Rev Agric Food Environ Stud (2017) 98:55–74
DOI 10.1007/s41130-017-0044-7

RESEARCH ARTICLE

Autonomy under contract: the case of traditional free-range poultry farmers

Cécile J.M. Adam[1,2,3] · **Christian P.M. Ducrot**[2] · **Mathilde C. Paul**[1] · **Nicolas Fortané**[3]

Received: 21 February 2016 / Accepted: 15 March 2017 / Published online: 6 April 2017

Abstract This article explores the autonomy developed by free-range poultry farmers in their daily work. In this type of livestock production, farmers are linked by a contract to a farmer organization, to which they sell their broilers in exchange for a payment resembling a salary. The farmers do have autonomy in their work, which is framed by a set of prescriptions and rules. As they experience the same constraints, farmers involved in the same production mode develop a collective identity. Relationships of confidence progressively develop between the farmers and their technical staff (veterinary practitioners and production technicians). These good relationships strengthen the collective identity while also enabling the collective work between the three professionals. Veterinary practitioners and production technicians consecutively share some of the constraints and transfer part of their decision-making to the farmers. The latter thereby acquire more autonomy, even in fields apparently out of their reach. We illustrate the latter idea with the example of antimicrobial use. We observe that while strictly supervised by veterinary practitioners, farmers nevertheless manage to get involved in the decision underlying the prescription of antimicrobials.

Keywords Work · Autonomy · Livestock farming · Integration · Antimicrobials · Broiler

JEL Classification Q19 · I12

✉ Cécile J.M. Adam
cecile.adam@inra.fr

[1] Université de Toulouse, INP, ENVT, UMR 1225, IHAP, 23 chemin des capelles, 31076 Toulouse, France

[2] EPIA, INRA, VetAgro Sup, 63122 Saint Genès Champanelle, France

[3] INRA, UR1323 RiTME 65 boulevard de Brandebourg, 94025 Ivry sur Seine cedex, France

Introduction

In contrast with the image of a farmer as an "independent free man" (Mendras 1967), traditional free-range poultry farmers are distinguished by the fact that they work under a contract with a production organization. As such, numerous conditions are imposed on their activity. This article examines the concrete terms and conditions of poultry farming within the traditional free-range poultry sector and explores the autonomy held by the farmers, focusing on the way the farmers construct this autonomy, in particular within the framework of their professional relations with technical and animal health advisors.

Autonomy at work is a classic subject in the fields of sociology of work and sociology of organizations and is usually defined as the ability to invent one's own rules (Lallement 2015; Terssac 2012). Crozier and Friedberg (1977) notably demonstrated how a worker—the protagonist of his or her work even when highly supervised—can carve out greater room to manoeuvre. In certain cases, constraints limit the autonomy of actors in one area of their work while increasing it in another. These constraints—defined here as an imposed set of rules and standards—then become an important resource in strategies developed by actors to gain autonomy, for example freelance journalists and entertainment workers (Corsani 2012). The porousness of the boundary between autonomy and heteronomy renders it possible to move beyond the division between salaried employees and self-employed workers (Bernard and Dressen 2014). Rather than a strict division, there is a wide range of possibilities between these two poles which can be observed in detail in agricultural work due to the originality and variety of tasks involved.

Diverse degrees of dependence effectively exist depending on the types of agricultural contracts (sharecropping, land leasing) (Barthélémy 1980). Contracts intended to facilitate intensive, modern and newly integrated production attracted the interest of researchers at an early stage (Bodiguel 1975). Studying the production contracts between farmers and integrating companies deepens understanding of the positioning of a farmer on his or her farm, the farm and family economy, and indeed agricultural production in general, by looking at the type of social contract which emerges between the farmer and society. These contracts bring the farmer closer to the "salaried employee" pole while distancing him or her from the independent free man; while the farmer contributes his or her "know-how", production tools, and labour force, s/he is not entirely independent with regard to the definition of the contents, form or objectives of his or her activity. In a survey of pig and poultry farmers, Nicourt and Cabaret (2014b) demonstrated how the sometimes forced choice of integration leads to a "social disqualification" of integrated farmers associated with a sense of vulnerability concerning their economic status and identity (Nicourt and Cabaret 2014a).

However, we hope to provide a different contribution to the question of integrated farmers' autonomy by studying farmers engaged under contract in a premium product sector, that of traditional free-range poultry. These farmers in effect use the constraints inherent in "premium" production, constraints with which they must all cope and which are hence part of a shared experience, to

gain a meaningful degree of autonomy in their work (Section 1). The professional relationships between livestock farming stakeholders (farmers, technical advisors, veterinarians) contribute in particular to the development of this autonomy through the sharing of constraints and a redistribution of responsibilities. The use of antimicrobials, an area of expertise from which farmers are a priori excluded, is a good example of this autonomy "under contract" which characterizes traditional free-range poultry farmers (Section 2). Finally, we show that autonomy at work is not defined by an absence of external rules or pressure, but rather consists of finding ways to respond to professional constraints to create one's own normativeness.

The traditional free-range broiler sector: an organized production chain

Since the 1970s, the production of broiler chickens in France has been polarized between "standard" production, involving intensive breeding and complete confinement, and traditional free-range production.[1] Free-range production is characterized by the use of hardy, slow growing birds which are raised a minimum of 81 days (or slightly more than double the time for "standard" chickens), a stocking density per square metre which is half that of "standard" farms and above all access to an outdoor area for chickens starting from 6 weeks of age at the latest.

The production of free-range broilers, presented in the technical notice[2] as being of superior quality than "conventional" products, takes place under contract arrangements between farmers and production organizations (PO) which are either private companies—often called integrators—or cooperatives. We met with actors from three POs, two were cooperatives, the third a private animal feed company.

