

سید مرتضی سنادیزاده : مدیر عامل شرکت تولید آرد جوانه
S.M.Sanadizadeh: C.E.O. of Javaneh flour mill Co.

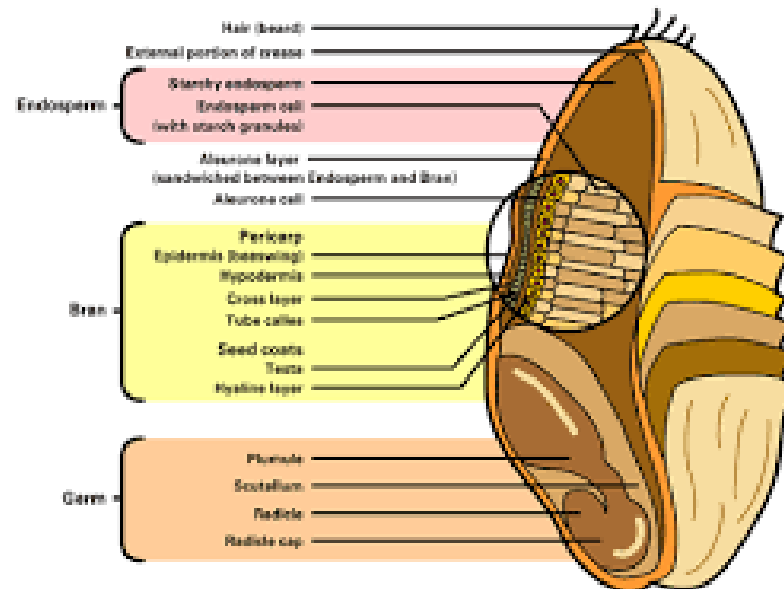
Health attainment with whole wheat flour, safety or hazard



iranGrain

Whole wheat flour

Type of flour contains all parts of wheat





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آرد کامل گندم Whole wheat flour :

Max. ash : 1.5% equal to 97% extraction rate (ISIRI No. 103)

note: 100 % wheat ash content: 1.8 – 2.0 %

Minimum protein content : 12% (ISIRI No. 103)

Note : Iranian wheat mean protein is less than 10%



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آرد کامل گندم Whole wheat flour :

Max. moisture of flour : 12.5% (ISIRI No. 103)

70% of flour granulation under 180 mic. sieve size (ISIRI No. 103)

Note : kind of fine flour

مشخصات ویژه تولید آرد کامل گندم : Whole wheat flour specifications

High content of minerals

Proper amount of vitamins (vit. B groups)

Proper amount of nutritional raw fiber

High enzyme amount and enzymatic activity



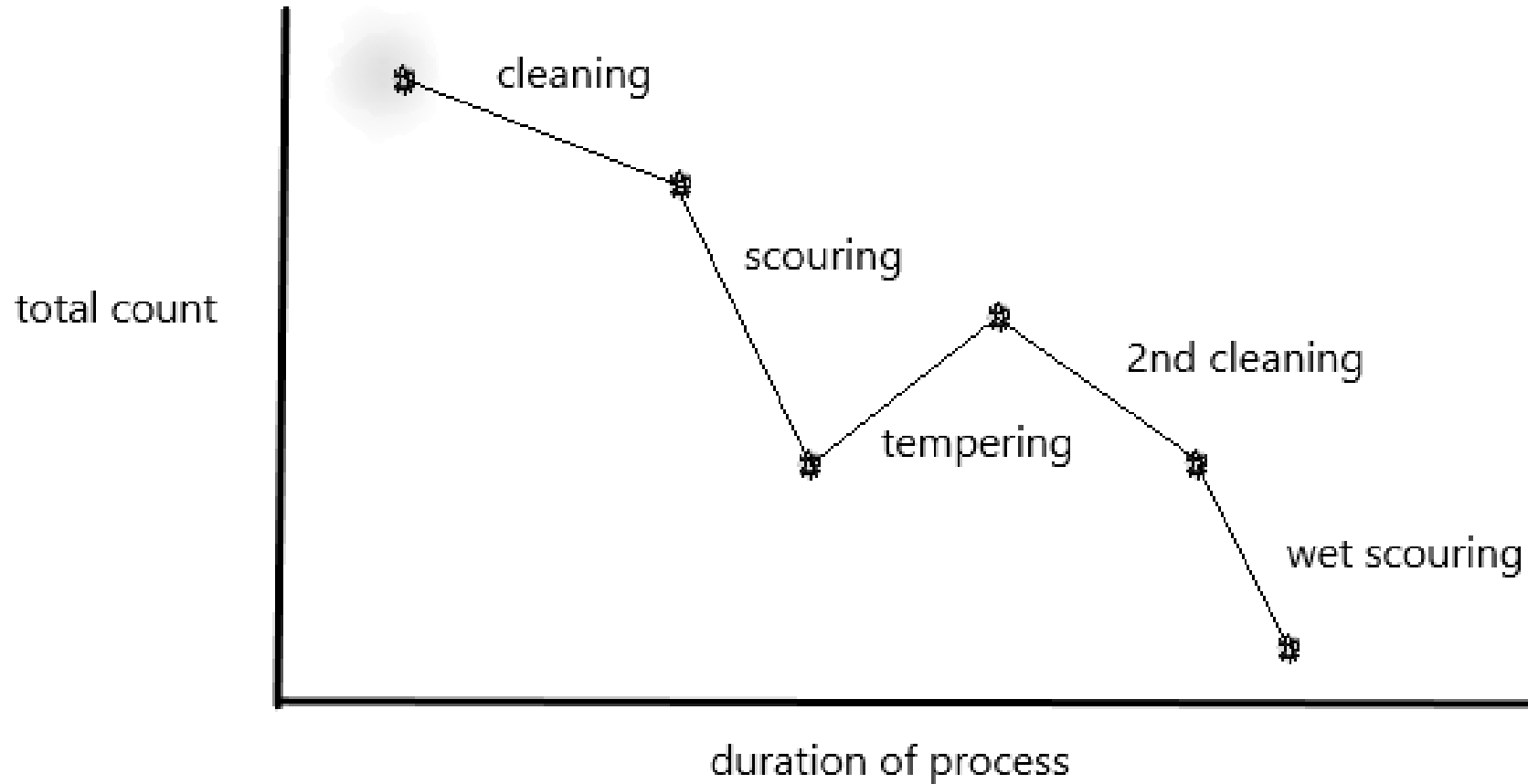
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whole wheat flour production technology

