**AfiLab™**

**Milk Analyzer**
Real Time Measuring of Milk Components

- Patented in Europe and pending in USA
- Project carried out in cooperation with Volcani Agricultural Academic Research Institute Israel
- Analysis of milk components

**AfiLab™ Concept:**
Automated coupling of the “lab” to each stall in real time.

Free flow Non-interfering measurement allows continuous real time acquisition of milk components during milking for the individual cow.

**Real time analysis of Milk Components**
- Fat
- Protein
- Lactose
- Blood
- Urea
- SCC non labeled (clean) detection of 4 levels:
  - I. Less than 200K
  - II. 200-400K
  - III. 400-800K
  - IV. More than 800

**Technology:**
Optical characteristics of light scattering off matter

**Basic Configuration**
ICAR Approved Milk Meter

**AfiLab™ Basic Configuration**
Full System

AfiLab™ Advantages

• Free flow
• Easy accessibility to data
• Applicable accuracy
• Continuously measures milk components during milking
• Provides daily milk analysis for animal health and performance
• Low maintenance
• Part of the regular cleaning system in the milking parlor
• Clean Measurement – No use of reagents needed
• Cost allows installation in every milking point

Real time acquisition of milk components during one cow milking

Demonstration Tour real time analysis of milk

RT Applications
Real Time Rejection of Bad Milk

RT Applications
Real time separation of milk according to its ingredient values

Good Quality Milk

Blood, SCC

Low Fat %

High Prot %
Fat - field test results of 40 cows

Protein - field test results of 40 cows

Somatic cell count indication:
Assignment to four level groups

AfLab™ works continuously compared to periodic sampling

Multiple Sampling VS. Single Periodic Sampling
Cow 545 from Tzipory Farm
lab results over 20 consecutive days

Fat concentration of individual cow over time –
comparing lab results to AfLab™
Dynamics of SCC – Lab Results

Dynamics of protein fluctuations in time using AfFarm™ software

Dynamics of fat and yield fluctuations in time using AfFarm™ software

Derived Applications
1. Production economics – production and investment (fcm, ecm)
2. Equations for predicting dry matter intake of individual lactating cow
3. NEB – Fat/Protein ratio
4. SARA – ≥10% of a group/herd less than 2.5% Fat
5. Nutrition-Reproduction Interactions
6. Milking management and Udder health - Components and flow rate changes as an indication to mastitis (changes in Scc, lactose and conductivity)

To Conclude:
There are two significant milestones in the evolution of automated dairy data recording
- Electronic Milk Meter
- Activity Meter with Electronic ID

The AfiLab™ is the third

Thank you for your attention