

Distr.  
LIMITED  
E/ESCWA/SDPD/2004/WG.1/27  
12 March 2004  
ORIGINAL: ENGLISH

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**Economic and Social Commission for Western Asia**

Forum on Capacity Building through Technology  
Transfer and Networking  
Beirut, 11-12 March 2004

**NOVEL TRENDS, POTENTIAL APPLICATION AND TRANSFER  
MODALITIES OF NEW TECHNOLOGIES  
IN FOOD PROCESSING**

By

Luigi Palmieri

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# NOVEL TRENDS, POTENTIAL APPLICATION AND TRANSFER MODALITIES OF NEW TECHNOLOGIES IN FOOD PROCESSING

by

Luigi Palmieri

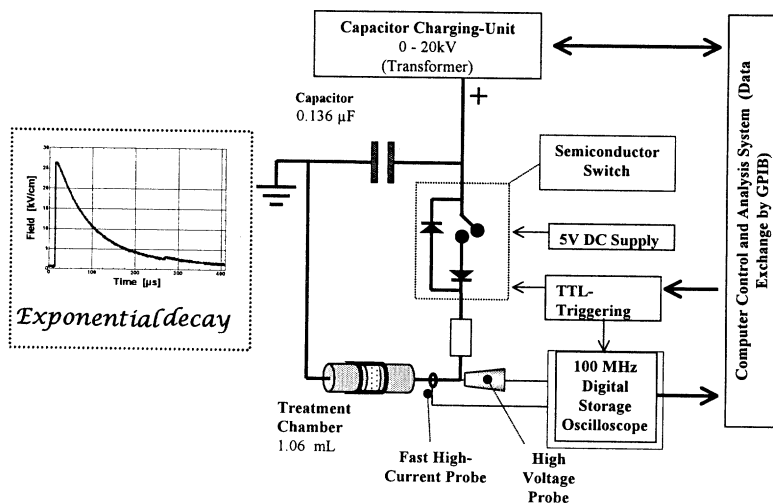
Experimental Station for the Food Preserving Industry  
Angri section (Italy)

Forum on Capacity Building Through Technology Transfer  
and Networking

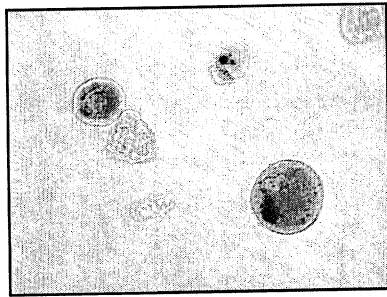
11 – 13<sup>th</sup> March 2004

United Nations House  
Beirut, Lebanon

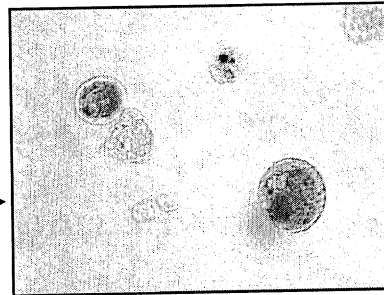
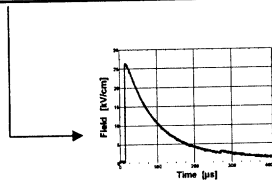
## PILOT PEF EQUIPMENT



