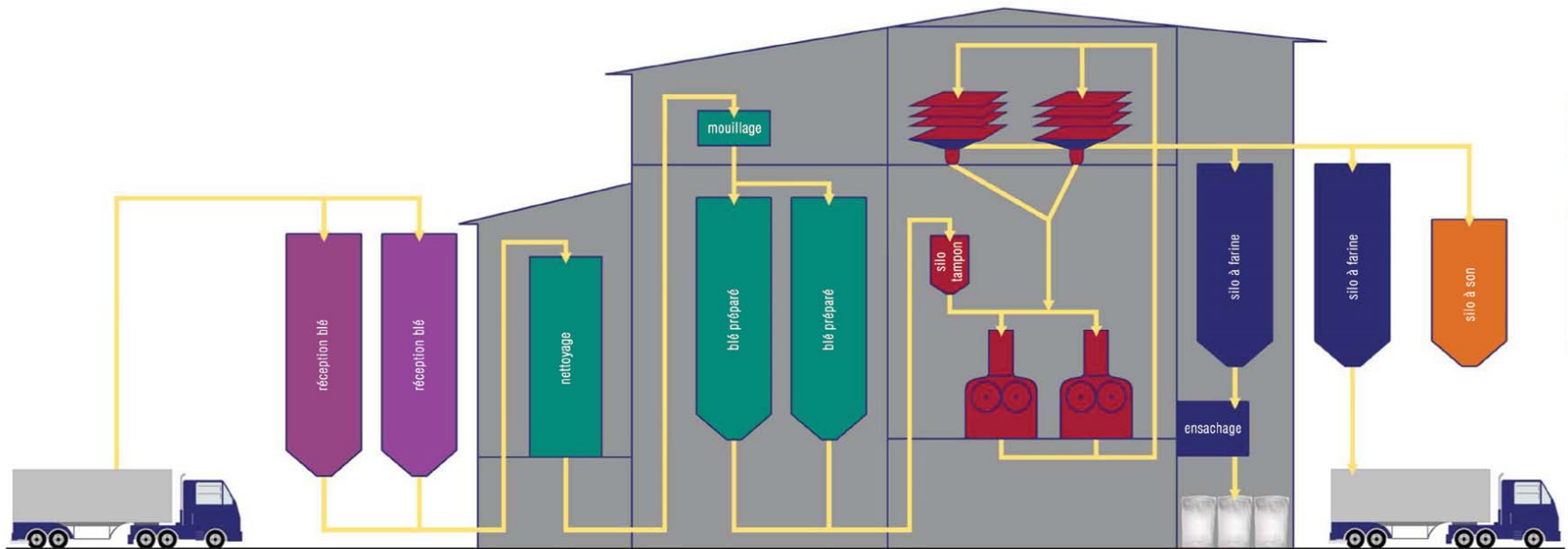
- One of the latest NIRT analyzers developed especially for grain storage & milling industries.
- The actual need of modern millers is to be able to analyze all steps of grain to flour and its derivatives.
Infraneo – is a versatile NIRT analyzer which covers the whole spectrum of millers needs: whole grain, flour, bran and shorts.
- Fast and accurate, it measures the complete range of needed quality parameters: moisture, protein, gluten, W, ash, water absorption, damaged starch etc.



Infraneo :

The milling-minded infrared

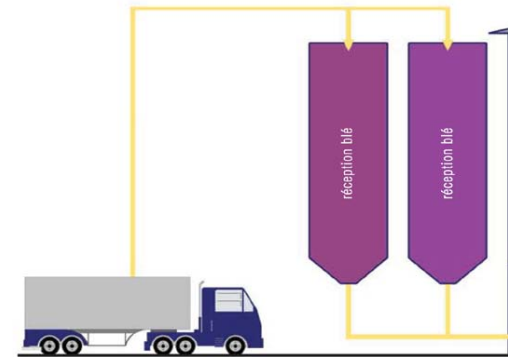
- Intake, conditioning, milling, by-product flours ; the Infraneo tune your control at each step of wheat transformation





Intake control on whole grain

- You accept or reject the delivered wheat in few seconds:
 - Moisture (yield, storage)
 - Protein content (silo batching)
 - Hectoliter weight (SW module in option)
- You forecast your flour quality
 - Wet Gluten
 - W Alvéographe



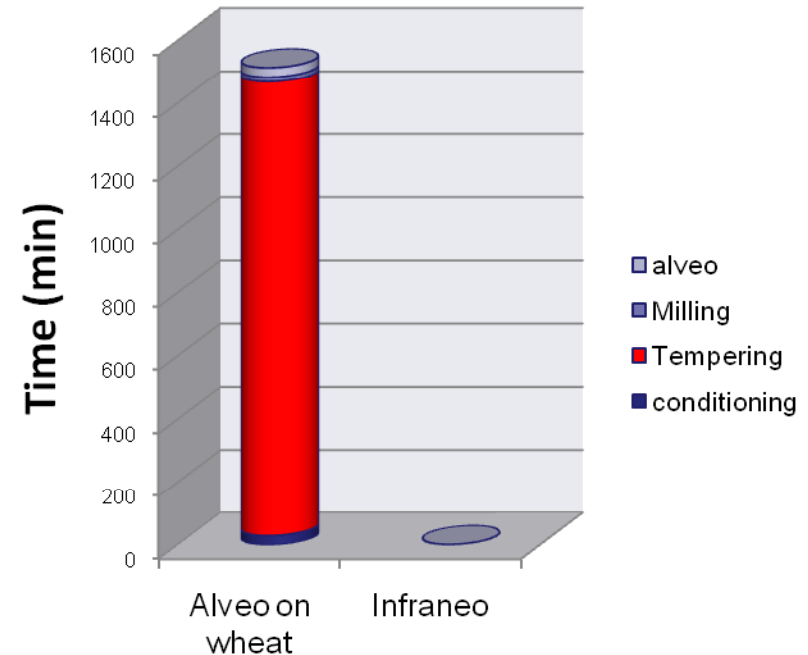
Parameters	You have
Water content	Measurement
Proteins	Measurement
Wet Gluten	Measurement
W Alveo	Estimation



Time is money

- Trucks aren't stuck and an analyse can be made on each delivery
 - Specification book fulfilled
 - Raw material is rejected if inappropriate
 - Anticipation on conditioning, blending additives requirements
 - Time savings on the Alveograph analyse (few seconds Vs more than 24 hours)
 - Simplification and strenghtening of the intake control process

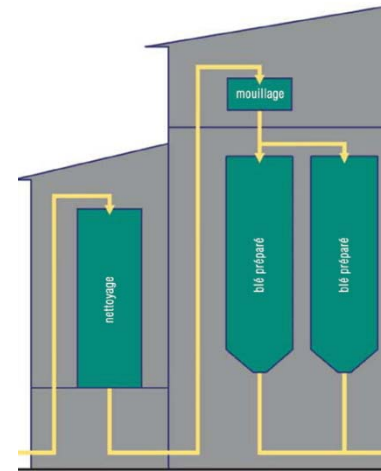
2 minutes Vs more than 24h for a 'W'





Milling preparation

- Badly conditioned the wheat loses his potential :
 - Economical (lower yield)
 - Qualitative (starch being damaged...).
- The wheat conditioning requires 3 main factors :
 - Initial moisture
 - Tempering

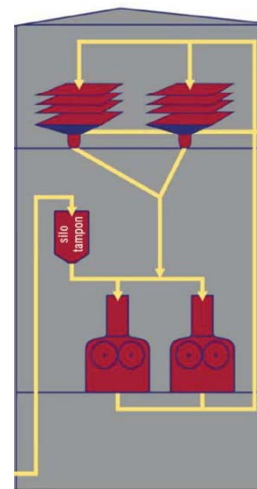


Parameter	You have
Water content	Measurement



Milling follow up

- You master the yield & your quality by determining instantly the ash content for each stream (Mohs curve, sieving tuning...).
- You make sure you are fulfilling the legal requirements for flours types (T55, T65, T85...)
- You forecast the final quality of the flours and your milled products consistency (rolls corrugation) thanks to the starch damage estimation

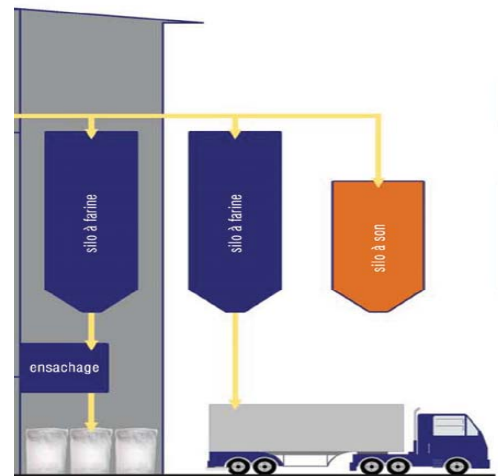


Parameter	You have
Ash content	Measurement
Starch damage	Measurement



Control & flours settings

- You control your flours before shipment and remove possible reject of your deliveries (water content, proteins, gluten, ashes...)
- You save time on your classical rheological tests (20% for determining water absorption capacity on the Mixolab)
- You decrease the required laboratory analyses. You will only perform lab tests on flours with additives (W Alveo) therefore saving time.

