

1 **Discuss fraud vulnerability in the milk and extra virgin olive oil supply**  
2 **chain**

3 **Hsuan-Hsuan Chang 張萱萱 (5110)**

4 **22/12/2021**

5 **Outline**

- 6 1. Introduction  
7 2. Fraud vulnerability in the Dutch milk supply chain: Assessments of farmers, processors  
8 and retailers  
9 3. Food fraud: Assessing fraud vulnerability in the extra virgin olive oil supply chain  
10 4. Conclusion  
11

12 **Abstract**

13 The food fraud assessment tool uses the Food Fraud Vulnerability Assessment (FFVA)  
14 organized by SSAFE. The questionnaire will distinguish the types of fraud factors and  
15 provide three descriptions for each question. Milk uses a three-scale score system to convert  
16 the descriptions into 1, 2 and 3 score represents low, medium, and high vulnerability levels  
17 for the opportunity and motivational fraud factors, while for control measures fraud factors  
18 represent low, medium, and high levels of control measures, respectively. The vulnerability  
19 levels correspond to high, medium, and high vulnerability levels, respectively. Low, highest,  
20 and lowest are the opposite of the previous two factor categories; the description of extra  
21 virgin olive oil is converted into low, medium, and high vulnerability grades, and then  
22 expressed in 1, 2, and 3 points respectively. The response frequency of the two options is  
23 calculated by the equation, and the green, orange, and red bars represent the low, medium,  
24 and high perceived vulnerability, respectively, and then analyze the vulnerability factors of  
25 each group. Farmers, processors, and retailers in the milk supply chain are analyzed with 48  
26 questions each. Farmers will be further subdivided into 3 different types of farms (10  
27 conventional farms, 10 ranch farms, and 10 organic farms). Analysis and comparison; extra  
28 virgin olive oil is 48 questions for olive oil producers and food manufacturers in the supply  
29 chain, 43 questions for B2B companies and retailers, and multiple correspondence analysis  
30 (MCA) is used to reflect the differences between groups Relevance, respectively, explore the  
31 relationship between its supply chain group, company size, and location.

## Reference

- Y. Yang, W. Huisman, K.A. Hettinga, N. Liu, J. Heck, G.H. Schrijver, L. Gaiardoni, S.M. van Ruth** (2019). Fraud vulnerability in the Dutch milk supply chain: Assessments of farmers, processors and retailers. *Food Control* 95, pp. 308–317
- Jing Yan, Sara W. Erasmus, Miguel Aguilera Toro, Haixin Huang, Saskia M. van Ruth** (2020). Food fraud: Assessing fraud vulnerability in the extra virgin olive oil supply chain. *Food Control* 111 107081