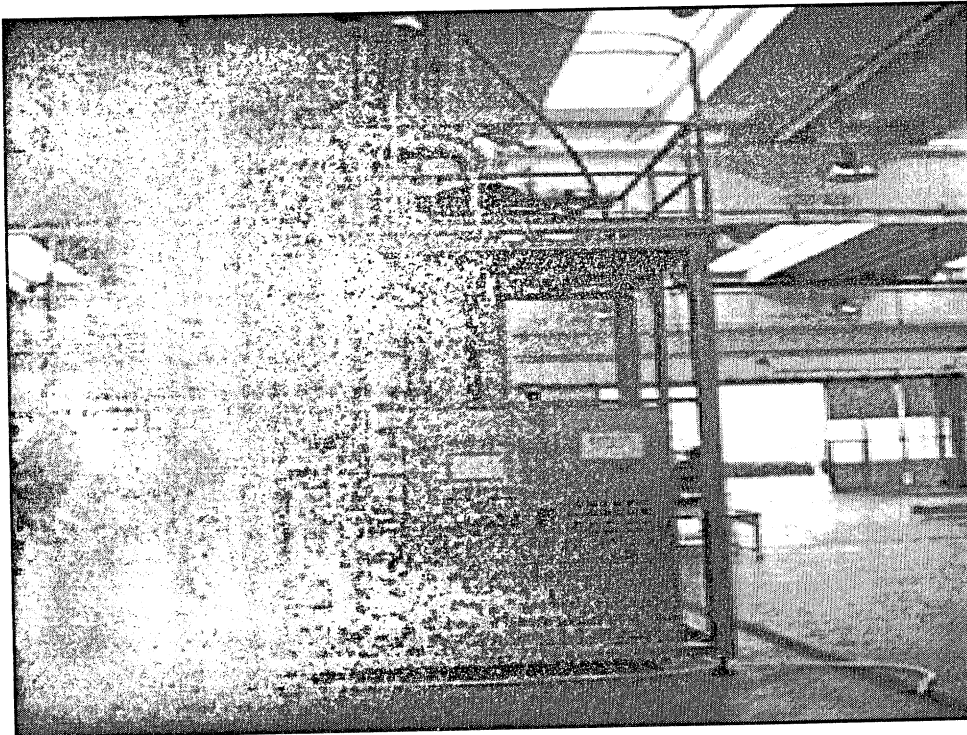
Untreated and electric field treated cells of *S. cerevisiae*