- 1 - complete section of cleaning and 2 parts of scouring machines
- 2 – sensitive and proper stages of tempering
- 3 – maneuverable and complete milling flowchart

Whole wheat flour production technology



Whole wheat flour production technology

Decontamination is a partial & stagewise process during the cleaning section

Falling of contamination amount after each scouring section is established

To achieve lowest amount of contamination, wet scouring process is necessary

Whole wheat flour production technology

: conditioning

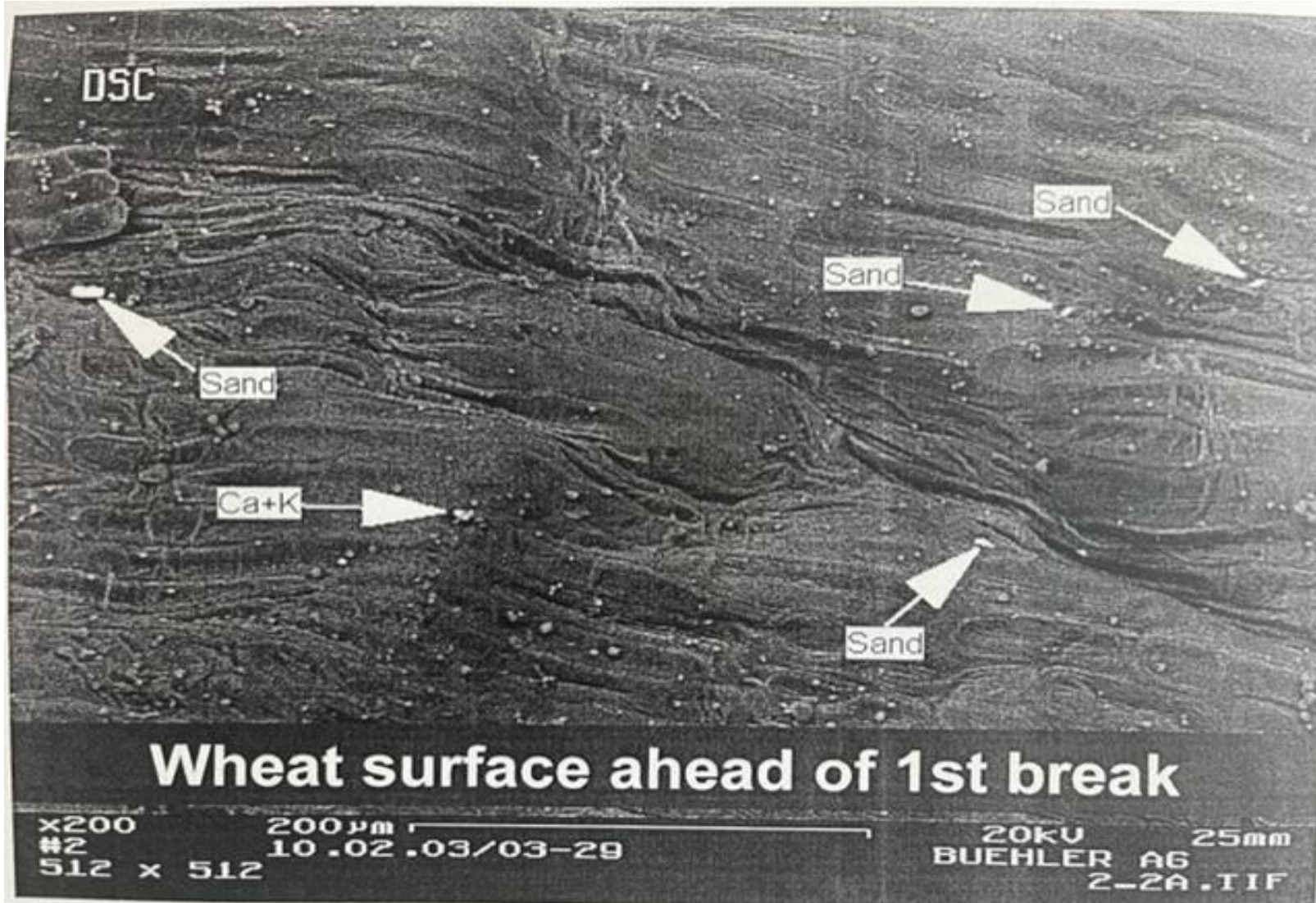
Wheat under 10% of humidity is extremely corrosive