Livestock sectors can be distinguished by increasing degrees of contractualization, moving from "spot" markets where an independent producer sells his or her production on a one-off basis at a given date, to vertical integration where the farmer is an employee of an integrator. In France, between 85 to 95% of poultry—all modes of production considered together—are produced under contract (FranceAgriMer 2011). These are production contracts, often called integration contracts,[3] which link the farmer to the PO both upstream and downstream along the supply chain. Upstream, the contracting company supplies the inputs (animals, feed, prophylaxis and technical support); downstream, it takes back the fattened animals. The farmer supplies the building and provides his or her workforce and know-how (FranceAgriMer 2011). According to the classification established by

[1] Creation of the first *Label Rouge* (quality scheme) by the agriculture framework law of 5 August 1960. The yellow chicken of Landes was the first to be labelled in 1965.

[2] Technical notice "Label Rouge traditional free range poultry meat"—modified approval order dated 20 November 2012. Notice defining the minimum specifications for Label Rouge traditional free range poultry meat.

[3] This is a misuse of the term because vertical integration where the farmer is an employee and does not own the tools of production is uncommon.

Magdelaine et al. (2015), the contracts linking the farmers with the cooperative POs studied are "classic cooperatives"; the farmers own the animals and hold shares in the PO. In the case of the private company PO, the farmers do not own the animals and do not hold shares; here, an "integration contract" is involved. While the farmer, owner of the means of production and not a paid PO employee, is not vertically integrated, s/he remains linked by a contract which resembles vertical integration more than a spot market, and this contract leads the farmer to become an actor in a supply chain which can itself be termed integrated. These economic elements are what motivate our use of the term "integrated". We use "integrated farmer" to designate the farmers under contract with a PO regardless of whether the PO is a private company or a cooperative.

Methodology

We rely on semi-structured interviews conducted in 2015 over the course of 3 months with professionals from these three POs. Prior to beginning our field work, a preparatory stage allowed us to develop interview guides and a study protocol while establishing initial contacts with the sector. The interviews with the livestock farming stakeholders (technicians, veterinarians, farmers) covered the interviewee's personal and professional development, daily work, disease management, relations with other actors regarding animal health and use of antimicrobials. During the preparatory stage, which combined observation with semi-structured interviews, we met five POs. This preliminary work allowed us to determine the selection criteria for the POs. The three POs selected were chosen to represent both the principal production basins in France and different modes of production. We thus chose a PO from each of the two main traditional free-range poultry production basins in France, namely the west and southwest. One PO from central France was selected to ensure the diversity of organizations (cooperative vs. private company). The 22 interviews, each lasting on average 2 h and 15 min, allowed us to interview four farmers per PO, one to two veterinarians, and two production technicians (see Table 1 for the characteristics of the 12 farmers). The contact information of the professionals encountered was provided by the POs. We asked the POs to select the farmers according to their seniority—one farmer who recently began working with them and one with many years of experience—and their production volume. These criteria enabled us to obtain a wide diversity of farmer situations (farmers whose poultry unit was a secondary activity, specialized poultry farmers, farmers producing poultry stamped "antibiotic-free", etc.).

Traditional free-range poultry farmers' prescribed but autonomous scope of work

While traditional free-range poultry farmers face constraints which frame some of their work, they nevertheless are able to build forms of autonomy through the management

of these constraints. It is in fact the characteristics of integrated production that allow them to retain a strong degree of independence in their work, both through the multiple choices over which they retain control and the collective identity derived from their shared livestock farming practises.

Autonomy *à la carte*

Traditional free-range poultry farmers are distinguished by their ability to manage the degree of independence which they wish to have with their technical and animal health advisors. They are in effect independent with regard to asking for help; more often than not, it is the farmer who triggers a visit from his or her technician by calling the technician whenever s/he deems necessary. In this way, farmers remain in charge with regard to how they are supervised. We met farmers who like to contact and see their technician regularly, both for reassurance and to remain informed. In contrast, other farmers prefer to have the fewest visits possible, either out of a desire to reduce their dependence on their PO or to limit the health risks associated with a technician's visit.[4] The development of autonomy also takes place in relation to information concerning their farming practises, which some do not wish to share with their advisor.

The farmers are moreover completely free to determine the amount of time they devote to their work. The frequency by which they visit each poultry building varies from one to four times a day on the farms surveyed, with the time dedicated to each visit also varying greatly. This disparity can be explained in particular by the fact that traditional free-range poultry farming is not a very demanding activity; a farmer can successfully deliver a product in conformance with the PO's standards while spending very little time on the work.

> Veterinary 2
> An average farmer – not a superstar farmer, just a guy who does his work but no more – told me that he noted how much time he spent from setting up to the end of the next downtime. It worked out to be 35 minutes per day on average, including emptying out and cleaning the building. So 35 minutes a day. That's it. And I think that he must be like a lot of farmers.

Our observations agree with those in the literature. Gallot (2010) describes poultry work time[5] which can vary up to threefold with the same type of production and farm structure. This possibility to determine the work time is another indicator of the farmers' autonomy (Corsani 2012). By controlling the time spent on the poultry unit, they control the overall amount of time they

[4] During their daily rounds, technicians visit animals which vary in age and health status. A biosecurity error can lead to the transmission of a disease from one farm to another.
[5] This is daily work which the farmer cannot postpone.

work on their farm, and consequently the time available for their home lives (Stock and Forney 2014).

To understand this control over professional and personal lives, we should describe the specific features of work times in poultry production and traditional free-range poultry production. Free-range poultry farming offers the dual advantage of a farming cycle which is longer than that of standard poultry breeding, sparing the farmer from overly repetitive seasonal work (placement of chicks and removal of fattened birds), yet shorter than other livestock production systems. Alternating tasks give a cyclical character to the work schedule. Farmers effectively alternate between routine work which is not intensive, such as daily animal care, with more demanding seasonal work, such as installing and removing animals and cleaning-disinfecting (Martel et al. 2012). The repetition of these cycles, within which the intensity of work varies greatly, allows farmers to organize their professional work. They therefore can, at the farm level, schedule seasonal poultry work around highly demanding periods in other farm activities—for example, heavy field work. For instance, farmer 12 asked the PO not to send her a flock at the end of August so that she could be free to help her husband in the fields. A traditional free-range farmer can thus manage several activities and maintain diverse production units on his or her farm, often crops, or even sometimes hold two jobs and work off-farm.

