

Food Quality as a Public Good: Cooperation Dynamics and Economic Development in a Rural Community

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Supply side perspective

- A look inside dynamics of quality good production
- Demand for quality food is there
- Consumers are capable of recognizing high quality products by tasting them and remembering the “label”
- It is difficult to have a direct relationship between final consumers and producers

Trust and quality

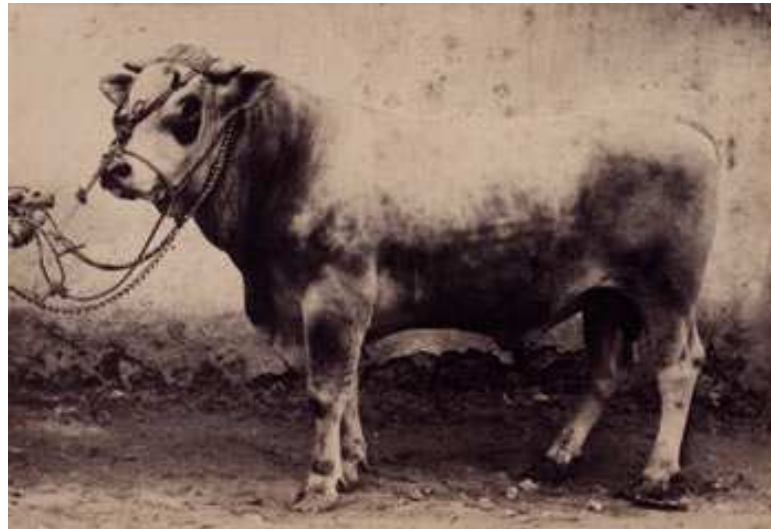
- Food quality is the key of the success of the producers' system
- It is a public good (non-rivalrous and non-excludable)
- Trust inducing producers to cooperate and to produce the public good is the competitive advantage of the system, and it also makes it sustainable

Quality production: critical issues

- In order to obtain high quality food, you have to follow an expensive productive process that is often, in the food sector, specified in productive regulations
- a Public Good Provision problem, where the high quality and the keeping of the regulations affect the wealth of all, while everybody is tempted to free ride, avoiding costs but getting paid as a member

The Empirical Study

- A system composed by 19 producers, very positive performance and evolution
- Located in Piedmont, Italy (area of approximately 2000 hectares)
- Breeding the Piedmontese race of:



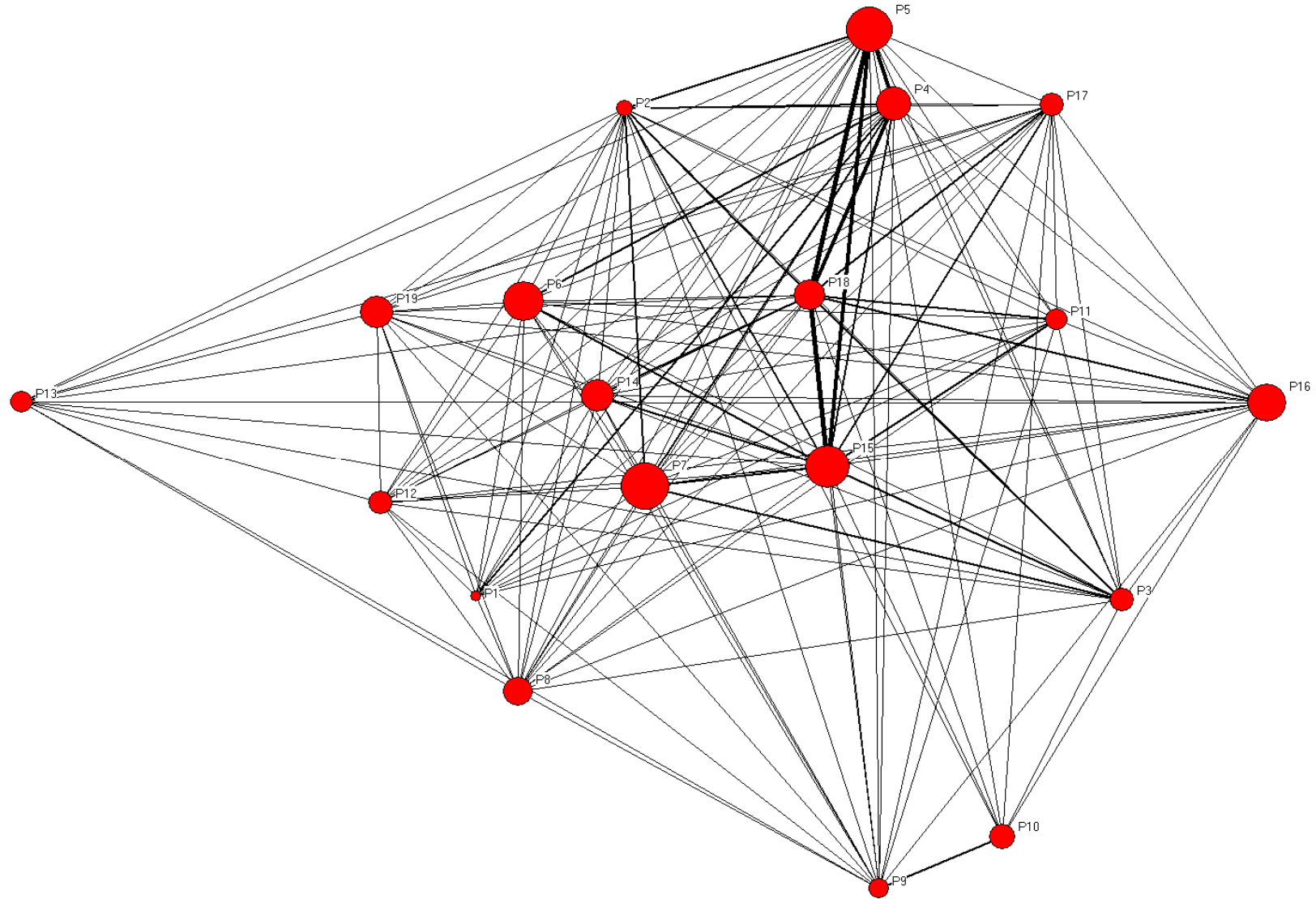
Quality control mechanism

- A complicated structure controlling the several dimensions of quality, and based upon:
 - a unique genealogical record of bred cows;
 - random chemical analysis of what is in the manger;
 - organoleptic analysis of each cow's meat;
 - monthly compulsory meetings to discuss problems;
 - semester meetings to taste each producers meat.

Research/Policy Question

- Is such complicate, expensive and formal control system needed to ensure cooperation?
- Agent-based model of the system without the formal control mechanism

The producers' network



Agents behaviour

- They have to choose if following production regulations and obtain high quality meat or free ride
- If overall quality level falls below 50%, cooperation stops
- Producers cooperate unconditionally or conditionally, besides defections shocking the system.

Simulation results

- Single defections can easily spread in the system if reciprocation is adopted
- Single “altruistic” behaviour can not save cooperation
- If groups unconditionally cooperate...

Groups: behaviour & dynamics