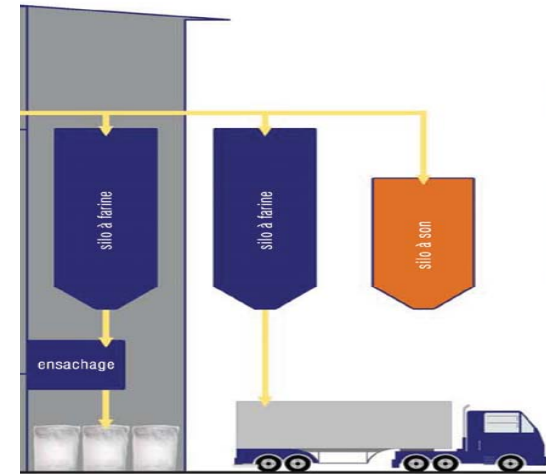


Parameters	You have
Moisture	Measurement
Proteins	Measurement
Wet Gluten	Measurement
Ash content	Measurement
Water absorption capacity	Measurement
W Alveo	Estimation
Starch damage	Measurement



Control & profit making with by-products milling

- The milling by-products are more & more important
 - Human food (fibers...).
 - Animal food
- Controlling your by-products with the Infraneo helps you to make profit out of it, with no additional cost for complex physico chemical analysis.
- Profit making out of the by-products is for sure a short term challenge.



	Remoulages	Brans
Moisture	✓	✓
Proteins	✓	✓
Ash	✓	✓
Cellulose	✓	✓
Starch	✓	✓



GESTAR

- At the reception of the grain at elevators & mills **three factors** influence the efficiency of the process : the global time of analysis, degree of automation and accuracy of laboratory analysis to determine the price and dispatch the delivery.
- GESTAR automatic reception chain integrates all theses factors. The process includes the sampling, impurities analysis, hectoliter weight and NIR precise measurement of most important quality parameters like moisture, protein, gluten, oil, W and many more dedicated to the grading.
- Collected data is stored and managed on PC with all additional implementations (weighbridge, silo monitoring etc...).



Automated complete grading **Gestar**

Automatic sampling - Automatic management of the apparatus and data at reception: Gestar

Automatic sampling:



**Pick-up 3000
probe**

Impurities:



Quatuor

H₂O, SW, T°:



Aqua-TR®

**Automatic management
of apparatus at reception
and data management:
GESTAR**



Infraneo NIR



Selection & grading : Quatuor 2



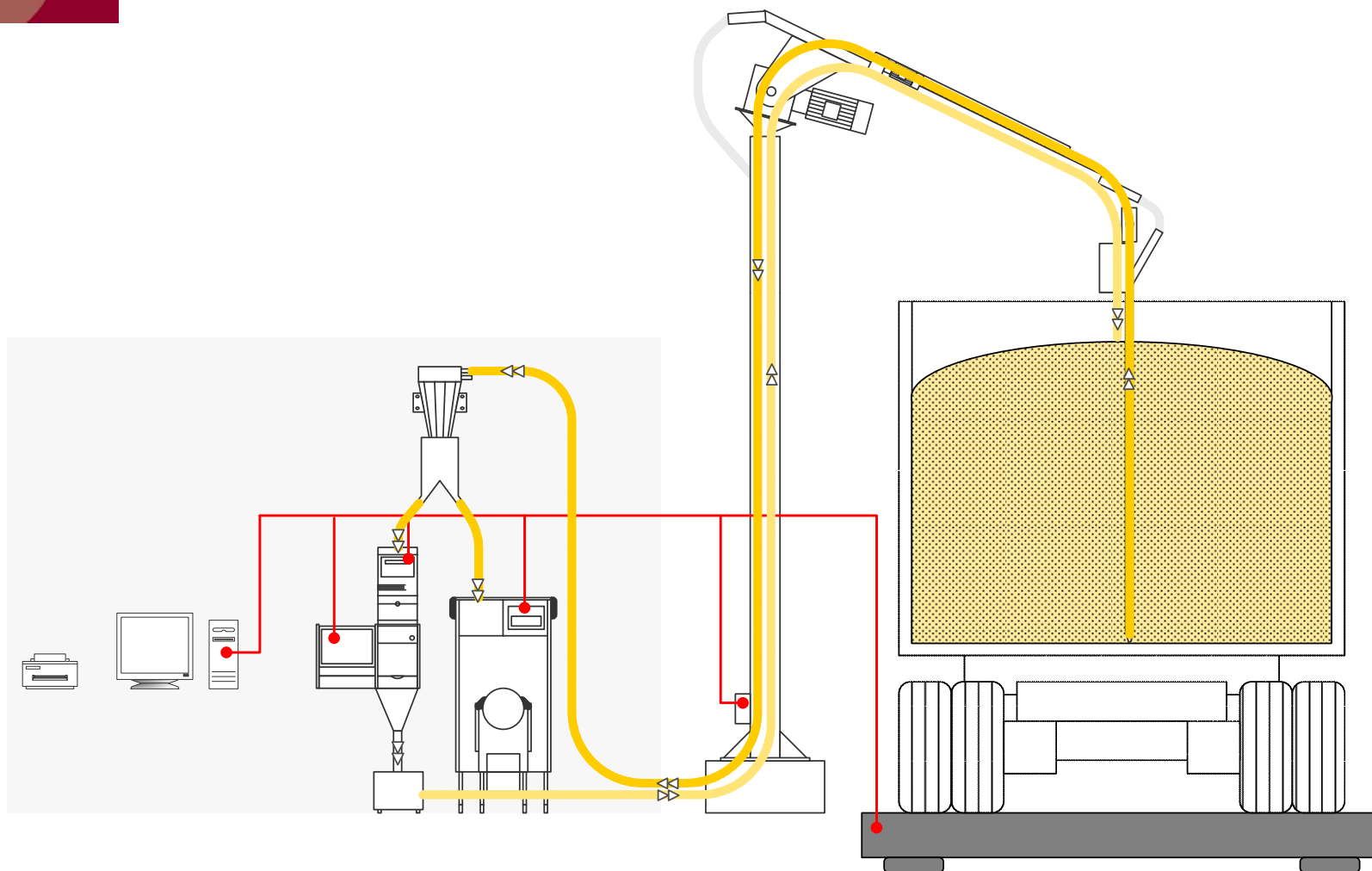
Automatic cleaner

- Displays automatically the impurities rate obtained
- Cleans all kind of seeds
- No prior weighing (built-in weighing system)
- Cleans all kind of seeds
- 4 measurements in less than 1 minute 20s :
 - % of impurities
 - % of broken grains
 - % of impurities + broken grains
 - % of good grains



GESTAR

AUTOMATIC RECEPTION CHAIN





GESTAR

AUTOMATIC RECEPTION CHAIN

Advantages

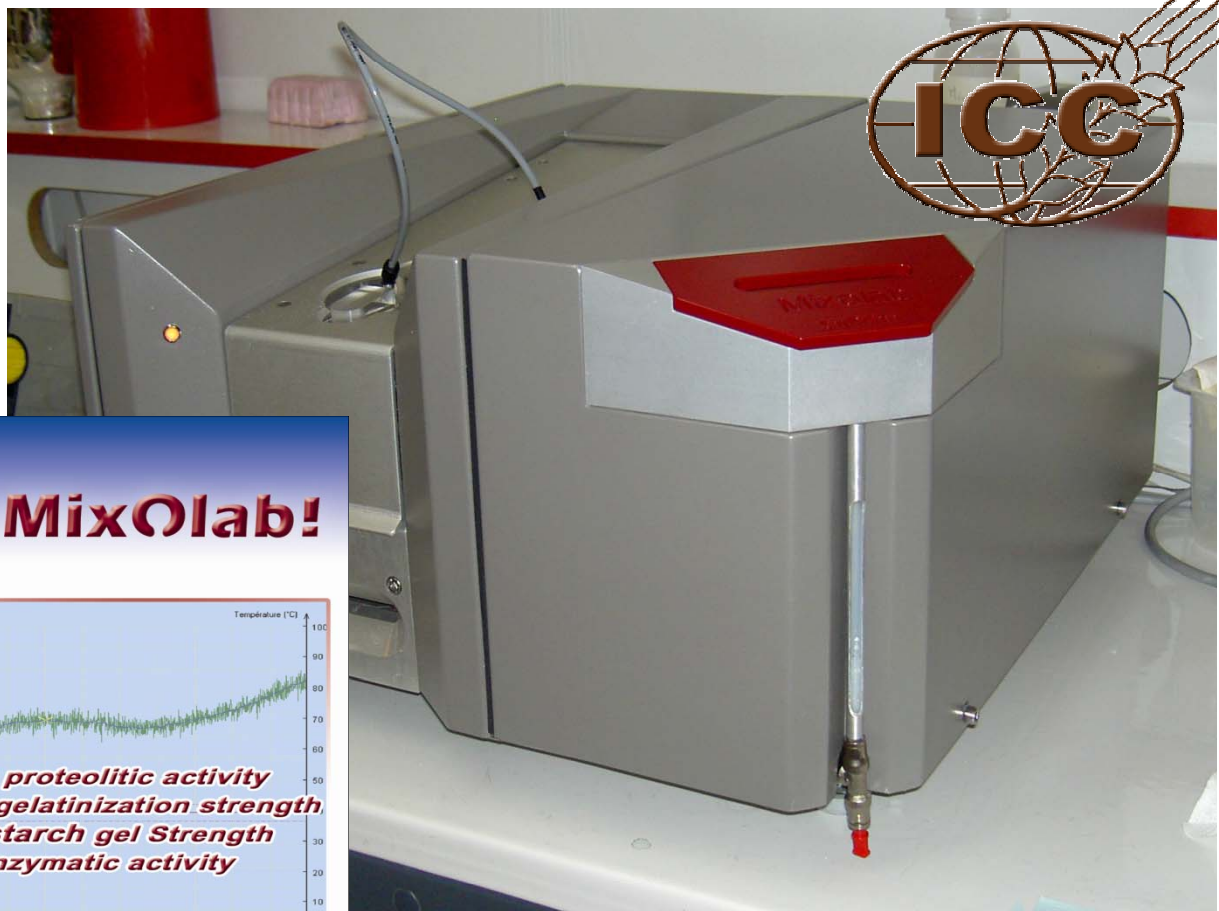
- Results integrity:
 - Sample is analysed without operator manipulation, it excludes human factor
 - Results are automatically transferred to Gestar and compiled on one report
- Quality:
 - Each sample is identified with unique number and dated
 - Different comments can be added
 - Each process is fully saved in a database
- Simplicity:
 - No need to know how to operate each unit for common users
 - One single user can operate a complete reception lab
- Fast:
 - Automatisation makes the entire process as fast as possible