More importantly, it is the coordination of work and home schedules that allows increased independence. In this respect, traditional free-range poultry farming is a way for farmers to conciliate work with personal and family responsibilities as a parent or spouse. The organization of farm work is effectively considered in relation to social activities in the broad sense (family, leisure, etc.). For example, Bernard de Raymond (2013) has shown that a cereal crop specialization reveals a strategy aiming to gain control over a farmer's "rhythm of life" by bringing together individual, collective, and professional timeframes (Bernard de Raymond 2014). For three of the individuals interviewed, the creation of a traditional free-range poultry unit was, for example, a project involving a couple:

> Farmer 2
> He invited me to come live on the farm with him after our daughter was born. We both wanted to make the most of this experience and to find a solution for both of us to stay on the farm.

The heterogeneity in farmers' livestock practises[6] reveals the existence of significant room to manoeuvre with regard to certain activities, a leeway born of the farmers' normativeness. Based on the research studies of Ramognino (2007) and Nicourt and Cabaret (2014a), we define the normativeness of the farmers as their ability to solve problems by inventing solutions and creating their own

[6] Livestock practises encompass all of the daily activities undertaken by farmers to run their farms. This includes technical activities, such as building and equipment maintenance, and animal care. Health-related work, beyond feeding, consists of applying zootechnical measures (temperature, ventilation, nature and characteristics of feed) and prophylaxis (vaccines, pest control products, etc.). Curative acts are in theory the task of veterinarians.

standards. For example, each farmer determines how to apply biosecurity measures. The farmer decides how often to clean the hygiene lock and the degree of cleanliness desired, as well as the different steps of the cleaning and disinfection process. This margin of autonomy which the farmer develops may involve measures that are not directly specified in the OP's regulations (frequency of cleaning hygiene locks), measures which are not off-limits that the technician will tolerate (clothing—gown and boots—meant for a building), or even "misstatements" by farmers pretending to have cleaned when they have not done so and the technician is not going to check them on it. The wide range of arguments that technicians must use to incite farmers to respect certain guidelines testifies to the autonomy farmers grant themselves. Ultimately, it seems that with regard to certain production aspects, POs emphasize performance over means. Regarding the regulations, the technical notice is setting numerous aspects of their practises, but not all of them are controlled by the certifying organization agent like feed withdrawal no later than 5 h before harvesting.

Of all livestock farming practises, health management leads in theory to more dependence of the farmer on his or her advisers or, at the least, is the subject of more negotiation between them. However, here again, some farmers do not hesitate to take initiatives in the management of their animals' health, an area supposedly reserved for technicians and veterinarians. They sometimes embark on empirical "experiments", motivated by a desire to improve performance or most often by the need to find a solution to persistent problems that their advisors have been unable to resolve. They therefore seek one on their own, particularly through their peer networks. In so doing, they perform a kind of empirical-technical syncretism by combining the advice from the technician and their peers with their own experience. We also noted in three of the individuals interviewed a phenomenon of combining learning earned through other poultry production activities (in addition to chickens, these farms raise ducks, turkeys, etc). For example, farmer 4 increased the acidity of the drinking water in his chicken unit, an idea he imported from his duck unit, and increased the temperature of chicks, something he does in his turkey unit. He furthermore shared the acidification idea with farmer 3, who picked it up. One sees here that when they defect from their main source of knowledge, farmers turn to close local contacts (Cardona and Lamine 2014) by soliciting their local network, relying little on the internet or trade journals.

> Farmer 8
> As soon as I meet someone involved in this work I try to profit a bit from his experience. (...) Then, with the next flock, I'm the one who decides. That's it. For the lighting, I am going to do it this way. The technician told me: "Well, alright. That can work.". She did not tell me: "No" and that's that. After all, she is there to provide advice. She is not the one who is going to manage the flock.

The farmers take liberties with regard to minerals, vitamins and other supplements which they regard as "mild", "natural" and "non-chemical" products. One farmer, in disagreement with the veterinarian about how to treat "long-faced, irregular" chickens, preferred to follow her own reasoning.

Farmer 5
After analysing these chickens, they could not find anything (...) but they had fragile bones. So the veterinarian says to the technician: "Tell [the farmer], to give calcium and then A. [herbal medicine]." (…) I think to myself, they are dying because they can no longer go eat, so this does not work for me. I say I was going to do the opposite of what he said, I'll give the A. first, but I let him know. I tell him: "No, no". "Well, listen, he tells me, you are the one who sees your chickens, so do it". (...) So first I give the A., in my opinion that brought down the coccidiosis a little, and now I am going to give them calcium because I am not sure it will help them, but it cannot hurt them, so I might as well do it. I said I disobeyed, but that it was not a big deal. "You are the one who sees your chickens," he told me.

The acquisition of autonomy functions as a virtuous circle where the independence acquired in one area allows it to be acquired in another area too. This holds true with regard to antimicrobial treatment,[7] reserved to unique prescribers (the veterinarians), and in theory completely outside the jurisdiction of farmers. Yet livestock practises determine the use of antimicrobials. This is notably true for the application of the prophylaxis plan, the cleaning and disinfection plan and biosecurity, which can have important repercussions on animals' health, thus leading indirectly to the use or not of antimicrobials. Farmers are aware that their livestock farming practises have an impact on the management of their animals' health, and that they can determine the role that the veterinarian and his or her prescriptions are likely to play. Moreover, in terms of health management, there are alternatives to antimicrobials which allow farmers to gain some extra leeway insofar as these treatments do not require a veterinarian's prescription. They can thus start treatment on their own when it proves necessary.