Before the PEF treatment

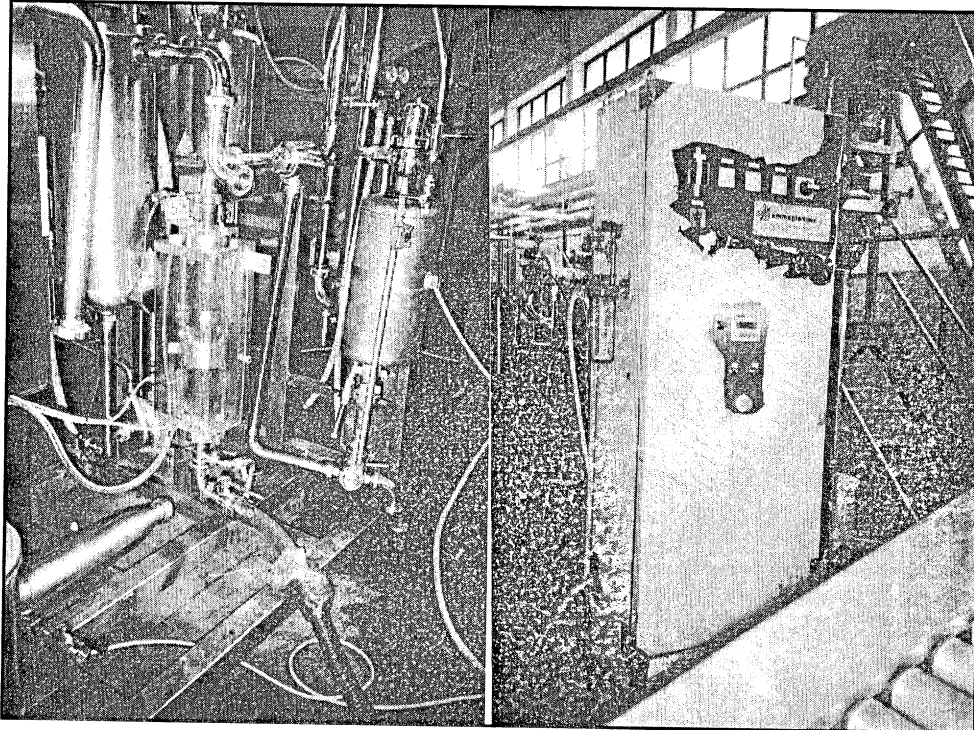


After the PEF treatment



## Advantages and disadvantages

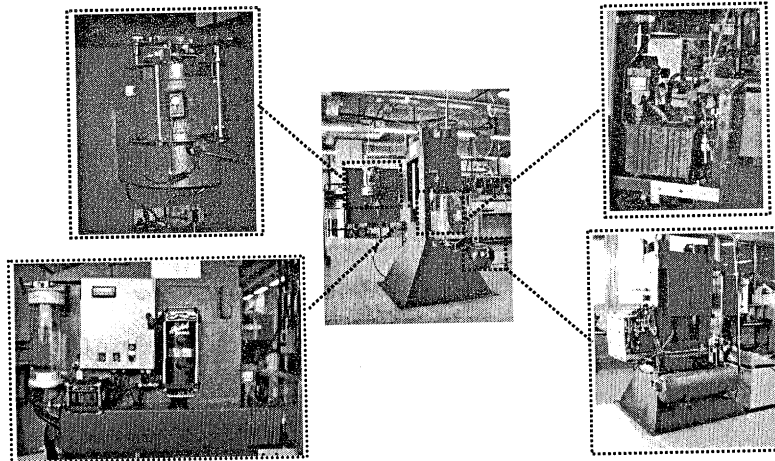
- 1) High reduction of steam and fuel;
- 2) Reduction of water
