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COOPERATION OF DUTCH FARMERS IN FOOD SUPPLY CHAINS

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Abstract

In 2018 the position of the primary producers in the Netherlands was investigated by a desk study, a survey among primary producers and a workshop with primary producers. The aim of the paper is to show the present position of Dutch primary producers in food supply chains, their opinion about cooperation and their opinion about unfair practices. The main result is that most primary producers consider their position in the supply chain to be relatively weak compared to food processors and retail. Furthermore, a large majority of the primary producers indicated to work together with colleagues, with huge differences between sectors in kind of cooperation. Notwithstanding the cooperation between primary producers in the Netherlands, supply and demand on the international market tends to determine the price of agricultural products. There is plenty of room for cooperation among farmers within the EU and national legislation without any fear for competition law. This room has recently further extended to support the position of primary producers. In contrast, the possibilities for cooperation in supply chains is far more limited by competition law. Most primary producers have little or no experience with unfair commercial practices by buyers.

Keywords: cooperation, supply chain, food, legislation, unfair practices

1. Introduction

The Dutch government as well as the EU draw attention to the position of the primary producer. Cooperation between primary producers and between primary producers and other supply chain actors is considered to be an important solution for improving this position.

This study has analysed the extent and way of cooperation between primary producers and between primary producers and other agricultural chain actors. Generally spoken it is common knowledge that primary producers have a weak position in the food supply chain (AMTF (2016), Schouten (2017)).
We expect huge differences among agricultural sectors because Common Market Organisation (CMO) Regulation at EU level has been in place for decades for sectors like fruits and vegetables while there was no CMO for pork or poultry meat.

The goal of this paper is to give an overview of cooperation among farmers and cooperation of farmers with food supply chain participants, their opinion about cooperation and their opinion about unfair practices in the Netherlands in 2018 for the following sectors: arable farming, glasshouse vegetables, field vegetable sector, fruit, dairy, pork, poultry (meat and eggs). The central question in the research was how can cooperation empower the position of farmers in the food supply chain.

Cooperation is broadly defined in this paper and includes all kinds of formal and informal ways of working together with other primary producers and with supply chain partners. Since our data mostly consists of opinions of farmers, who might have different definitions in mind, a strict definition of cooperation can't be given.

2. Method and data

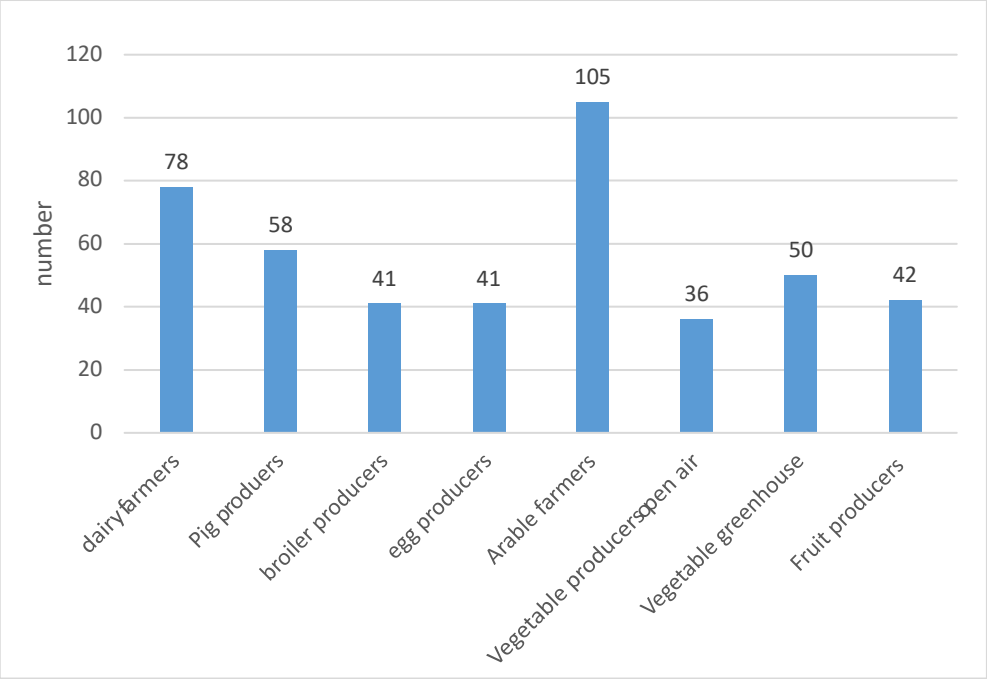
Four research methods have been employed to answer the research questions regarding the position of the primary producer, cooperation and price formation

- a literature review of the cooperation and pricing;
- a review of the legal possibilities and restrictions for cooperation among farmers and in food supply chains;
- a survey among primary producers in seven agricultural sectors in the Netherlands about the motives for cooperation, the obstacles that they experience for cooperation and the possibilities for eliminating these obstacles;
- a workshop with primary producers to assess the research results and to find solutions to resolve obstacles to cooperation.