Technician 4
I once was faced with high mortality and said: "We are overlooking chemical drugs." The farmer was a bit reluctant. I remember, he said to me: "No, but that will never work, blah blah blah." And in fact, once they see that it [an alternative treatment] can have an effect, they totally forget about antimicrobials. It is true that on one hand it is a help because they have it on hand more easily, because for an antimicrobial, you need the veterinarian and a prescription. But this, they can get more easily, they can keep a stock.

Constraints, the cement holding the collective identity together

While we were able to observe the autonomy of traditional free-range poultry farmers, we must emphasize that a certain number of constraints weigh on their work, starting with "Label" production regulations.[8] These regulations are embodied in the technical notice, a document precisely describing the characteristics of free-range broiler

[7] Antimicrobials are prescription medicines and consequently can only be obtained to treat animals with a prescription from the veterinarian.
[8] Law no. 60–808 August, 5th 1960, enforcement decree no. 65–45 1965/01/13.

breeding at each step of the production process from the selection of the grand-parents to the transformation of the final product. For examples, farmers have to respect rules for designing the poultry house; they cannot breed birds of different ages in the same poultry house, they have to open the trapdoors by 9 a.m. and close them at dusk, and they must clean and disinfect the poultry house within 7 days after birds are collected for slaughter.

Farmers also have to comply with the specifications imposed by the POs as well as a certain number of prescriptions made by technical (livestock technicians) and health (veterinarians) advisors that the farmers cannot easily circumvent. However, these constraints can be used and experienced as a resource allowing a shared identity to be forged by traditional free-range poultry farmers which then serves as a source of autonomy. Autonomy thus is not the antithesis of constraints in the sense that the sets of standards and rules that farmers must respect also constitute material on which they can build some forms of work autonomy, especially, as we will see further, because these constraints link the farmers to other professionals with whom they share and, in a way, overcome these constraints.

Among the constraints inherent in the contractual relation linking farmers to POs, one may note the origin and stock of chicks delivered, the date chicks are delivered, their feed, the prophylaxis plan, the weight at slaughter and the date of slaughter. The POs also manage more "policy" areas, such as the issue of antimicrobials, imposing strategic choices on their members. The POs encountered had in effect implemented "de-medication" strategies, which we define here as a set of measures taken specifically by an actor to reduce his or her consumption of pharmaceutical products, in this case antimicrobials, which lead to the development and implementation of appropriate management tools. These strategies are intended to be a response to the development of antimicrobial resistance, a consequence of antimicrobial use in humans as much as in animals.[9] The three POs studied have thus implemented strategies aiming to reduce the use of antimicrobials on their farms. While these strategies may in part vary and do not necessarily serve the same objectives (some openly aim to market broilers labelled "antibiotic-free" while others seek to develop alternative techniques), it is always the veterinarians, whether they be freelance veterinarians or employed by the PO for this task, to guide the overall implementation of this de-medication strategy. These efforts, which are becoming increasingly numerous, are built through discussions in which farmers initially play no part.

Dependency on the technicians' advice leads to another type of prescriptions for farmers. Technical and health advisors help farmers in the application of zootechnical standards, particularly when they first start out in poultry farming. In general, the farmers surveyed had not in effect received any initial training in poultry farming and said that they were trained "on the job" by the

[9] The issue of antimicrobial resistance in livestock was the topic of a 2011 public policy put forward by the Minister of Agriculture aiming to reduce the use of antimicrobials in animal production by 25% by 2017. In this context, and in parallel to the public denunciation of the use of antimicrobials in livestock (Bud 2007) (Levy 1992), the livestock sector is trying to improve its practises.

technicians and veterinarians. The farmers learn, for example, to heat the building well before receiving chicks, to ensure that chicks eat, drink and achieve a certain weight (according to their age), to optimize the consumption of inputs, to recognize sick animals, to administer vaccines, etc. To successfully produce, they are therefore very dependent in the beginning on the prescriptions of the technicians. The same constraints were observed in the three POs studied regardless of their status (cooperative or private company).

However, this set of constraints are generally well accepted by the farmers interviewed and are even seen as necessary under the framework of a traditional free-range poultry product. This shared constraint acts as fertile soil for the construction of a collective identity of "premium product" farmers.

> Farmer 3
> If we want consumers to trust us, we have to give ourselves rules (...) You cannot just claim high standards, you have to prove it. If it cannot be proved, there's no point.

The farmers encountered—and a few technicians—specify that they could not "do mediocre work", revealing the important degree to which the product plays in the identity of the farmer. A "good product" (and with that, the "right" mode of production) is one with which one can identify and which one can feed one's own family. Often studied through the importance of the soil, a strong link exists between production modes and collective identities (Wahlhütter et al. 2016). Farmers invested in the same production mode share a common identity based on a joint set of standards. The quality standard is a source of pride for traditional free-range farmers and is a feature shared by the farmers participating in quality programs, whether or not contracts are involved (PDO, PGI, etc.).

> Farmer 12
> I hold certain values, so I do not want to do just anything, I want to produce a product which pleases me, which makes me feel good, so I visited several farms, and it was a free-range farm which made me want to set up a poultry unit. This is because free-range production, which takes place outdoors, with at least three months breeding time, involves a product that I can raise and also consume. To start farming, I had to believe in what I was producing. Not tell myself well I produce one thing for others and on the side have my own personal produce.

