

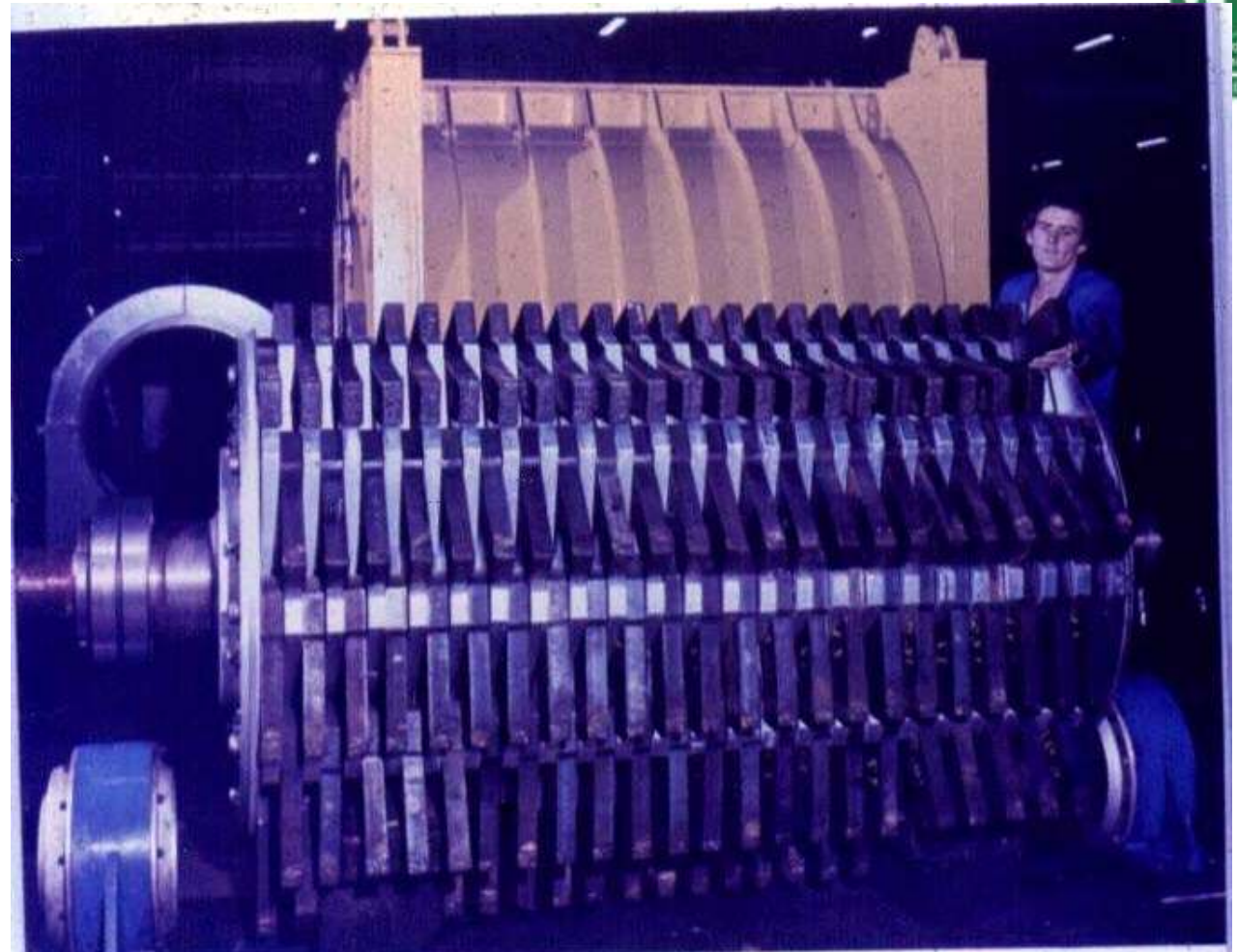


# Image analysis of sugar cane preparation

Industrial representative




# Shredder



# Shredded cane





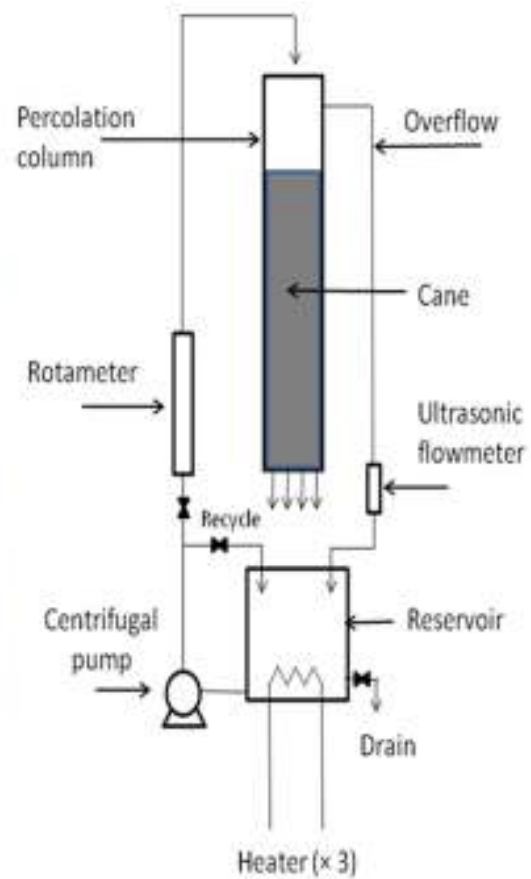


# Millability parameters

- Percolation rate
- Density
- Displacement Rate Index (DRI)



# Percolation rate



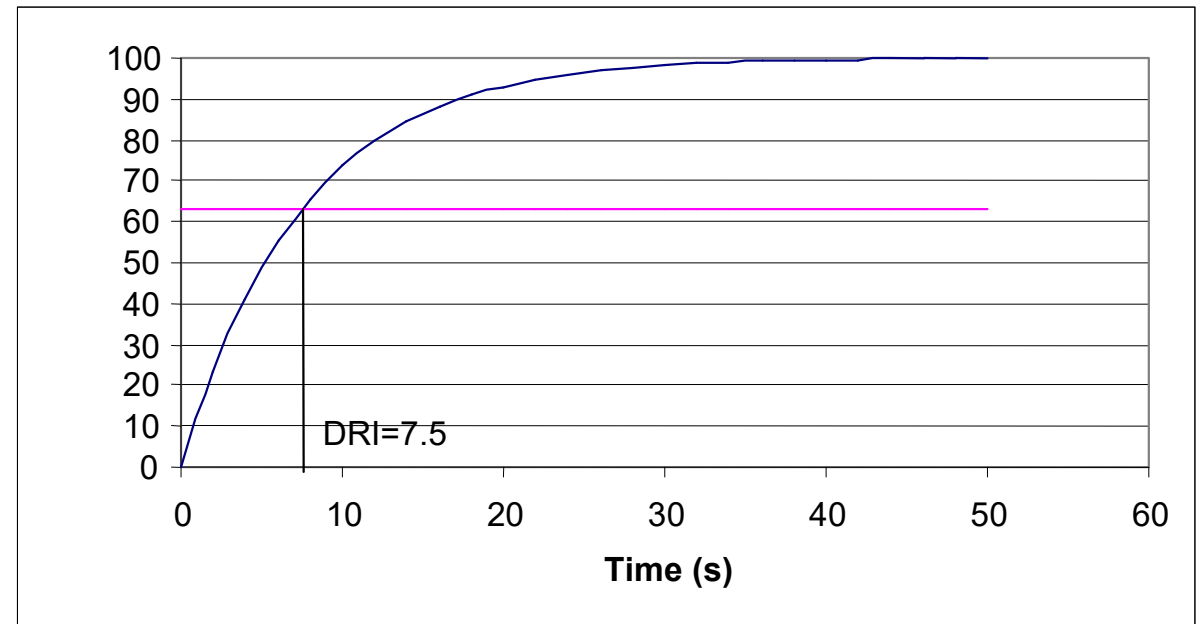
# Density



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# DRI



$$C(\tau) = C_{\infty}(1 - e^{-1})$$

$$= 0.63C_{\infty}$$



# The data set

## Photograph set 1

### Photographs (48)

- We had 4 varieties of cane
- Each with 4 levels brown leaf
- Three different photographs of each

### Measurement

- Percolation rate
- Density
- DRI



# The data set

## Photograph set 2

### Photographs (46)

- We had 5 varieties of cane (Some same variety but different growing conditions)
- Three different photographs of each

### Measurement

- Percolation rate
- Density

# The problem – a feasibility study

- Can difference be found in the images to correlate to the physical measurements?
- i.e. Is it worth:
  - Developing the photographic system to acquire the images in a real time system?
  - Acquiring the training set of data that would be necessary to implement a machine vision cane preparation analysis system?