Separating the outer layer of bran is only possible by tempered wheat

Starting of enzyme activities and boosting of physicochemical characteristics of flour is based on conditioning

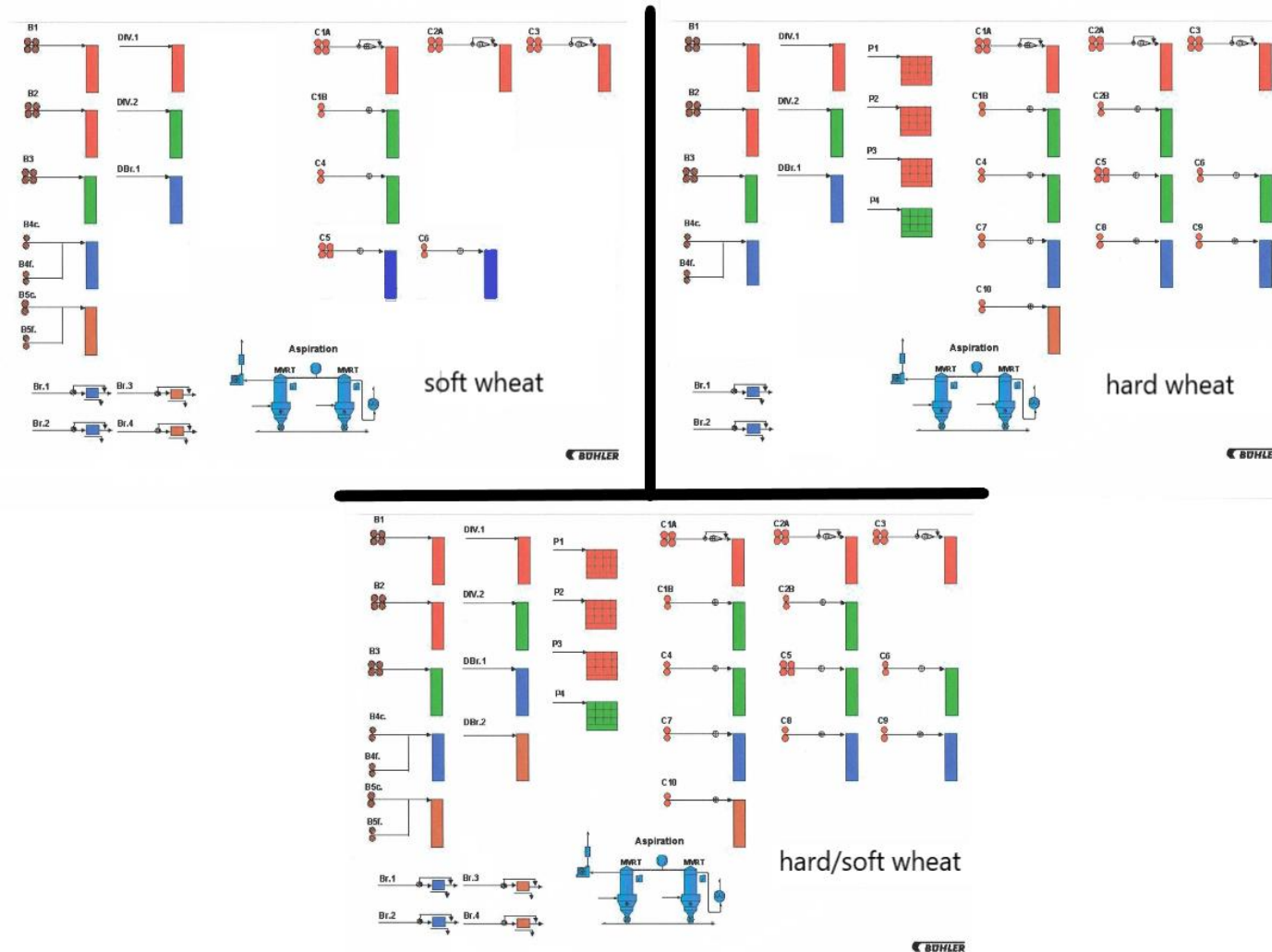
Gaining fine particles of flour is based on proper humid content in milling line