- 3) Low environment impact
- 4) Easy control
- 1) High investment and maintenance cost
- 2) High specific consumption
- 3) Low availability
- 4) Not suitable for milk powder

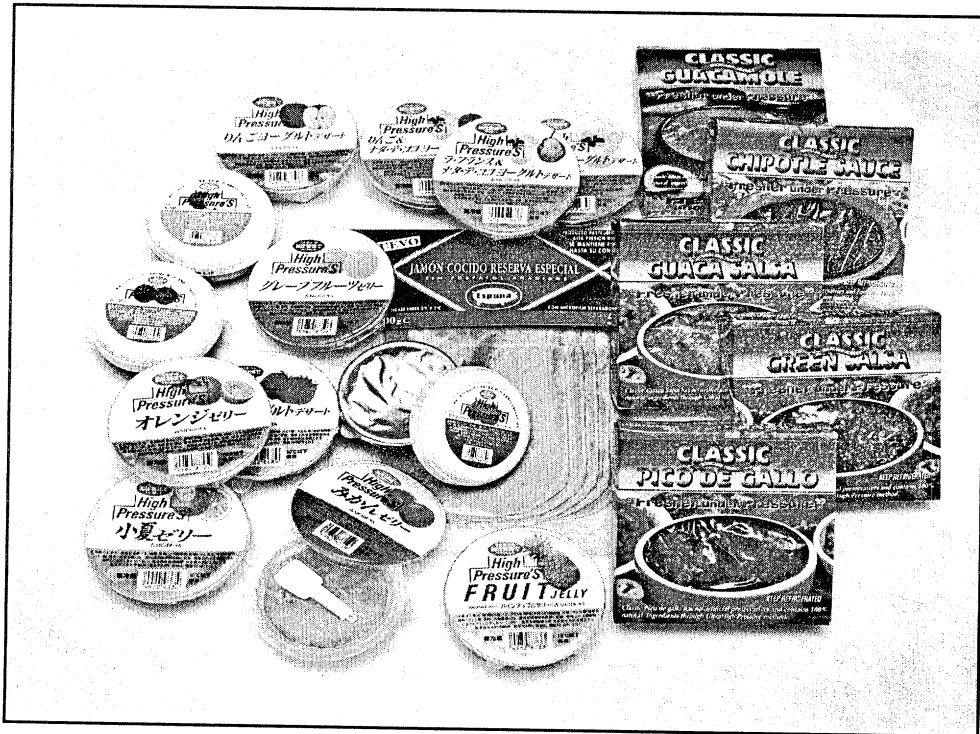
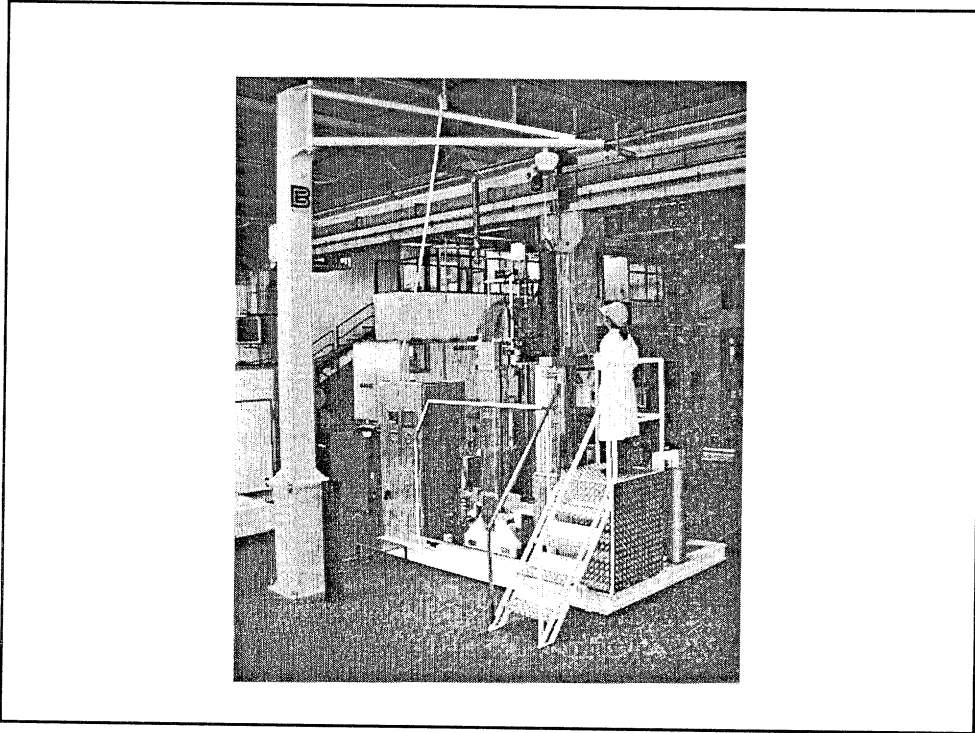