Quality is thus a federating element of identity in a community of stakeholders, including both farmers and technicians (Garcia 1986), constituted by a relationship of identification and the appropriation of the object of the work (Bidet 2011). Defending a common product links the farmers in a form of interdependence because fraud on the part of one will have repercussions for everyone. Farmers are not only committed to a PO, but also to each other. By

joining a profession community, they form an identity, even more so as it is not imposed from the outside (Nicourt and Cabaret 2014a). Under these conditions, the professional identify of free-range farmers is constructed in a "game of comparison" with other ways of practising farming, on the one hand with the standard product and the intensive model from which they wish to distinguish themselves, and, on the other, with organic farming which they feel they resemble (Hellec and Blouet 2012).

> Farmer 8
> It is true that standard farming is not my thing. To see the birds packed, well, not packed, but in a closed building, no. I want a high-quality product. So I hesitated between organic and free-range. They say there's not much of a difference between the two.

While the de-medication strategies are imposed on farmers, they also contribute to the collective identity because they are part of a quality scheme. Farmers become "aware" of their relationship with antimicrobial therapy and see how this topic can burnish their social image. By joining the effort to reduce the use of antimicrobials, farmers are helping to turn a subject which has attracted a lot of criticism—the excessive use of antimicrobials in agriculture (Goldman 2004; Laxminarayan et al. 2013)—into a source of new value for their work (Candau and Ruault 2005).

> Farmer 1
> So you have not noticed any change in the PO's stance on reducing the use of antimicrobials?
>
> That is their position, yes. In addition, [the veterinarian] here has been saying the same thing for a long time...it has to be like that and then a demand is made, it is the State which makes it, but in fact, it is actually society that is asking us, so the key is to be receptive to this kind of talk.

Ultimately, this construction of a collective identity among traditional free-range poultry farmers based on a certain number of shared and valued constraints is in part linked to the autonomy they enjoy in their work. It is indeed this autonomy that acts as an instrument of identity as well as form of protection against heteronymous constraints (Stock and Forney 2014), or more precisely requalifies these constraints as a source of professional achievement.

Relationships between professionals: a liberating bond

It is also within the framework of the professional relationships between livestock stakeholders that autonomy is built through the shared definition of work rules and a distribution of responsibilities that is in practice far from the formal division between livestock farming, zootechnics and health management.

In this respect, the management of livestock health issues[10] is particularly illuminating. In effect, the farmer first contacts his or her technician to discuss a problem which has been detected. The technician often comes to the farm and gathers information from the farmer and by observing the animals. S/he then suggests to the farmer what action to take, and sometimes calls on the veterinarian for help. Understanding what makes the relationships between these three operate smoothly allows us to highlight how the farmers increase their autonomy through these relationships.

Confidence as a support for autonomy

In addition to playing an advisory role, the production technician supervises the farmers' work, verifying that they are complying with the product specifications requested by the PO. Technical supervision would appear at first glance to hinder the autonomy of the farmers. Paradoxically, it is through these relationships that a bond of trust becomes established, adding social value to exclusively technical relationships.

Beginner farmers benefit from the support of the technicians, who visit before the arrival of the first chicks, then several times a week, maintaining practically daily contact by telephone. Gradually, a close relationship is formed; the technician and the farmer get to know each other well, which allows personalized adjustments. The technician draws from his or her personal knowledge of the farmer to encourage good practises, using whatever argument s/he deems to be the most persuasive under the circumstances: economic (price of treatment), fear of being audited, or competition with a peer. One technician reported having spoken with a farmer's cousin to get him to file his farming documents correctly.

As time goes by, the farmers acquire know-how, which renders them more autonomous in their technical work. The technicians also seek to render farmers more autonomous and self-sufficient when they encounter problems. This is the case for example of a technician covering a large sector who organizes training sessions for farmers in order to better help them from a distance.

The initially technical relationship tinged with prescriptions is transformed by the plentiful interactions between farmers and technicians into a social relationship of confidence. A relationship based on mutual trust even becomes a prerequisite for the establishment of an effective technical relationship, which goes beyond mere advising, and enables shared decision-making on complex issues. Palmer et al. (2009a) have for example shown the importance of a trusting relationship for the application of biosecurity measures in livestock farms (Palmer et al. 2009b).

[10] We mean by health problem all health disorders in the animals: weight loss, despondency, digestive disorders (diarrhoea), locomotor disorders (lameness), respiratory disorders, mortality, etc.

Farmer 1
And then, what you need is like with a doctor, you have to have absolute trust in each other. Because if the technician tells you to do something and you don't do it but you tell him you have, that doesn't work. And the technician, he – or she, my technicians often are women – must be sure that what we decide together applies, otherwise it doesn't work either.

The transfer of skills is thus compromised when the relationship is poor. A young farm couple, without prior aviculture knowledge, was only able to start making progress when their technician was replaced by another with whom they got along much better, and whom they now contact frequently. It is thus important to emphasize the degree to which the time invested by the actors in these relationships is critical for the formation of trusting relationships.

We observe the same development of a trusting relationship between the technician and the veterinarian, which facilitates the management of livestock health problems, often discussed over the telephone. What is involved here again is not just a purely technical relationship, but also a social relationship formed over time.

Veterinary 2
Concretely, we have to pass a lot of time with them [the technicians], they have to trust us, and we have to talk to them about lots of things other than poultry. You have to create a relationship (...) You can talk about their work, or about plenty of other things, and then they gain confidence, and they listen. But it takes time. It's a relationship.

Social relationships also are formed between farmers in the same group, often as part of relationships between neighbours. They enable the famers to discuss their work more broadly, and form the basis of mutual assistance relationships when difficulties are encountered.

Farmer, preliminary interview
We try to help each other. We are not far, I have someone coming to see me often these days because she is going to establish four units and she, she knows nothing at all. So start four buildings all at once. Well...(Laughter). But we are going to manage. She is very determined, so...

Help provided between technicians also allows newcomers to integrate into the team, learn the job and assert themselves in front of farmers who sometimes challenge new technicians.

