Weather forecasts for the agrofood market

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What’s AgroMet?

AgroMet is a team composed by five young researchers which got SPINNER 2013 grant funded by the Emilia-Romagna region to high innovation and technology enterprises.

AgroMet provides expert advices and tools to assess how much climate influences the agrofood companies business.

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Critical factors on agrofood market

Marketing of horticultural crops is complex especially because of:

- perishability;
- seasonality;
- bulkiness.
Perishability

- Highly perishable fruits and vegetables: apricots, peaches, berries, ... . It is compulsory to sell them after few days they are picked;
- Lowly perishable fruits and vegetables: bananas, apples, orange, potatoes ... . They maintain their organoleptic properties along weeks or month if well stored;
- Cereals: long time storage.

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Seasonality

Italian trend of fruit consumption

Ahmedabad Naroda Fruit Market (India)
V. Gandhi and N.V. Namboodiri, 2006.
Fruit and Vegetable Marketing in India.

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Bulkiness

- Apple: around 10 bilions kg (EU 27)
- Potato: around 50 bilions kg (EU 27)
- Orange: around 8 bilions kg (EU 27)
- Other fruits: around 100 bilions kg (EU 27)

Yearly European production (from Eurostat)
Weather on the agro-food chain:

- **Producers:**
  - Weather plays a key role to establish the crop yields.
  - Through weather forecast and crop modeling one can assess in advance yield and quality of the final product.

- **Sellers:**
  - Fruit demand strongly depends on weather conditions.
  - Through weather forecast we can improve the efficiency of wares management and avoid the massive wastage and deterioration in quality.

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Weather forecast for agrofood

- **Seasonal weather forecasts:**
  - For department stores to establish a market strategy for the next season for lowly and highly perishable fruits.

- **Weekly weather forecasts:**
  - To help producers in crop management, to forecast crop yield and day of harvest;
  - To assess the market trend of highly perishable fruits (stone fruits, fresh berries, ...) and vegetables. Their price varies once per week.
Our idea
Consumer demand forecast for highly perishable fruit-based on weather conditions

Weather forecast

Consumption index

Consumer demand forecast
Highly perishable fruit

Consumption index

Consumer demand forecast
Lowly perishable fruit

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The AgroMet team

- **Giulia Villani**: PhD in Agronomy. Post-doc at ARPA-ER since 2008.
- **Antonio Volta**: PhD in Physics. Post-doc at ARPA-ER since 2010.
- **Cesare Govoni**: graduated in Agronomy. Coworker of ARPA-ER since 2006.
- **Federico Carboni**: bachelor student in atmosphere physics, Coworker of ARPA-ER since beginning of 2013.
- **Michela Giusti**: graduated in Physics, M. Sc. student in atmosphere physics and meteorology.

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THANKS!