Every system can be tailor made

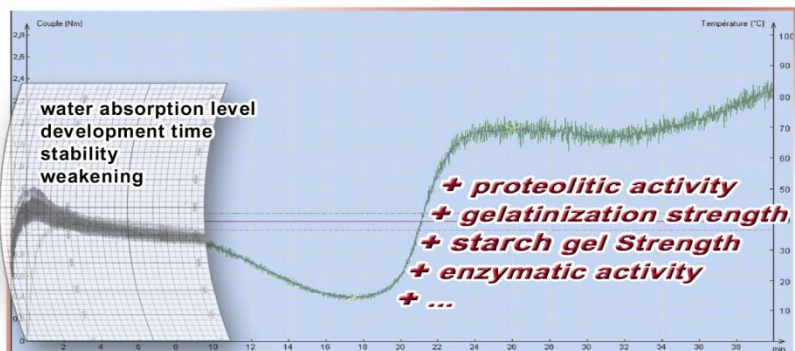


The Mixolab

N° 173



**Look further...
...with the MixOlab!**

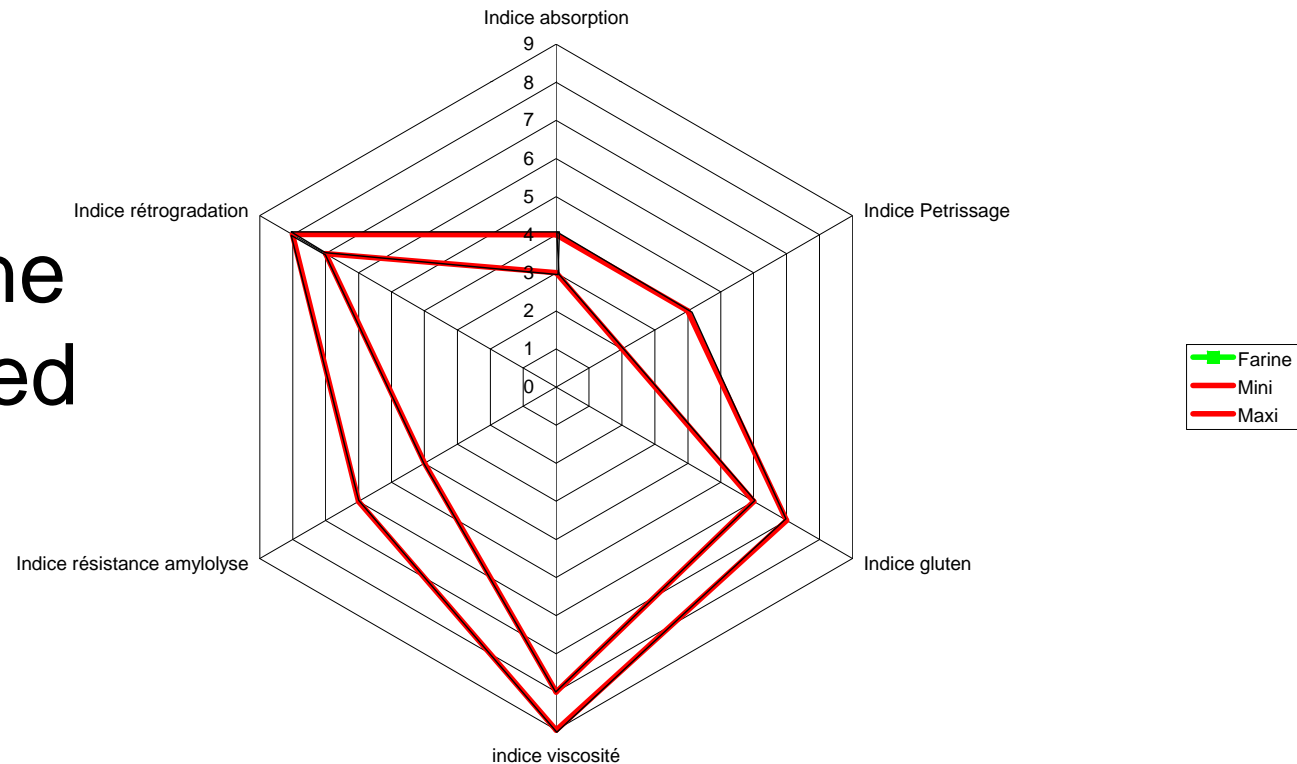




Mixolab Profiler

- It creates a new scoring system & inverse the QC as it exists actually. It scores the raw material in function of end product & the process rather than the raw material alone.

1 : determine
the requested
profile





Mixolab Profiler

- Based on the complete rheological analysis of the dough - the Mixolab Profiler displays the Mixolab Standard (ICC 173-AAC, GOST R under dvp.) curve in functional and understandable way.
- With the standard test, you obtain the comprehensive analysis of: water absorption, development time, stability and weakening of gluten, gluten resistance to heating, gelatinization of starch, amylase activity during baking, retrogradation of starch.
- With the profiler there are functional parameters of quality scored from 0 to 9 and displayed on the 6 axis graph creating the quality Profile.



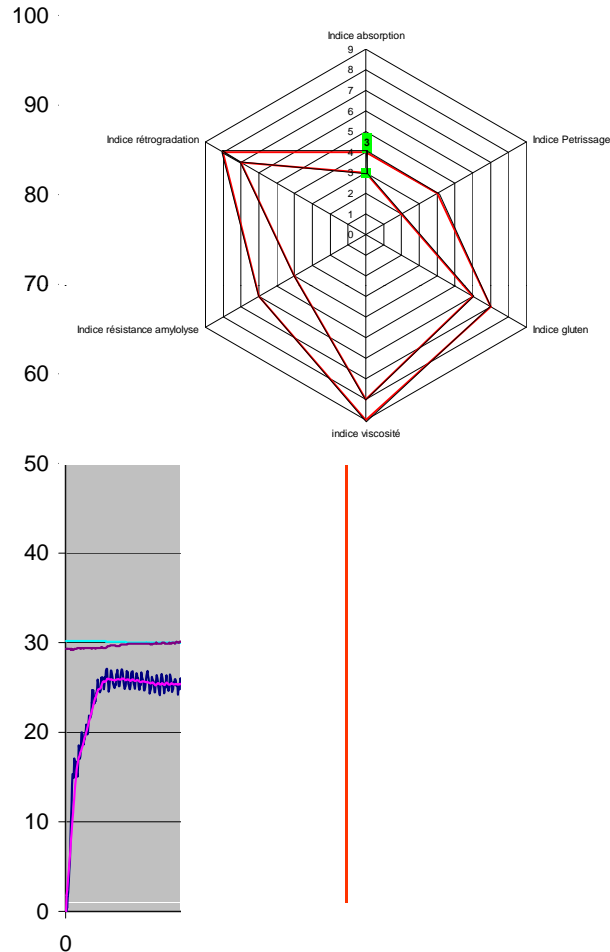
How to create a profile

- its creation is easy : it can be done with a dozen of analyses of flours that bring satisfaction.
- The profile is based on the maximum & minimum values of each index.
- It discriminate accurately a flour according to its end use.





2 : run the test... the index step by step



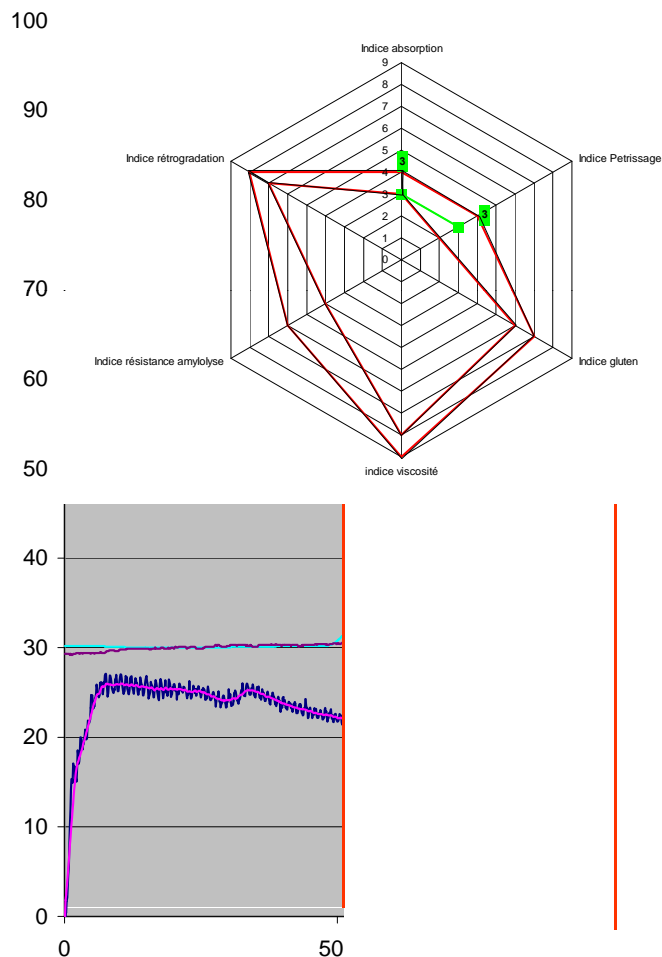
1st index :
Water absorption.