The survey was completed by 626 primary producers. After eliminating the primary producers that are active in more than one sector 451 completed questionnaires were

used. See Figure 1 for the distribution of these questionnaires over the different sectors. The final workshop was attended by 20 primary producers from different sectors.

Figure 1: Number of complete questionnaires by farmers or horticulturists per sector (total = 451 farms and excluding primary producers active in more than one sector)



3. Results

3.1 Theory about cooperation and price formation

According to economic theory, in efficient markets, prices are a reflection of supply and demand, where the price of a product equals its marginal costs. If markets fail, the market price does not reflect the actual supply and demand of a product, and its produced amount is not optimal from a welfare perspective (Arrow 1962). Four important reasons for market failure are:

1. market power; Market power arises if a company has some ability to set prices independently from others in such a way that they obtain a profit margin exceeding the level that is necessary for coping with unavoidable production costs and investment (Katz and Rosen 1997). Market power can arise in different economic contexts. The most decisive factor is the market structure with skewed proportions in numbers of buyers and sellers, i.e. oligopoly and monopoly (in markets with few buyers and many sellers: oligopsony and monopsony). However, the presence of market power in concentrated markets does not necessarily lead to excess profits. Oligopolistic firms will choose their pricing behaviour depending on factors such as

price elasticity of a product, competition strategy with regard to other firms, goodwill, price agreements with the government, and collusion possibilities. In some cases, as a result, prices in concentrated markets will not deviate from prices in efficient markets. At the EU level, during the last decades, a trend of increasing market concentration in the grocery retail has been observed in most Member States. The role of grocery retail concentration and retailers buying alliances on the upstream and downstream price formation has been put on the agenda of EU policy makers (European Commission, 2014 and European Parliament, 2016). However, the results of case-by-case investigations do not show any conclusive evidence for retailers in concentrated markets being able to increase prices in the long term. In addition, agricultural price changes generally lead to price adjustments downstream the value chain, although with some delays, implying that there is at least some competition between the downstream value chain actors (see also Bunte et al., 2003; Bunte, 2009; Baltussen et al., 2014).

2. asymmetric information (hold-up/ lock-in); In case of asymmetric information, one party that is involved in an economic transaction has more information about the characteristics of a product than the other. In such a case, good decision making is not possible, which will lead to market failures with sub-optimal outcomes. A particular type of asymmetric information problem is the so-called 'hold-up' problem. This problem arises when two firms will gain the most optimal outcomes by cooperating, but refrain from doing so, because of one firm's concerns that the other one will improve its bargaining position at the costs of another. Also, a so-called 'lock-in' problem can occur in case a specific investment has to be made in order to be able to produce according to buyers' requirements, and, therefore, to be able to enter the market. Mandatory extra-legal (sustainability) certifications for products at farm level are a good example of retailers' requirements. After the investment is made, the buyer can lower the purchasing price and thereby offer the seller no opportunity to shift back (investment has become a sunk cost). 'Hold-up' and 'lock-in' problems can both be solved by well-defined extensive contracts, although experiences show that this is practically difficult.
3. positive or negative externalities; An example of positive externality are the spill-overs of innovation. When one firm makes costs to invent and implement a new technology that is easy to copy, it will be less costly for others to benefit from the same technology. An example of negative externality is the loss of biodiversity when

it is not included in the costs of farm production. As long as biodiversity is not priced, the biodiversity will be lower than societally acceptable.

4. public goods. Public goods are directly linked to the role of governments and are less relevant in a business-to-business setting. In this research we have not taken the problems regarding public goods into account.

Market failures can impact the prices of products in the following ways:

- there are no prices (markets are absent), or prices are too low or too high. This is due to lack of transparency in prices, costs, product quality, legal conditions, or due to high costs of getting relevant market information;
- prices do not fully react to changes in demand and supply;
- price changes in one part of the supply chain are not timely and fully transmitted to other parts of the supply chain.

By introducing countervailing power (Galbraith, 1954) the market power of the dominant business partner can be decreased. This can be realised by:

- Creation of market power for companies without market power (see Brincat, 2015) by collective negotiation, supply or demand bundling (cooperation, buying or selling alliances), concentration (mergers), or product differentiation (product innovation);
- Creation of market transparency (decreasing market information search costs or increasing insights in prices, costs, qualities, legal conditions).