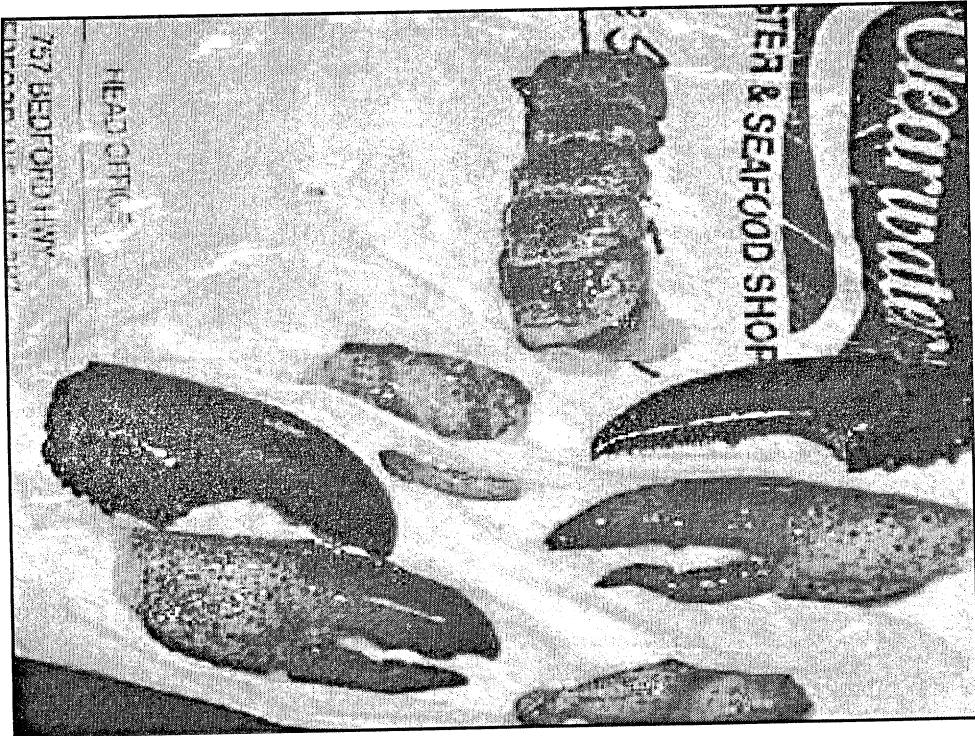
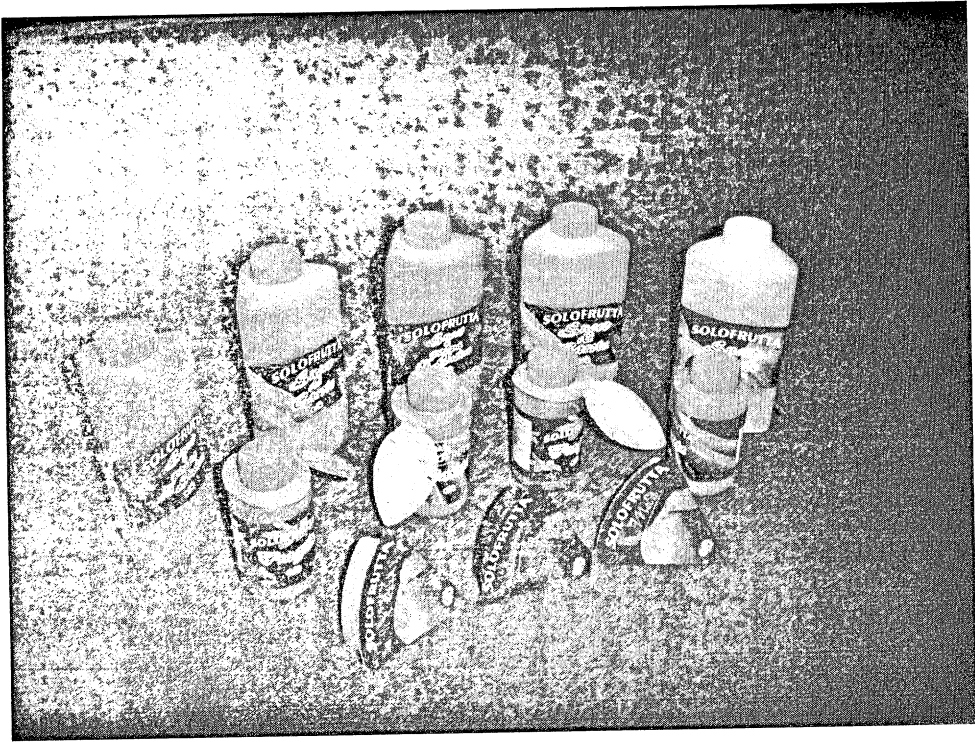
## ANALYTICAL DATA