According to the flour
components (proteines,
starch, fibers...).
Influence on the dough
yield (benefit).

***Higher is the index
more your flour
absorbs water***



2 : run the test... the index step by step



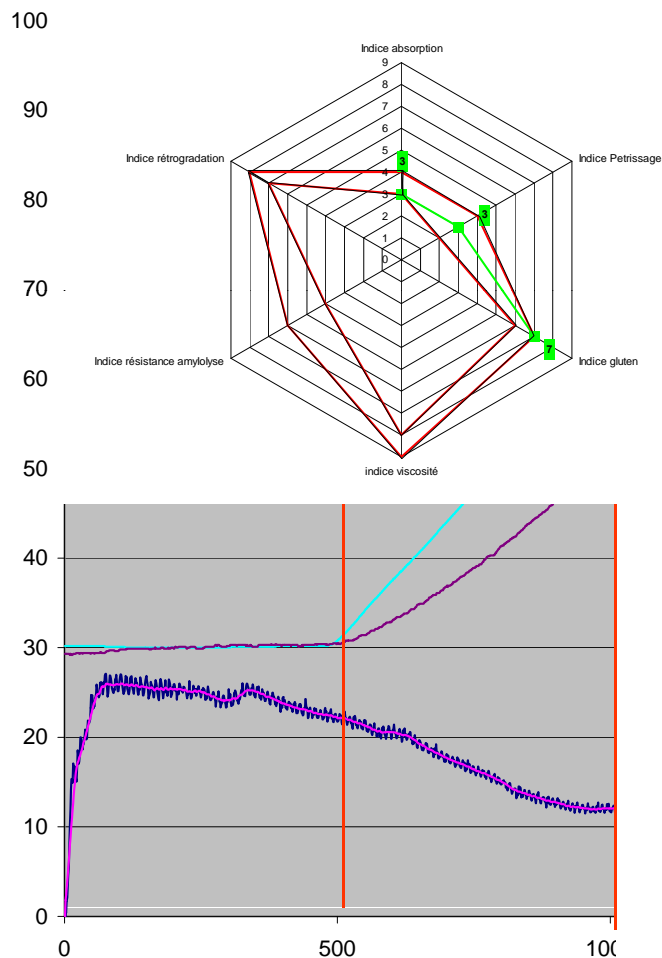
2nd index:
Mixing behaviour.

This index gives an information on the behaviour of the flour when kneading at 30°C. It manages the stability, DDT and weakening...

*The higher is the index
the more stable will be
the flour when
kneading.*



2 : run the test... the index step by step



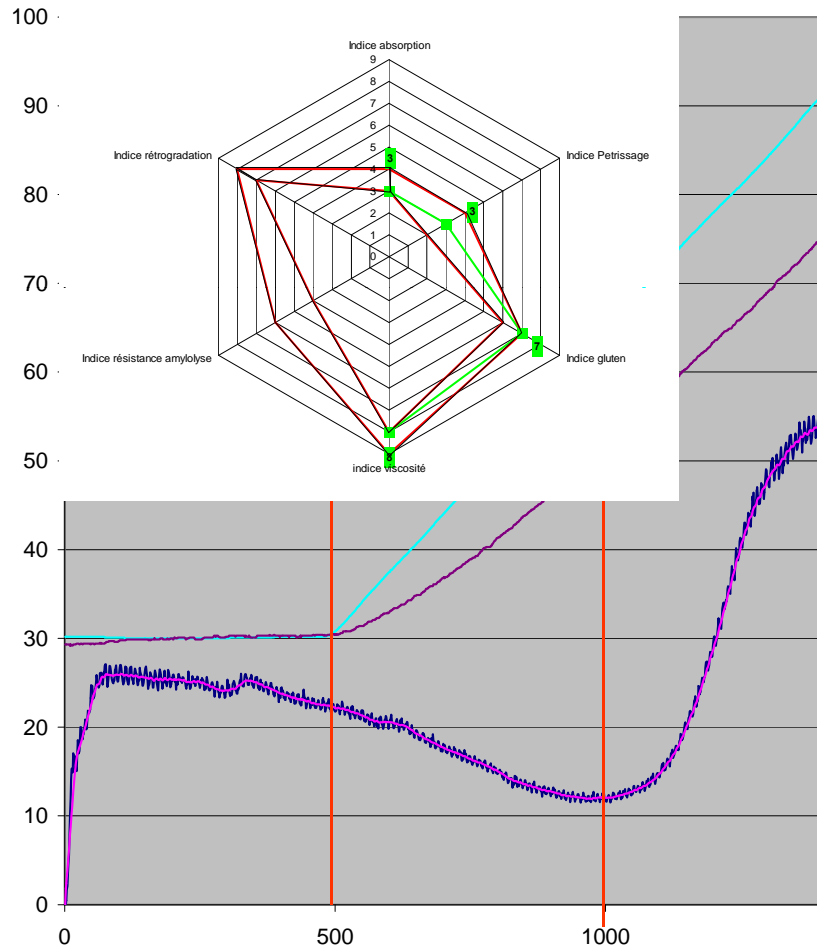
3rd index:
Gluten index.

This is for the behaviour
of the gluten when
heating the dough.

*The higher is the index
the more resistant to
constraint the gluten
will be.*



2 : run the test... the index step by step



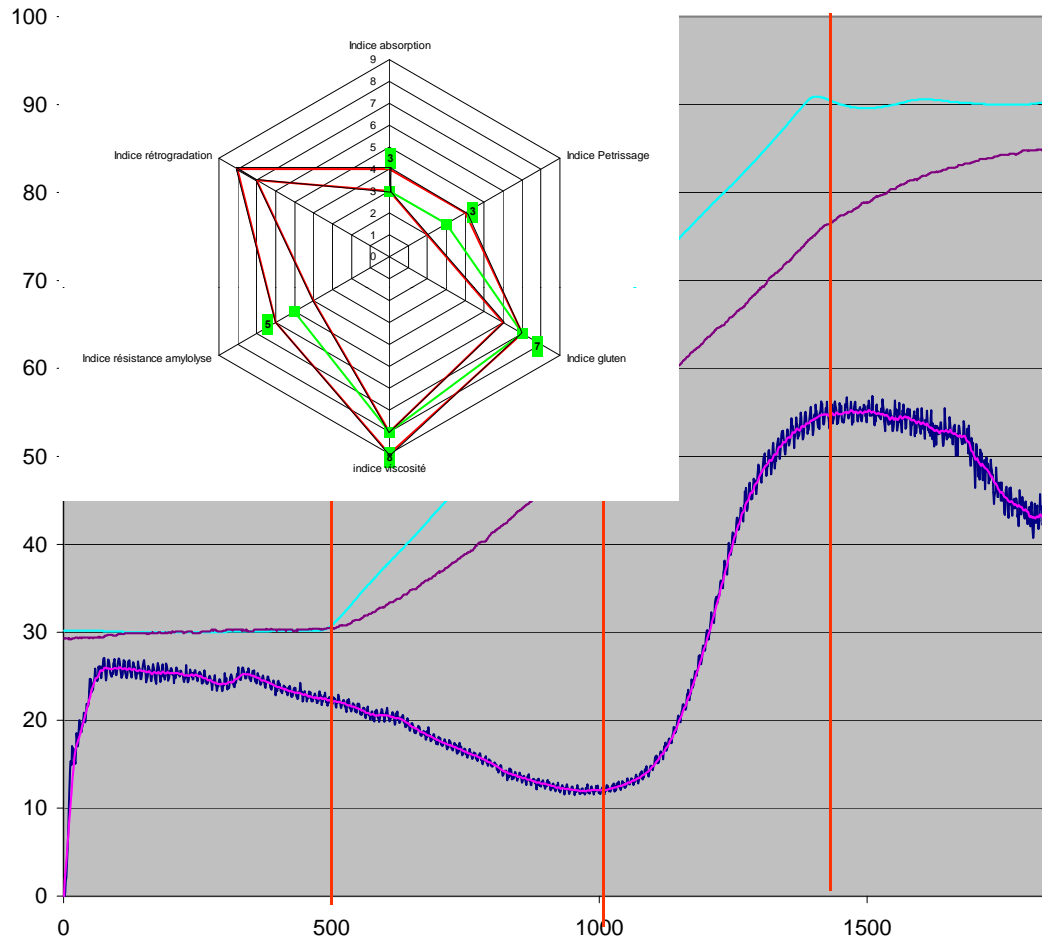
4th index:
The viscosity.

The increase of the viscosity during that phase relies on both the amylasic activity & the starch quality.