Collective and individual strategies to increase market power for farmers are described in Table 1 based on Danau et al. (2011). Farmers cooperatives and producer organisations are examples of collective strategies used in food production to empower primary producers in the supply chain in the EU. Production alignment and collective marketing of products are typical examples of behaviour undertaken by cooperatives and producer organisations.

Table 1: Strategies to increase market power of farmers

	At market level	Related to buyers of products	At farm level
Collective strategies	Production alignment	Collective marketing of products	
Individual strategies		Contracts	Product differentiation Short value chain

Bron: Danau et al. (2011).

3.2 Characterisation of Dutch food markets

This section gives a short description (bullet wise) of Dutch food production and food markets:

- The Dutch agricultural sector operates on an European and sometimes even on world market level (e.g. cheese); The Dutch supply is a small part of the total European supply. Even if all Dutch farmers of one product would cooperate in selling the product no impact is expected on price formation in these markets.
- Price formation is determined by supply and demand with some seasonal patterns (e.g. no supply of domestic product).
- There are differences in market power. Some food processors (e.g sugar, potatoes, milk) and supermarkets have market power. Corrected for purchasing power differences, prices in the Dutch retail are lower than in the surrounding countries.
- Differences in market power are not reflected in the price formation because most markets are European markets instead of domestic markets.
- About 10 to 40% of the consumer euro goes to the primary producer. This ratio increases if the supply chain is shorter and less processing takes place. The tendency in the consumer market is in the opposite direction: from basic products to ready meals. The ratio 'part of the consumer euro' is not a good indicator of the margins for farmers (Baltussen et al., 2014).

- The price formation (spot market, week market, contracts, pools) strongly depends on products. Weekly price formation is often seen for vegetables, eggs, poultry meat and pork. Contracts play a more prominent role in arable farming and fruit production. Pooling is important for milk, arable products and fruit.
- Decreasing transaction costs is one of the main reasons for cooperation in the supply of for example milk and glasshouse vegetables.
- Structure of product chain and markets is dynamic. The famous Dutch auction is more or less disappeared. Niche products get a more prominent place at the market (pasture milk, special poultry meat, PlanetProof vegetables) and organic food consumption is increasing. Within all stages of the supply chain farms, firms and companies are concentrating.

In Box 1 an overview is given how dairy farmers in the Netherlands cooperate.

Ways of supplying the market by dairy farmers

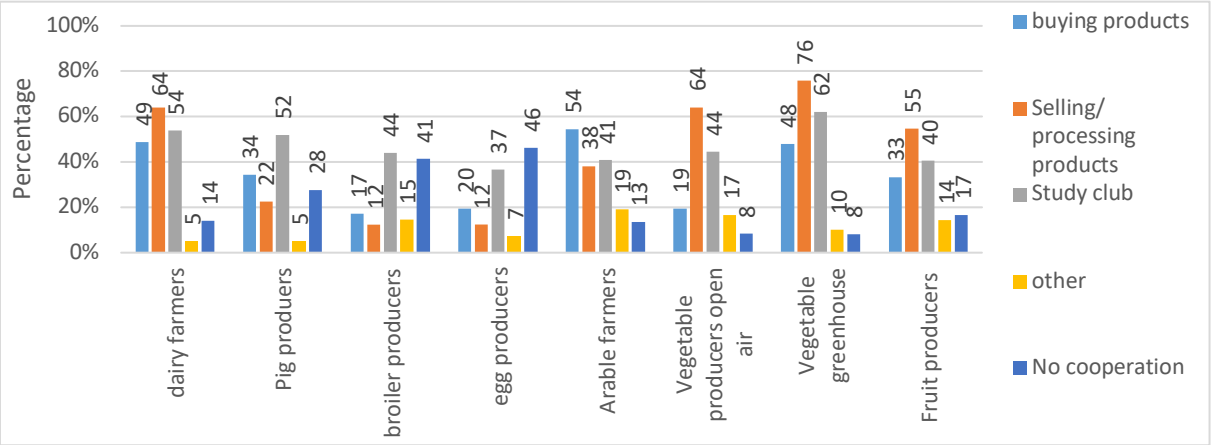
a. Member of a cooperative like FrieslandCampina, CONO, DOZ (farmers owned cooperative: about 80%)
b. Bundling the milk and selling to a processor (Noorderlandmelk: <1 %)
c. Delivering milk to a private processor like Aware , Bel Leerdammer, Vreugdenhil dairy and Hochwald (about 20%)
d. Processing your milk to cheese (<1%)

3.3 Opinion of Dutch farmers on cooperation and food markets

Cooperation among farmers

Cooperation among farmers strongly depends on the sector. More than 80 % of the producers of milk , arable products, vegetables and fruit cooperate with each other. For intensive livestock production (eggs, poultry meat and pork) this percentage is 60 to 70%. Most cooperation is on knowledge exchange (study clubs). For the sale of products more than 55% of dairy farmers, vegetable producers and fruit producers cooperates while this is less than 25% for intensive livestock production.