Technician 3
The PO trained me, I did the rounds with colleagues. […] After, I had some training sessions, one can say at the vet's, then here, to get an idea of how work is

organized in the company. And then they left me with a small bunch of farmers, who were relatively nice in the beginning (laughter). Gradually, I took on more farmers, and then you learn on the job, knowing that we have a good team, so that if I have a problem, I can call a colleague or the vet. There's always someone to turn to when I have a question.

Observations of all of the dimensions of the interactions between farmers, technicians and veterinarians bring to light a rewarding relationship that is not limited to technical prescriptions. The trust established enables in turn a redistribution of constraints and responsibilities between these actors.

Sharing of constraints and redistribution of responsibilities

While the contractual relationship tying the farmers to the POs is full of constraints, it also provides the farmers benefits. The PO inserts the farmers into an organization and, in addition to social relationships with peers, ensures them a regular income. It thus promotes the financial security of the farmer, which increases his or her autonomy. Associated with independent production, the choice of a traditional free-range poultry unit is part of a risk diversification strategy targeting financial autonomy. As shown by this farmer, once her building had been paid for, she could impose her choices on the PO.

Farmer 12
Sometimes there are things, if there is a real need to put a certain production, I say "no, no": you cannot let yourself be walked over. I mean we are our own bosses, we know what to do, we don't need to be told. Now we do it because we have the financial strength to say so. At some point, you say stop. I say: "No, I'm taking three flocks a year, with a one month downtime between the flocks, it is like that. And you know, I warned you four months ago." Sometimes we speak to each other frankly, but it is that or nothing. "If you are not happy, we'll leave the building empty and look elsewhere."

The PO also ensures an outlet for large product volumes by guaranteeing farmers that all of the chicks installed in their buildings will be bought by a slaughterhouse. It is very difficult, if not impossible, to successfully sell 4400 chickens outside a PO ("spot" market). By taking into account part of the constraints inherent to farming, the PO diminishes the financial risk born by the farmers, who regularly receive a payment for their products.

Other examples of sharing constraints are when the PO sets up a solidarity fund when there has been an accident or establishes a payment facility. The support also can take a legal-administrative form. For example, a farmer in conflict with her village's town council over a development on her farm received support from her PO. The latter can provide non-formalized assistance, on a case by case basis and regarding matters

which are not necessarily its responsibility. Nicourt et al. (2015) refer, when describing these special services, to a "company culture" belonging to each PO.

> Farmer 5
> No, but overall B., the people at B., excuse the expression, but if you aren't a jerk to them, they are not jerks to you. That's it. You have to try to understand how things work, they need to make things work, they are the intermediary, they're the ones that need to earn, they need to earn money, there is no secret to it, but when one tries to move forward and understand the principle a bit, it works. They have helped me lots of times.

Drawing up, defending, implementing, applying and ensuring conformance with specifications are in effect part of a complex process that would be impossible for a single farmer to carry out alone. The contracting PO takes charge of all administrative aspects, in the end allowing the farmer to produce in compliance with demanding specifications. Furthermore, the PO shares certain technical constraints with the farmers through the technical supervision that it offers them (the livestock technicians are employees of the PO).

In this perspective, the interplay of relations between farmers, veterinarians and technicians allows a redistribution of responsibilities. Thanks to the trusting relationships established by these actors, veterinarians and technicians tend to delegate certain decisions to farmers, and in so doing confer on them additional forms of autonomy. With regard to antimicrobial treatments, the technician involves the farmer in the decisions, mainly for economic reasons. Given that the farmers pay for the medicine, the technicians believe that they should have a voice when the need for treatment is not absolutely certain, considering that a farmer is like the head of an enterprise. In the case of the antibiotic-free chickens developed by one of the POs encountered, treating a flock of poultry leads, in addition to the cost of the antimicrobial, to the loss of the premium attributed to flocks of antibiotic-free chickens. The farmer must then balance the risk of a health problem developing and the double cost (price of the input and loss of the premium) of antimicrobial use. The technicians do not think they have the right to make this sort of decision and leave farmers the free choice.

> Technician 3
> So you explain, there are two options because he has to get paid in the end, so it is also up to him, at one moment in time, to choose the option. I cannot assume the responsibility of downgrading him. What I mean is: "You have a lot of dead chickens, either we use an antimicrobial, or we use a herbal remedy. If we use an antimicrobial, seeing what you have, it will work well, so the death rate will drop right away, but after you will have to deal with the cost of the antimicrobial plus the fact of being downgraded. You'll lose your premium at the end." There is another option: we maintain the flock without

antimicrobials, but that means that we use herbal remedies, and it is possible they will not work as fast, so a few more chickens will die. After that, there comes a moment when I let him choose. (...) When I don't let him choose, it's either because it is not worth a downgrade, so we forget about it, or it really does deserve a downgrade, and there again, I don't provide a choice, we do the antimicrobials.

Farmer 1
Well I'm the one with the last word. I am in business, so if I'm right, great, if not, too bad for me. But I cannot blame the technician. The one who has the last word is the one who pays. And that's me.

In the French Public Health Code, the veterinarian is designated as the only prescriber of veterinary drugs subject to medical prescription. In practice, it is usually the technician who intervenes first when there is a problem on a farm. S/he then telephones the veterinarian. The relationship of trust established between the two professionals allows some of the decision-making to be shared between the veterinarian and the technician. The delegation of responsibilities has no legal character (the veterinarian remains the prescriber when a medication must be used), but is rather a decision-making process in which the two actors jointly participate on an equal footing. In sum, this is what numerous health sociological studies have shown concerning medical decisions in the wake of the works of Strauss (1992). In particular, the veterinarians rely on the technician's report to decide what to do: go to the farm, carry out analyses on the animals, set up a treatment protocol, etc.