*The higher is the index
the more viscous the
dough facing heati will
be.*



2 : run the test... the index step by step



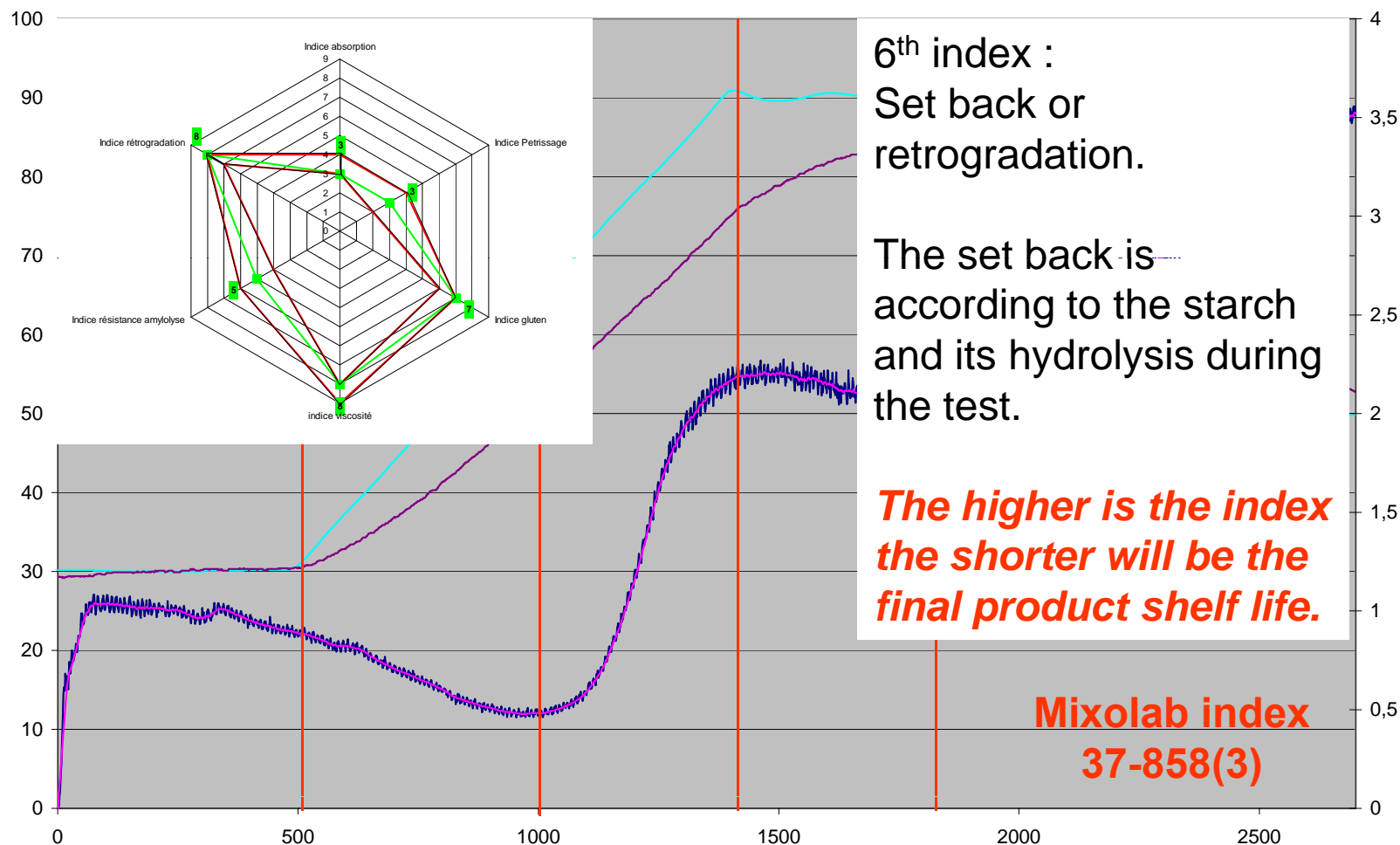
5th index:
Amylolysis resistance.

This is according to the
starch ability to
« resist » to the
amyolysis.

*The higher is the index
the lower is the
amylasic acitvity.*



2 : run the test... the index step by step





Is the profiler an added value for your lab ?

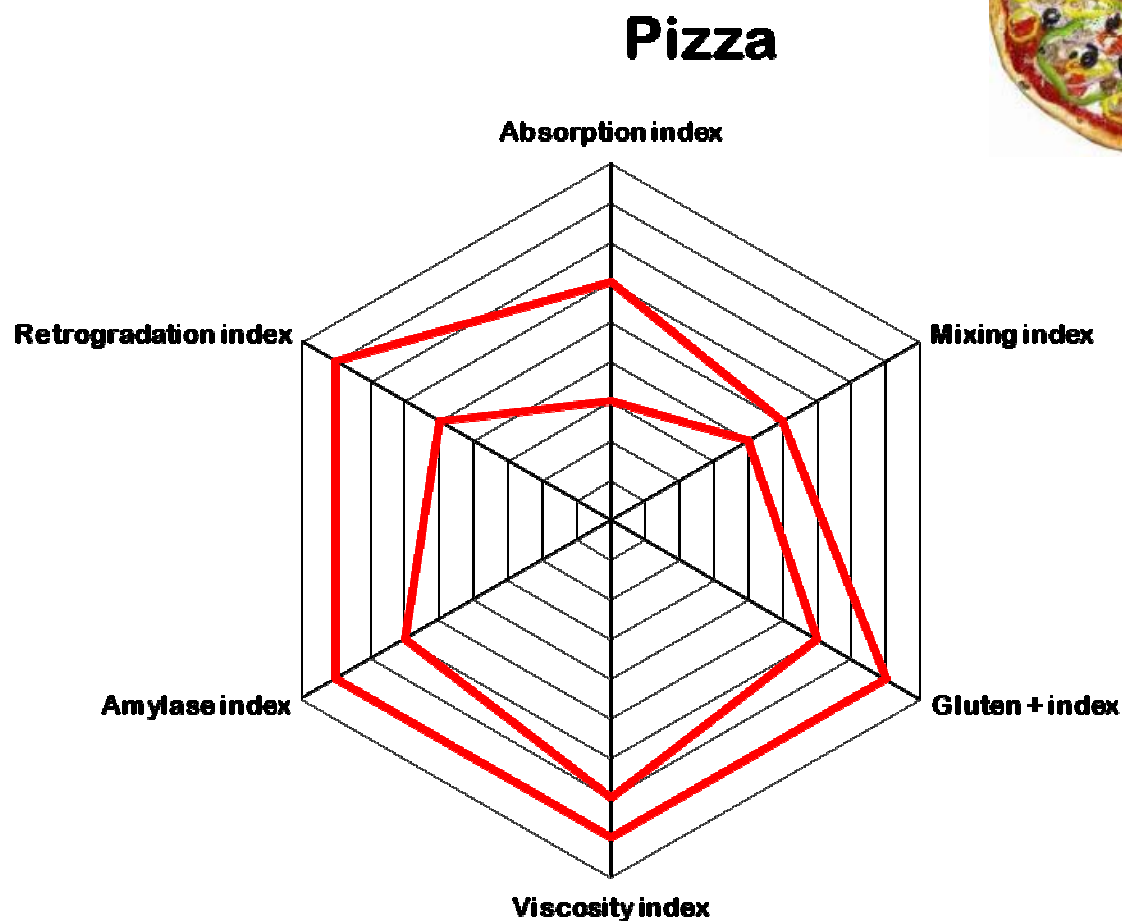
by creating the requested quality profile and checking if grain or flour perfectly matches it, you avoid problems on production line. It guarantees 100% consistency.

If not matching, the system suggests which points must be improved and even how!

Due to its versatility, comprehensive & accurate way of reversing the dough rheology for the functionalities of the flours, you improve and manage the quality of your production in perfect accordance to customer's needs.



