**Observation and interview guideline: Orange farm**

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| Domain | Questions | Areas of focus |
| Orange orchard | * History of the orange orchard in this area   + Where did originally orange come from?   + Who was the pioneer?   + What did they grow before shift to orange? And why?   + When did it start growing orange?   + What is the weather like?   + Who are the owners?   + How many orange orchards are in this area?   + Yields | * Economic and environment change * Knowledge distribution * Farm move |
| Farm owners | * Biography; family and education background * Why do they choose to grow oranges? * Cost and profit of orange farm. * Experience on agriculture   + How do they learn how to grow oranges?   + What are the difference between using and not using antibiotics? * Process of orange production   + Supply chain of orange production   + Business environment internal and external factors that influence a production; clients and suppliers, competition, laws and market.   + Distribution * Biosecurity   + Farm management   + How do they prevent diseases and pests?   + What diseases or pests is the most severe for growers? Why?   + Do you have any assumption where do these pests come from? (also compare with past time) * What is ‘good orange’? * What are challenges as an orange grower? | * Knowledge dissemination * Orange infrastructure * Speed |
|  | Chemical exposure   * How many agrochemicals do they use? * Where do they learn from? * What would happen, unless they use agrochemical? * Do they have any alternative methods apart from chemical uses? * Where do they buy these chemicals? * How do they buy? * Why do you fear to talk about pesticides?   Antibiotics   * How do you learn to use antibiotics in oranges? * What is the role of antibiotics? * Why do you use antibiotics? What are benefits and disadvantage of using them? If not, what happen? * What is the role of antibiotics? * How do you know it’s effective? | * Knowledge dissemination * Relationship with other species |
| Organic farmers | * Why do you transform your farm into organic farm? * What are differences between chemical and organic oranges? (process and products) * Do you use any alternatives to antibiotics and chemical? * Process of orange production   + Supply chain of orange production   + Business environment internal and external factors that influence a production; clients and suppliers, competition, laws and market.   + Distribution * How do you prevent insect and disease? * What are good oranges? | * Experiments * Economic and environment change |