Sample	Colour a/b	PME g/kg	IMF mg/kg	Lycopene mg/kg	Bostwick (cm/30")
Heat treated	0.6	0.0	0.0	36-206	
Heat treated 100°C	0.6	0.0	0.0	0.0-3.0	14-25
Heat treated 100°C 10 min	0.6	0.0	absent	0.0	13.5
Heat treated 100°C 30 min	0.6	0.0	0.0-2.9	0.0	12.5-16.0
Chopped 100°C	0.6	absent	absent	0.0	n.d.

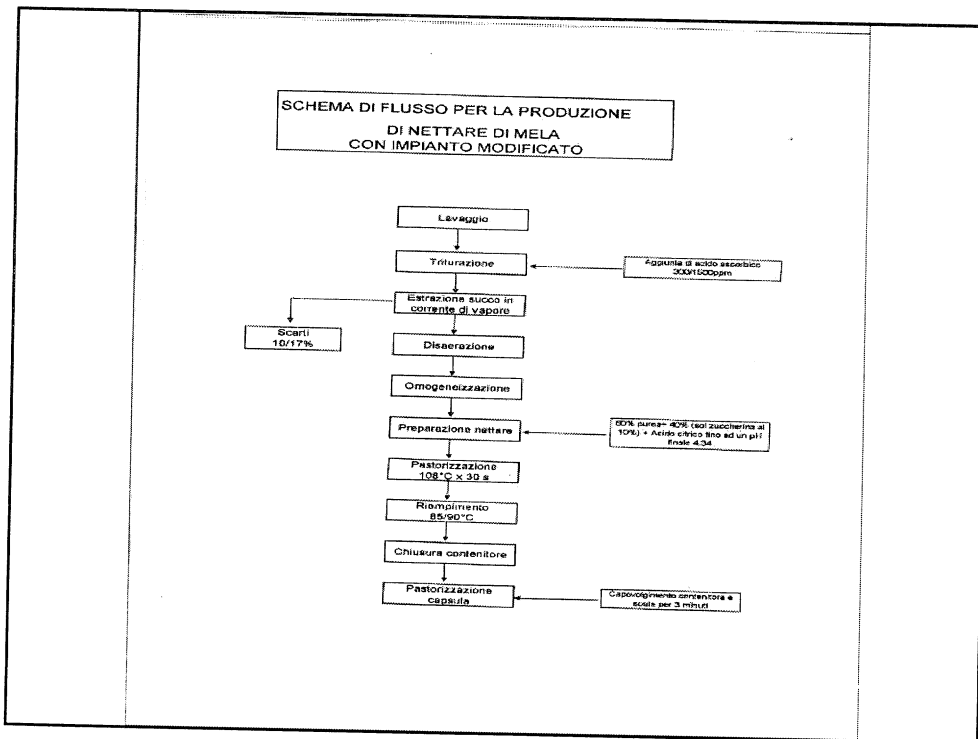
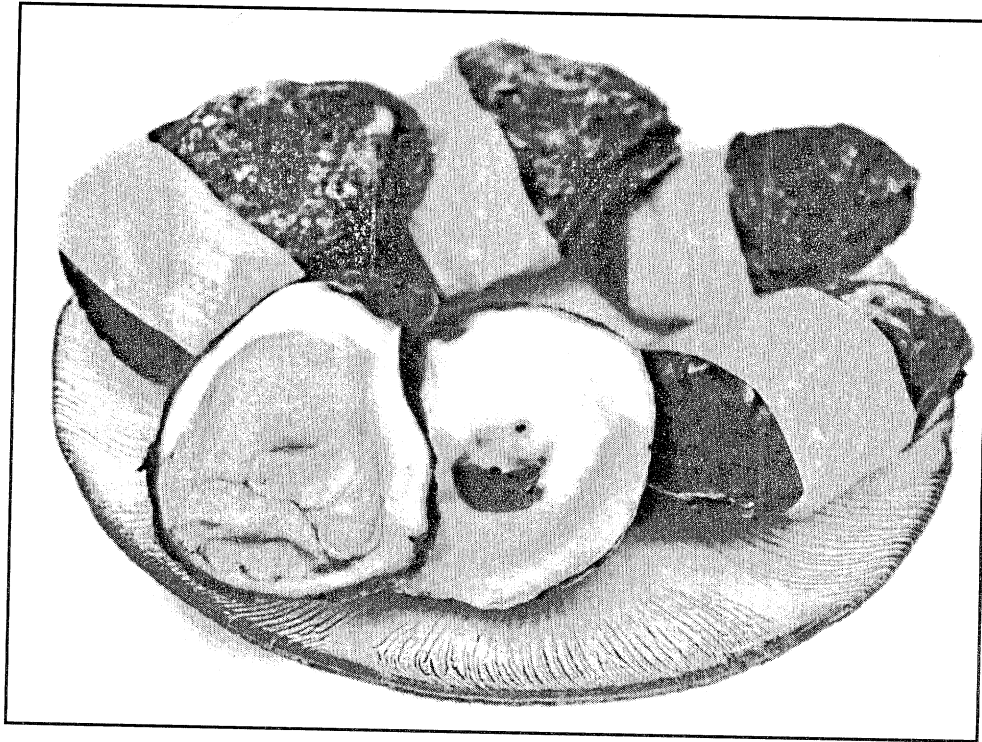
## HIGH PRESSURE PILOT PLANT