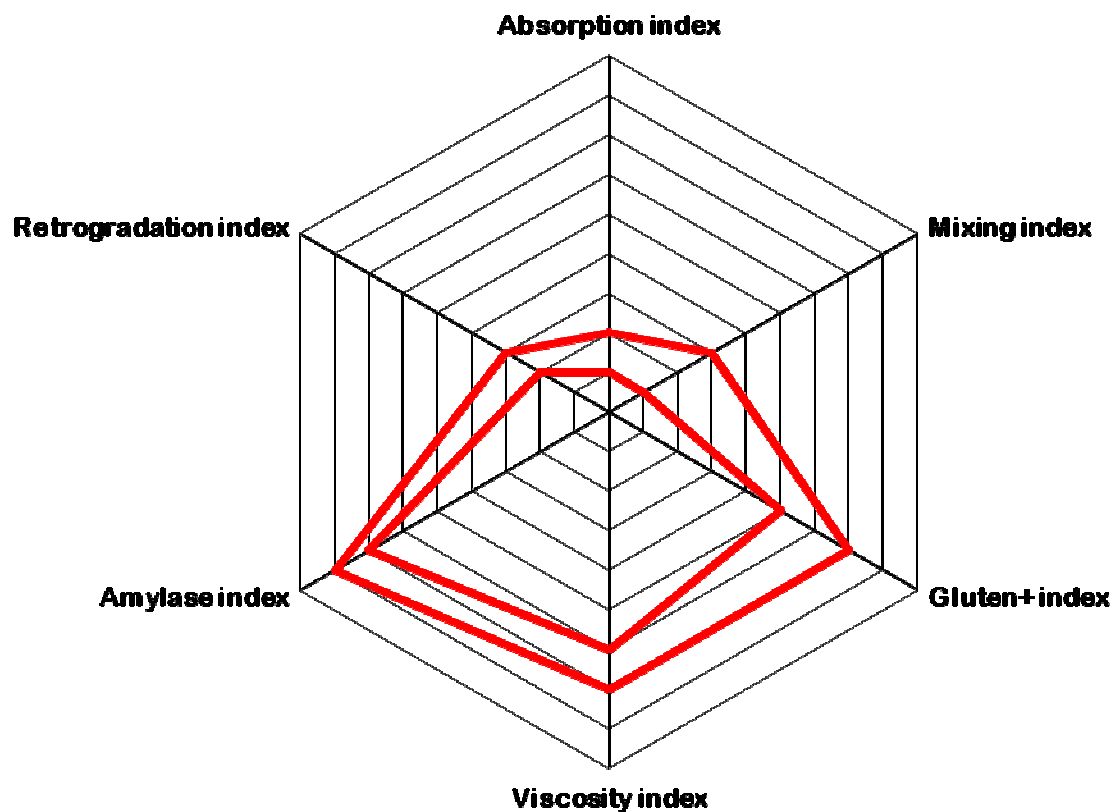
Typical profile





Typical profile

Croissants

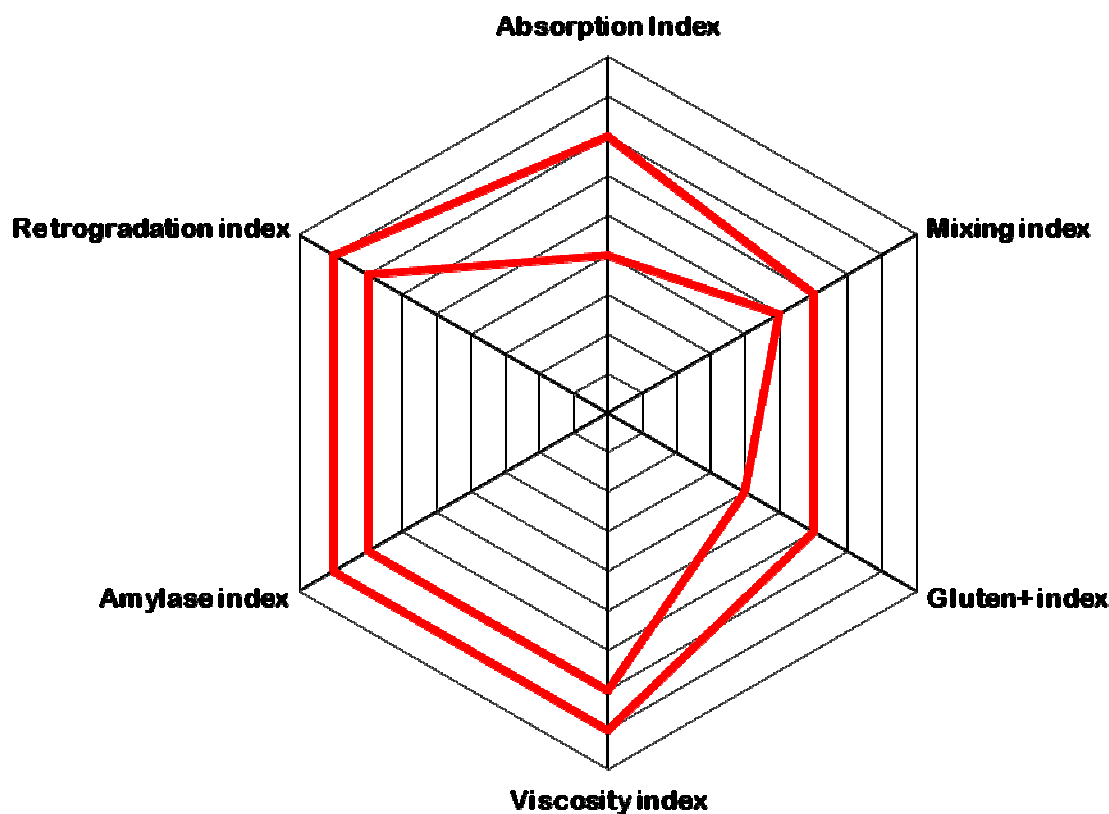


— Mini
- - Maxi



Typical profile

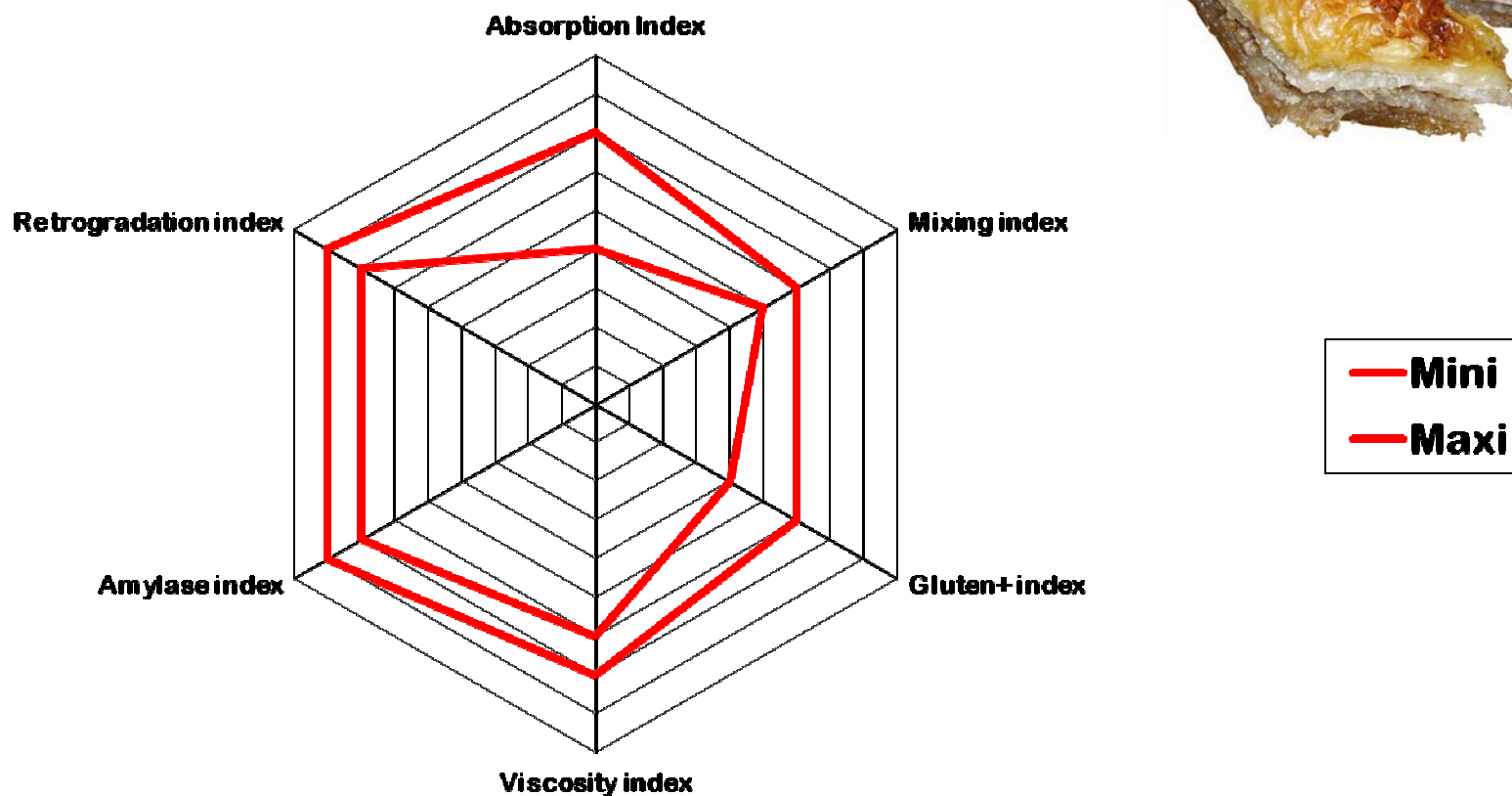
Baladi flat bread





Typical profile

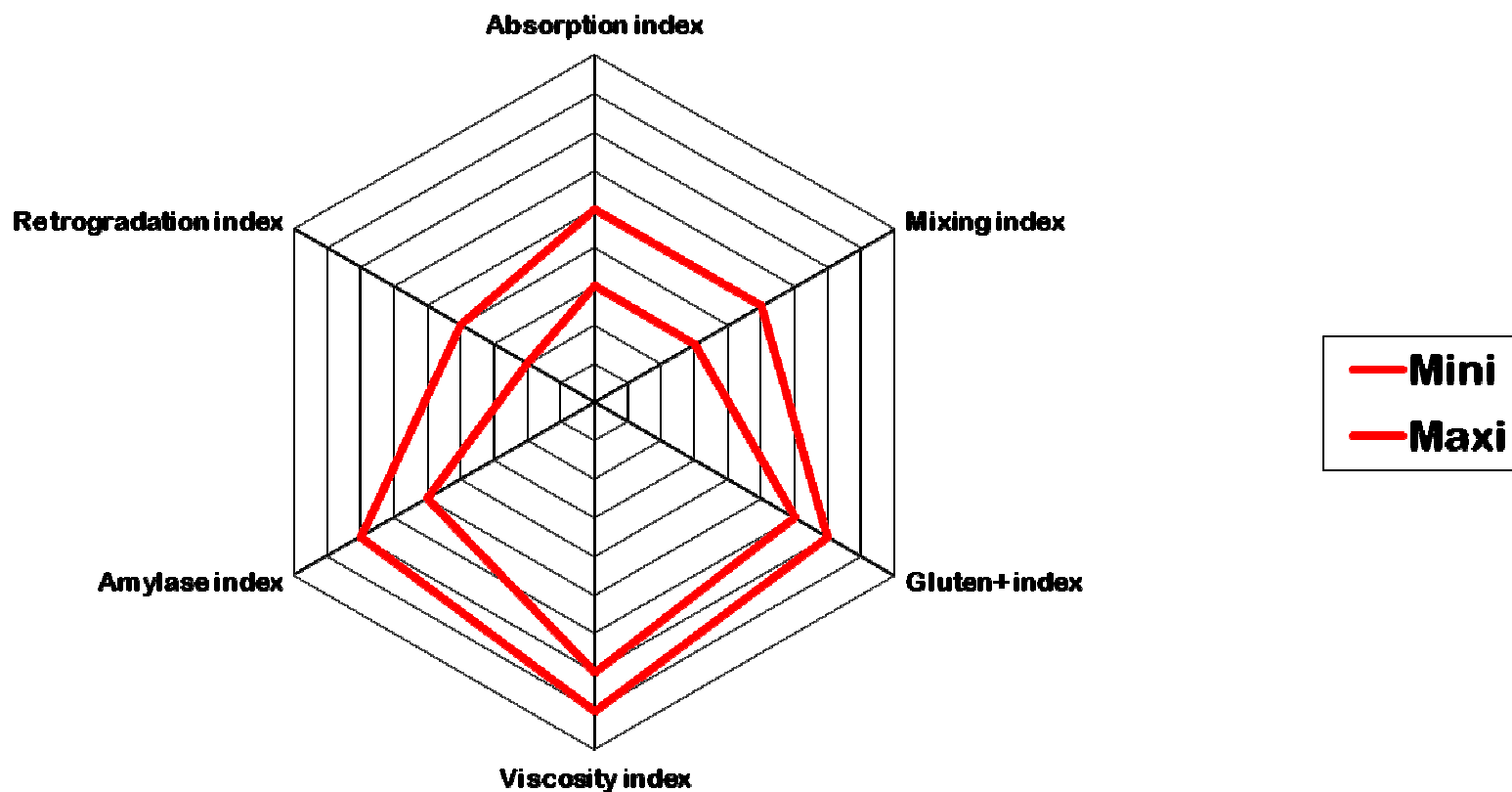
Turkish Baklava





Typical profile

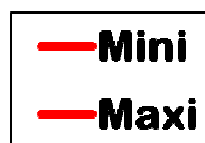
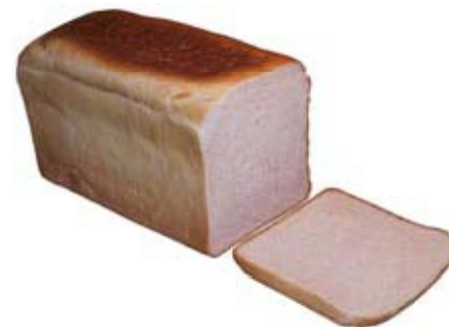
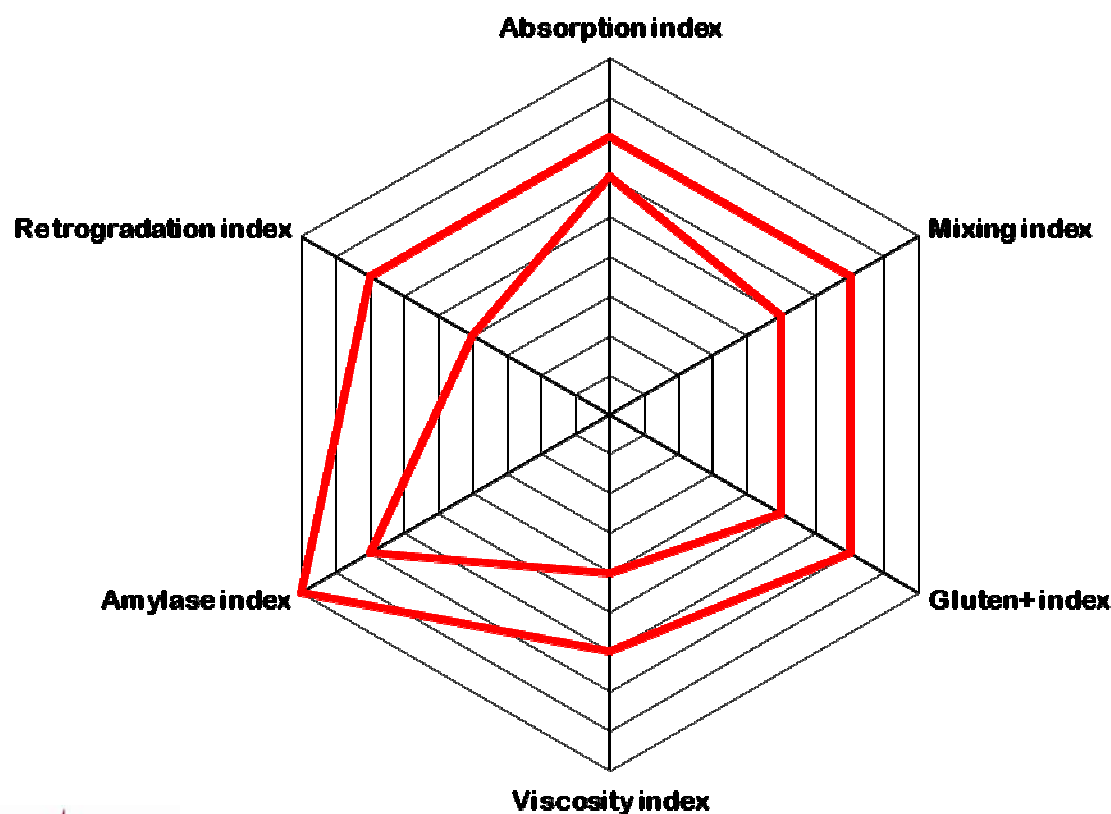