Veterinary 2
When animals fall ill, it is the technician who is called. He goes there and does an autopsy. If he sees what it is, he manages things himself. If he's not sure, he usually calls us, and then we discuss it. In some ways, he is like our eyes. So we do a lot over the telephone because the technicians have already done the legwork. So you definitely have to have a relationship of trust. One has to be absolutely sure that they're not going to tell us a load of crap. But normally, it's true that legally, it's not supposed to happen like that.

Even more than considering the farmer as the agent of economic choices (i.e. the risk-benefit calculation in the preceding example) which s/he alone can legitimately make, there is at times recognition of the farmer's know-how, without which the decision cannot in the end be made. We have observed that when there is a problem, the discussion sometimes becomes a collective one, involving the veterinarian, the farmer, the technician and even a representative

of the PO. The veterinarian of one of the POs includes the farmer in the discussion to decide how to implement a treatment, asking the farmer his opinion regarding the evolution of the animals' health. To a certain degree, the choice of the course of action, while theoretically the domain of the veterinarian alone, integrates the expertise of both the farmer and the technician. One can thus understand the degree to which the professional relationships between the livestock stakeholders constitute the foundation on which the farmers' work autonomy is built.

Conclusion

While framed by heteronymous prescriptions, the activity of traditional free-range poultry farmers is autonomous. They remain independent with regard to numerous aspects of their operations, including the definition of their work time. The sharing of joint constraints facilitates the emergence of a collective identity based on a system of values defining good work. The stakeholders establish a relationship of trust which renders possible good communication between professionals whose responsibilities—in theory distinct—end up coming together. The result is an increase in the autonomy of farmers who are relieved of certain constraints and enriched with responsibilities.

This case study, focussed on a unique form of contractual relationship (integration), allows us to shift the focus to the workers themselves and the relationship that they have with their work (Bidet 2011). By examining the "real work" of traditional free-range poultry farmers, we steer clear of a blind spot, which consists of failing to look at the constraints of the contractual relationship between the farmers and the POs. While the heteronymous standards clearly contribute to the framework of livestock farm work (especially in an "integrated" commodity chain), they do not hinder the expression of the normativeness inherent in the farmers' practises. Moreover, it is precisely in the ongoing management of the tension between autonomy and heteronomy, in other words, in the constant testing of their (in) dependence, that the farmers manage to perform (and define themselves in) their work.

In this perspective, autonomy is not only a social tool that helps farmers define their identity and protect themselves from the constraints of a contractual form of agriculture (Stock and Forney 2014). It is also a way of working that emerges from all of the rules, standards and relationships involved in their day-to-day work. It actually enables them to develop the farming practises that suit the way they conceive their professional activity. Of course, it does not mean that their work is never demanding, frustrating or sometimes even hazardous, but these farmers have undoubtedly been able to construct a kind of autonomy at work, which is, in the end, rather a matter of normativeness than one of independence or absence of constraints.

Annex 1

Table 1 Elements used for the socio-professional characterization of farmers

Farmer ID	Age group	Gender	Type of buildings or huts	Year of installation	Productions on the farm	Description of farmer
Preliminary interview	55–60	F	400 m^2	1987	Poultry Dairy cattle (equal parts) + crops	Works on husband's farm (took over family farm). Converted to farming (no initial training in agriculture).
Farmer 1	50–55	M	Huts	1978	Poultry (main production) and vineyard	Took over family farm. Initial training in agriculture but not aviculture.
Farmer 2	30–35	F (couple)	Hut and 400 m^2	2013	Poultry (main production) Suckler cattle Crops	Works on husband's farm (took over family farm). Converted to farming (no initial training in agriculture).
Farmer 3	50–55	Couple	Huts and 400 m^2	1989	Poultry (main production) and crops	Took over family farm. Initial training in agriculture but not aviculture. Conversion of the wife to farming.
Farmer 4	45–50	M	Standard buildings + 400 m^2	1997	Poultry (main production) and crops	Took over family farm. Initial training in agriculture but not aviculture.
Farmer 5	45–50	F	400 m^2 Standard buildings	1998	Poultry (main production) and crops	Works on husband's farm (took over family farm). Converted to farming (training in agriculture but not aviculture).
Farmer 6	65–70	M	400 m^2	1974	Poultry	Took over family farm. Initial training in agriculture but not aviculture. Retired.
Farmer 7	45–50	F	400 m^2	2002	Poultry and suckler cattle (equal parts) and crops	Works on husband's farm (took over family farm). Converted to farming (training in agriculture but not aviculture).
Farmer 8	30–35	M	400 m^2	2013	Poultry	Took over family farm. Initial training in agriculture but not aviculture.
Farmer 9	40–45	M	200 and 400 m^2	1999	Poultry (secondary production), dairy cattle and crops	Does not work on the family farm. Initial training in agriculture.
Farmer 10	35–40	F	400 m^2	2014	Poultry (secondary production), dairy cattle and crops	Took over family farm. Converted to farming (training in agriculture but not aviculture).
Farmer 11	60–65	M (couple)	400 m^2	1977	Poultry	Took over family farm with training in agriculture and aviculture.
Farmer 12	45–50	F	400 m^2	1989	Poultry and suckler cattle (equal parts) and crops	Works on husband's farm (took over family farm). Converted to farming (no initial training in agriculture).

Acknowledgements The text was translated by a professional English native translator, Grace Delobel.

The study was supported by the "TRAJ" project (funded by INRA GISA metaprogramme) and the "OMAP" project (funded by ICSA).

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

References

Barthélémy, D. (1980). Le faire-valoir indirect ou l'association conflictuelle du propriétaire et de l'exploitant. *Economie rurale*, *140*(1), 45–50.

Bernard de Raymond, A. (2013). Detaching from agriculture? Field-crop specialization as a challenge to family farming in northern Côte d'Or, France. *Journal of Rural Studies, 32*, 283–294. doi:10.1016/j.jrurstud.2013.07.007.