Figure 2: Type of cooperation per agricultural sector among primary producers



No significant relation was found between profit of farmers and cooperation in buying inputs or selling products. Cooperation on knowledge exchange is positively correlated with the profit of farmers. Cooperation is not correlated with the age of farmers. Entrepreneurs with high profits are more satisfied about the cooperation among farmers and about their negotiation position.

The main motives for cooperation are market security, access to markets, access to knowledge and information and stable prices for the products. Although farms don't expect higher prices by cooperation this is still a motive for cooperation (higher prices because of higher volumes). The motives differ per sector. The main motive for glasshouse vegetable producers are lower transaction costs, for dairy producers market security and for arable farmers lower production costs (cooperation on buying inputs).

The main mentioned problems with cooperation among farmers are related to social relationships such as different interests among farmers, lack of transparency and open communication and lack of trust between businesses. Younger farmers experience more obstacles than older farmers. Farmers that experience legal obstacles are less satisfied about the present cooperation, see less possibilities for more cooperation and experience more obstacles in the cooperation.

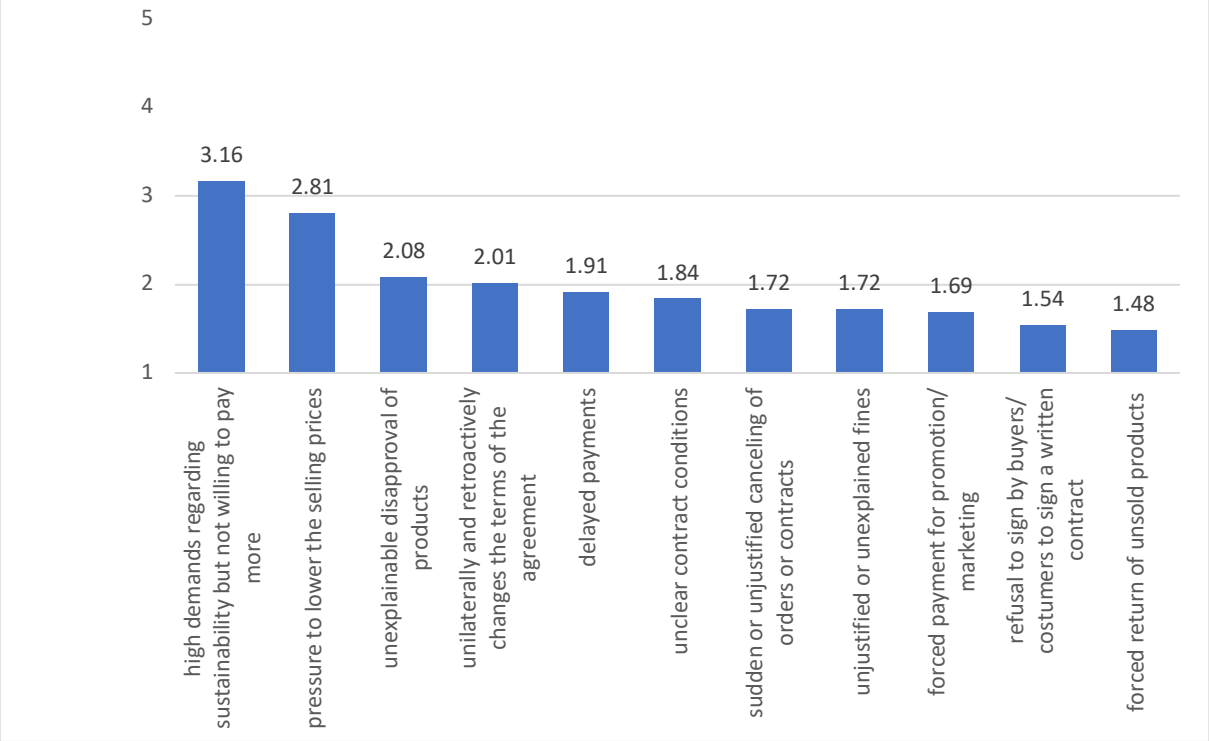
Only a limited group of farmers (12%) indicated not to cooperate with other farmers. The reasons mentioned by farmers that don't cooperate with other farmers are: It doesn't add value (profit); I don't like to give up independency and I cannot find a group to cooperate with. Between sectors no significant differences were found on this item.