Baguette T55





Typical profile, according to the process

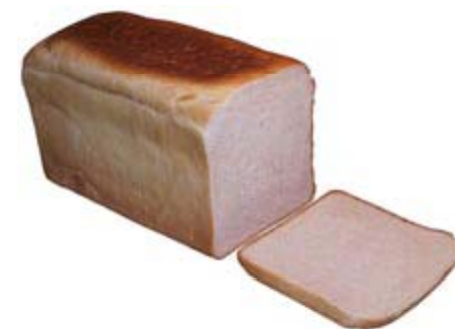
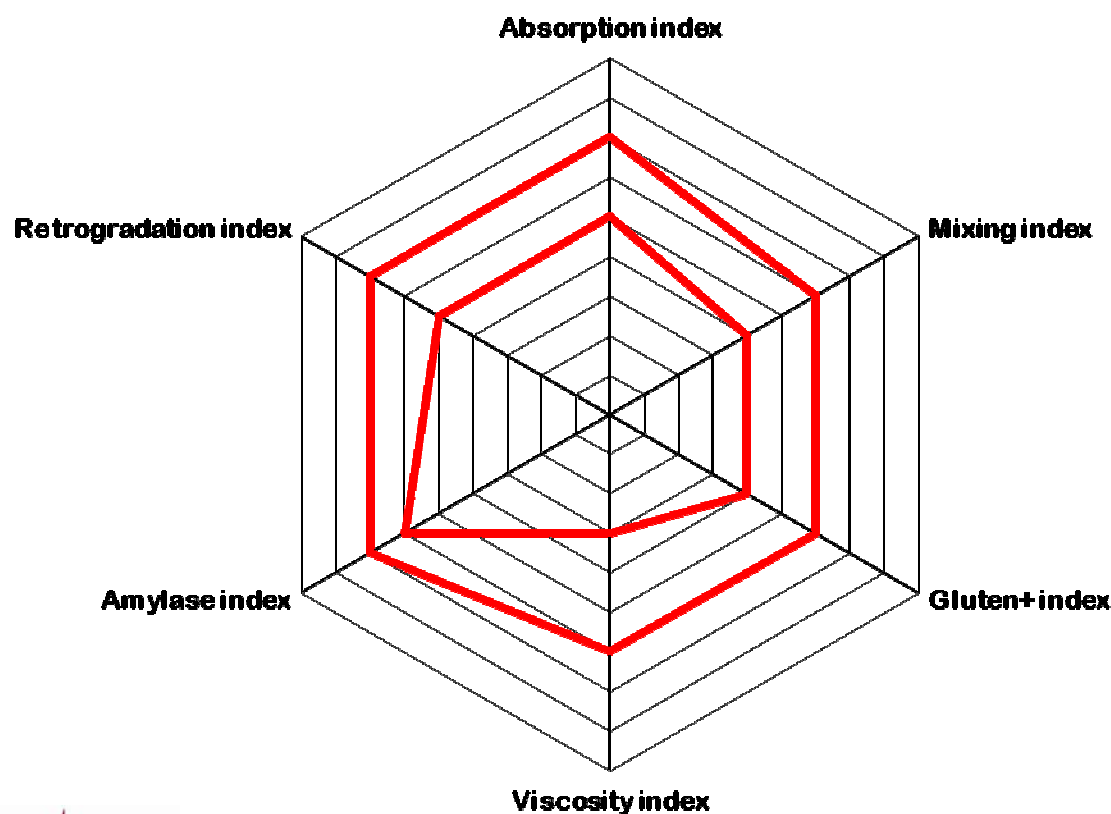
Pan bread Process 1





Typical profile, according to the process

Pan bread Process 2



— Mini
- - Maxi



Determination of suni bug damage



The suni bug or sunn pest (*Eurygaster* spp.) is a serious pest of wheat in Black Sea, Turkey, in eastern Europe, near and middle east and North Africa.