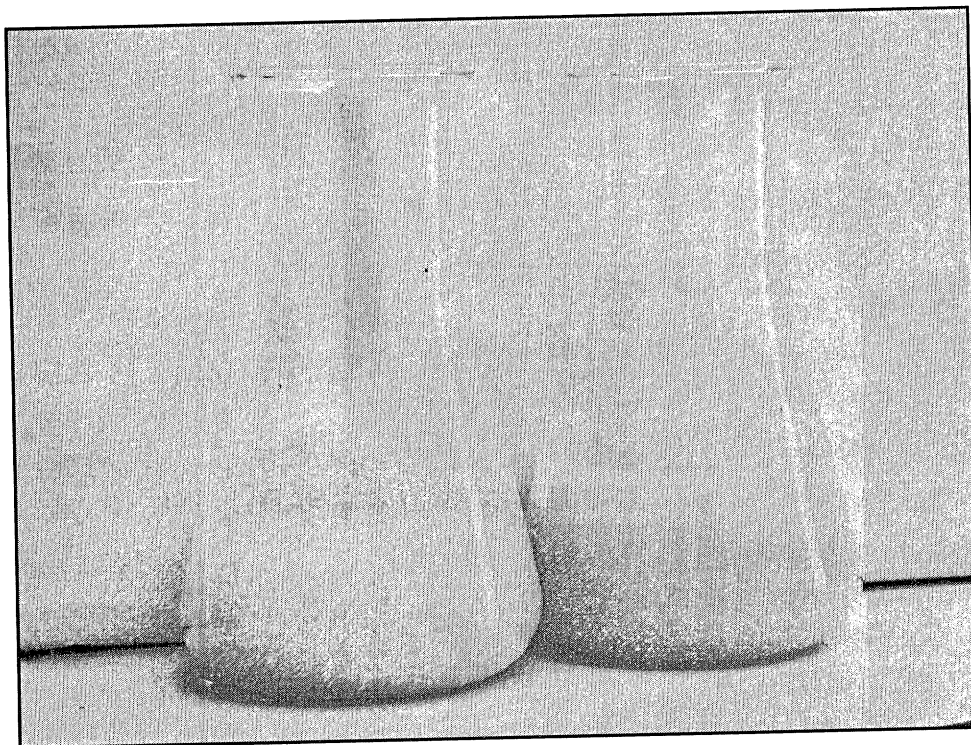








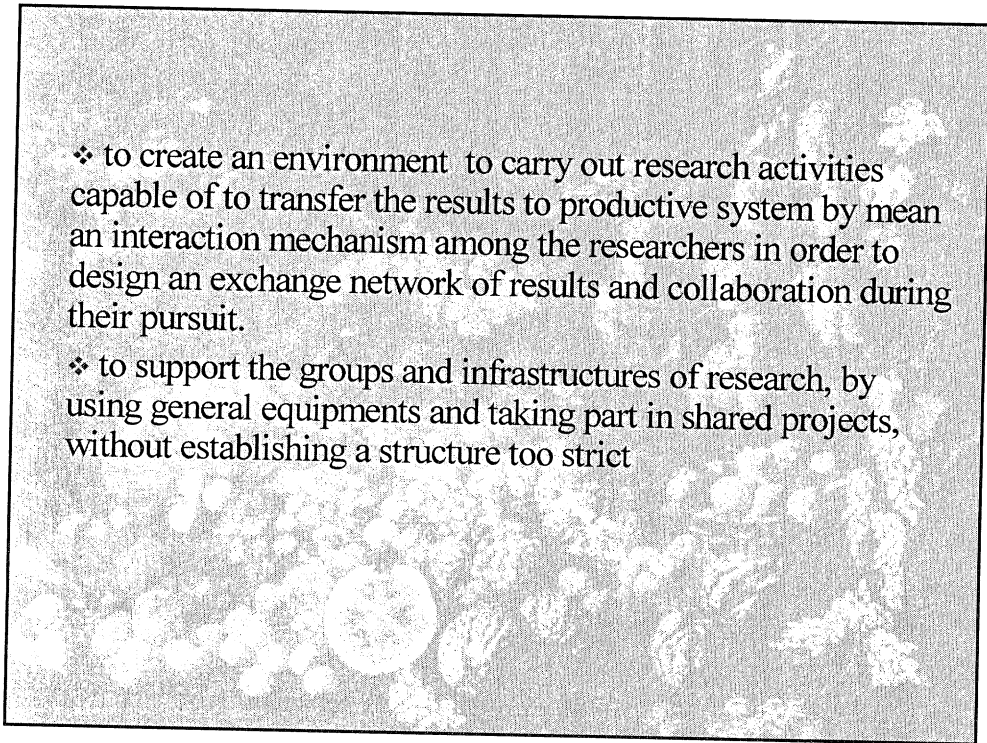




The duty of the so called “Centre of Competency on Agro industrial productions” is the pulling down of the technological, economic and mental difficulty that do not allow the entry of Small and Medium Enterprises to scientific research and technological innovation.

Specific targets:

- ❖ to determine scientific expertises of the REGION actors relating the object and classify them according the disciplinary affinities and possibility to create new synergies.



❖ to create an environment to carry out research activities capable of to transfer the results to productive system by mean an interaction mechanism among the researchers in order to design an exchange network of results and collaboration during their pursuit.

❖ to support the groups and infrastructures of research, by using general equipments and taking part in shared projects, without establishing a structure too strict



❖ to carry out a partnership between the Centre, public institutions and enterprises.

❖ to plan an efficient mechanism in order to transfer the produced innovation to the enterprises according a technological consulting to existing firms and a supporting to establish new enterprises knowledge-based