Cooperation within the supply chain

Most farmers are satisfied about the cooperation with buyers. Buyers get high scores on fulfilling agreements and on trust. The farmers that are most satisfied about the cooperation with buyers experience a stronger position for themselves in the supply chain and feel themselves as a real entrepreneur.

Farmers experience their position among each other as 'average'. However compared to other chain participants they experience their position as 'weak'. There is no difference between the group of farmers that cooperate with each other and the group that doesn't cooperate. There is a positive relation between the farm profit and the experienced position among colleagues and in the supply chain. About 60% of the farmers say that they can exchange buyers easily. These farmers experience a stronger position in the supply chain than farmers that indicate that it is difficult to exchange buyers. Also farmers that negotiate directly with buyers can exchange buyers easily.

Figure 3: Score on practices of buyers of agricultural products experienced by sellers per practice



Negatively experienced practices by farmers from buyers are the combination of higher sustainability conditions for the produce and lower prices. Other practices like unexplained disapproval of products, unilateral change of contract conditions, delayed payments, payments for product promotion, unclear contracts are not experienced by

78% of the primary producers. These practices are often very specific for a certain product and can be temporarily. An example is that unexplainable disapproval of products scores high in poultry meat production. The reason for this can be that there is more attention and an incentive system for broken wings. Farmers however doubt if these broken wings are caused by them. Also handling during catching, transport and at the slaughterhouse can be a source for these damages. However, farmers get penalised for the broken wings. So they experience the impacts of disapproval of their products.

3.4 Legal options for cooperation

Primary producers have legal options to cooperate in producer organisations that coordinate production and or sell their produce, exchange knowledge etc.. Competition law is not applicable if the producer organisation is recognised by the government and if the goals of the producer organisation are made explicit. Within the EU this cooperation is made more easy by the Omnibus Regulation (Regulation (EU) 2017/2393). For cooperation within food supply chains competition law is applicable. New regulation is in progress in the Netherlands to enable cooperation within supply chains for sustainable products.

Recently the EU banned certain trading practices for food chains like late payments for perishable food products, last minute order cancellations, unilateral or retroactive changes to contracts and forcing the supplier to pay for wasted products. Other practices are only permitted if subject to a clear and unambiguous upfront agreement between the parties (European Commission, 2018).

4. Discussion and conclusions

Price formation

The relevant market for Dutch produce is the EU market and sometimes the world market. Supply and demand determine the price for almost all products. Prices are low if European supply is high and prices are high if European supply is low. This also holds within a year with seasonal products like tomatoes and sweet peppers, low prices during the summer period when European supply is high and high prices during the winter period when European supply is low. Food prices are low in the Netherlands and prices are an important weapon in the retail market to please consumers. The division of the added value depends on many factors like the length of the supply chain, processing and packaging. Primary producers get between 10 and 40% of the consumer euro. If this is

fair or unfair can't be answered. Unfair trading practices seem to be the exception rather than the rule. Seventy-eight per cent of the farmers do not experience unfair practices. In addition to these practices, many farmers experience a pressure to deliver a more sustainable product for a lower price.

Legal options and obstacles for cooperation

The mentioned changes at EU level and national level in Section 3.4 are new and fairly unknown in the agricultural sector. This means that there is room for more cooperation and to increase primary producers' position. Presently farmers are unaware about the possibilities to cooperate.

Cooperation and attitude in agriculture

Cooperation among farmers is widespread in the agricultural sector in the Netherlands. The reasons for cooperation differ: knowledge exchange (almost all sectors); selling products (fruits and vegetables) buying inputs (arable farming and dairy farmers). Important motives for cooperation are market security, access to markets and stable prices. Cooperation will only in exceptional cases lead to higher selling prices for products. These exceptions can be realised if a niche product is produced or if almost 100% of the supply is bundled. More impact from cooperation can be expected in the area of lower transaction costs, exchange of knowledge and innovation.
Trust and common interests are important aspects in cooperation among farmers but also in cooperation between supply chain participants.

Improving farmers position

Farmers should determine themselves if and how they like to cooperate with colleagues to improve their position in the supply chain. It is important that these farmers have the same vision regarding cooperation and farmers should be aware of the fact that part of the decision making will be delegated. There are relatively few legal barriers for farmers to cooperate.

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