These insects attack developing wheat kernels and inject salivary secretions into grain to solubilize nutrients.



The salivary secretions contain proteases

The salivary proteases break down the gluten structure

- ☹ Poor rheological properties
- ☹ Gluten becomes soft and sticky
- ☹ Dough cannot be kneaded properly
- ☹ Elasticity of the dough is lost
- ☹ Baking quality deteriorates



METHODS...

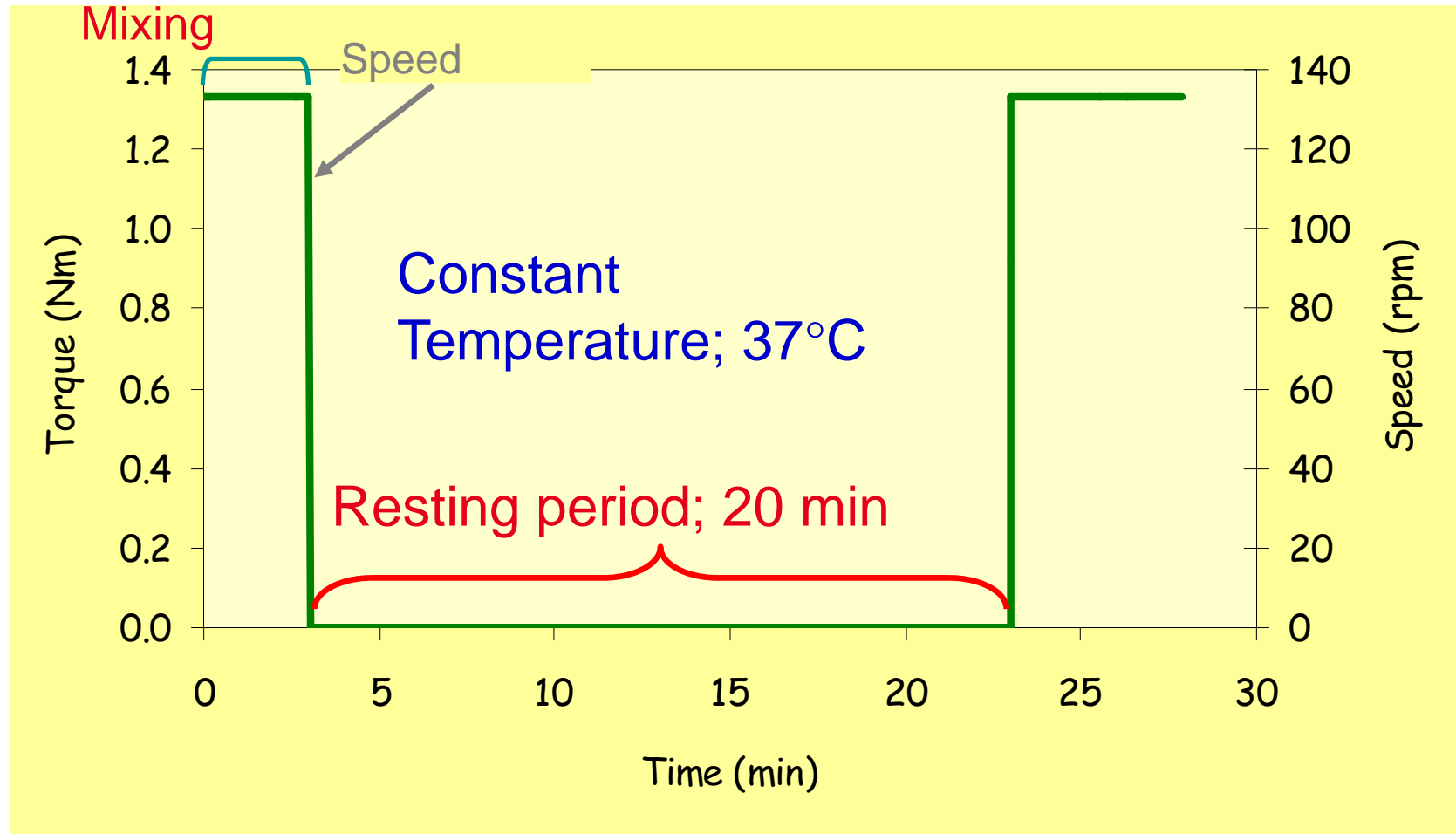
Mixolab analysis



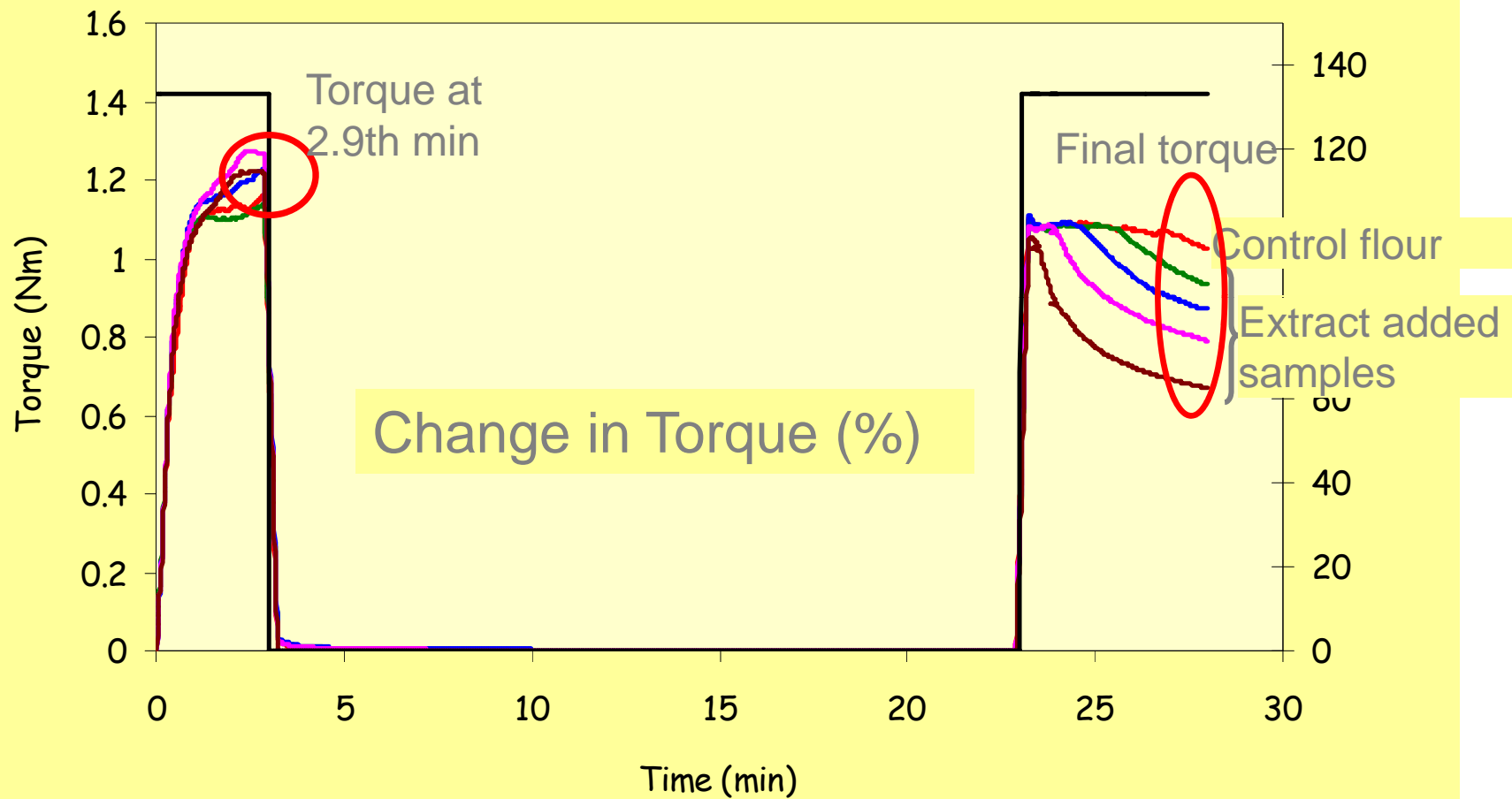
- 50 gr flour sample (%14 moisture basis) Hard wheat flour sample
- Enzyme extract added; 0.25%, 0.5%, 1%, 2% of enzyme extract (extracted from suni bug damaged flour)
- Mixing and pasting behaviour of the samples were analysed with the Mixolab



The Mixolab protocol developed for suni-bug damage determination



Determination of suni bug damage





Correlation coefficient between
the change in Torque and
the change in Sedimentation value (Zeleny
AACC Method No: 56-60)

$$r = 0.895$$



Thank you for your
attention...
Questions ?
See us Booth 11