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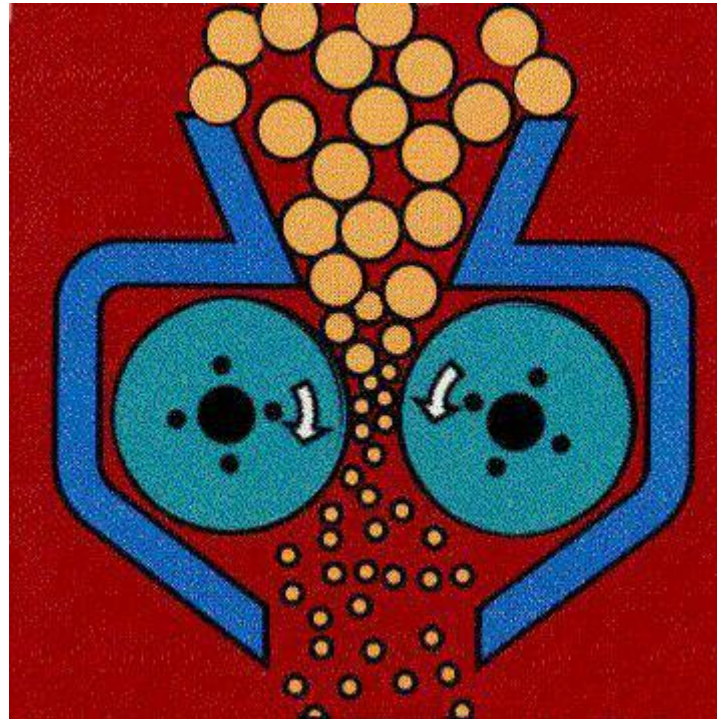
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Whole wheat flour production technology



Whole wheat flour production technology

Best method of milling for producing any types of flour is roller milling to avoid texture and compositions destruction



reason for preferring roller mill

Short time connection between rollers and material to avoid heat transfer and destruction

Maneuverable vs different types wheat and production alternatives

Availability for separating different particles and special process for each part

Lower starch damage, lower broken raw fiber, lower gluten destruction, granulation ability for proper and fine flour due to humid content and flowchart

disadvantages of other milling methods and impact process

A - Unable to wet process:

1- loosing wet scouring process and unable to decontamination

2 – unable to separate different particles of wheat and process each particle as required

3 – unable to reach proper granulation because of wheat hardness

4 – high contamination as a result of high corrosive material in process

disadvantages of other milling methods and impact process

B – impact based process:

- 1- impact all particles at the same time without establishing special process of each part
- 2 – broken fiber, damaged starch, broken amino acid molecules as gluten raw materials
- 3 – repetitive impact as a result of long durability in equipment
- 4 – heat rising and molecule destruction increasing

Breadmaking process and requirements with whole wheat flour

1 – long time fermentation (more than 90 min.) which removes all harmful combinations (phytate) and extract all useful combinations for using by human digestive system

Fermentation also plays a role as a natural inhibitor thanks to pH of the environment to avoid micro organisms activity and longer shelf life



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Breadmaking process with whole wheat flour

2 – hand kneading which makes better characteristic of soft fermented dough and better bread texture thanks to removing roller from the process

3 – sensitive storage of flour due to enzymatic activity and shorter storage time to prevent corruption.

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Thanks for your notice



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