Bernard de Raymond, A. (2014). Des "agriculteurs à mi-temps"? Spécialisation céréalière, travail et temporalité. In A. Bernard de Raymond, F. Goulet (Eds.), *Sociologie des grandes cultures. Au coeur du modèle industriel agricole* (pp. 81–96). Versailles: Quae.

Bernard, S., & Dressen, M. (2014). Penser la porosité des statuts d'emploi *La nouvelle revue du travail, 5*.

Bidet, A. (2011). *L'engagement dans le travail. Qu'est-ce que le vrai boulot?* Paris: Presses Universitaires de France.

Bodiguel, M. (1975). Société industrielle, structures sociales et innovations techniques. In M. Bodiguel (Ed.), *Les paysans face au progrès* (pp. 105–164). Paris: Presses de la FNSP.

Bud, R. (2007). *Penicillin. Triumph and tragegy.* Oxford: Oxford University Press.

Candau, J., & Ruault, C. (2005). Evolution des modèles professionnels en agriculture: scènes de débat, questions d'écologie et catégories de connaissances. *Cahiers d'économie et sociologie rurales, 75*, 51–74.

Cardona, A., & Lamine, C. (2014). Liens forts et liens faibles en agriculture. L'influence des modes d'insertion socio-professionnelle sur les changements de pratiques. In A. Bernard de Raymond, F. Goulet (Eds.), *Sociologie des grandes cultures. Au coeur du modèle industriel agricole* (pp. 97–113). Versailles: Quae.

Corsani, A. (2012). Autonomie et hétéronomie dans les marges du salariat: les journalistes pigistes et les intermittents du spectacle porteurs de projets. *Sociologie du travail, 54*, 495–510.

Crozier, M., & Friedberg, E. (1977). *L'acteur et le système*. Paris: Seuil.

FranceAgriMer. (2011). Production animale et contractualisation: histoire et enjeux. *Les Synthèses de FranceAgriMer, 8*, 1–12.

Gallot, S. (2010). Référentiel travail en élevage avicole: synthèse de 24 bilans travail: Institut de l'élevage.

Garcia, M.-F. (1986). La construction sociale d'un marché parfait. Le marché au cadran de Fontaines-en-Sologne. *Actes de la recherche en sciences sociales*, *65*(1), 2–13.

Goldman, E. (2004). Antibiotic abuse in animal agriculture: Exacerbating drug resistance in human pathogens. *Human and Ecological Risk Assessment, 10*(1), 121–134. doi:10.1080/10807030490281016.

Hellec, F., & Blouet, A. (2012). Technicité versus autonomie. Deux conceptions de l'élevage laitier biologique dans l'est de la France. *Terrains & travaux, 20*(1), 157–172.

Lallement, M. (2015). Work and the challenge of autonomy. *Social Science Information, 54*(2), 229–248. doi:10.1177/0539018414566423.

Laxminarayan, R., Duse, A., Wattal, C., Zaidi, A. K. M., Wertheim, H. F. L., Sumpradit, N., et al. (2013). Antibiotic resistance—the need for global solutions. *The Lancet Infectious Diseases, 13*, 1057–1098.

Levy, S. B. (1992). *Antibiotic paradox: how miracle drugs are destroying the miracle*. Plenum Publishing.

Magdelaine, P., Coutelet, G., & Duvaleix-Tréguer, S. (2015). La contractualisation dans le secteur aviculture chair. *Economie rurale, 345*, 73–86.

Martel, G., Depoudent, C., Roguet, C., Gallot, S., & Pineau, C. (2012). Le travail des éleveurs avicoles et porcins: une grande diversité de stratégies, d'attentes, de durée et de productivité. *INRA Productions Animales, 25*(2), 113–126.

Mendras, H. (1967). *La fin des paysans*. Paris: SEDEIS-Futuribles.

Nicourt, C., & Cabaret, J. (2014a). La disqualification sociale des éleveurs intégrés. *Revue d'Etudes en Agriculture et Environnement, 95*(2), 227–253.

Nicourt, C., & Cabaret, J. (2014b). Ni patrons ni ouvriers: le cas des éleveurs intégrés. *La nouvelle revue du travail, 5*.

Nicourt, C., Cabaret, J., Darduin, U., & Delanoë, M. (2015). Subcontracting and organic. Vulnerability and compensation of organic subcontracting poultry breeders. *Revue d'Etudes en Agriculture et Environnement, 96*(2), 339–360. doi:10.4074/S1966960715012059.

Palmer, S., Fozdar, F., & Sully, M. (2009a). The effect of trust on west Australian Farmers' responses to infectious livestock diseases. *Sociologia Ruralis, 49*(4), 360–374. doi:10.1111/j.1467-9523.2009.00495.x.

Palmer, S., Sully, M., & Fozdar, F. (2009b). Farmers, animal disease reporting and the effect of trust: a study of West Australian sheep and cattle farmers. *Rural Society, 19*(1), 32–48. doi:10.5172/rsj.351.19.1.32.

Ramognino, N. (2007). Normes sociales, normativités individuelle et collective, normativité de l'action. *Langage et Société, 119*, 13–41. doi:10.3917/ls.119.0013.

Stock, P. V., & Forney, J. (2014). Farmer autonomy and the farming self. *Journal of Rural Studies, 36*, 160–171. doi:10.1016/j.jrurstud. 2014.07.004.

Strauss, A. (1992). *La trame de la négociation. Sociologie qualitative et interactionnisme*. Paris: L'Harmattan.

Terssac, G. D. (2012). Autonomie et travail. In Collectif, *Dictionnaire du travail* (pp. 47–53). Paris: PUF.

Wahlhütter, S., Vogl, C. R., & Eberhart, H. (2016). Soil as a key criteria in the construction of farmers' identities: the example of farming in the Austrian province of Burgenland. *Geoderma, 269*, 39–53. doi:10.1016/j.geoderma.2015.12.028.