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Big data and food risk communication

Analysis of the online debate on fipronil using the web monitoring technique

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INTRODUCTION

Web monitoring is a data mining technique based on the process of selecting, exploring and modelling large amounts of data, in order to discover patterns or relationships and translate them into valuable information. In this study, we used the web monitoring technique and content analysis to analyse food risk communication about the fipronil incident in the Italian context.

In August 2017, several EU Member States were found to import fipronil-contaminated chicken eggs: the substance - a biocide that the EU banned from the production of food for human consumption - was illegally used in the poultry sector and many laying hen farms were detected positive.

MATERIALS AND METHODS

Basing on a system of keywords and rules, a web monitoring application (WebLive® <https://wl2017.web-live.it/>) was instructed to automatically monitor Italian online sources (news websites, blogs, social networks, and forum) and collect relevant content referring to food risks from 1 March 2017 to 28 February 2018. Data collected (N=12,163) were filtered by topic (only mentions containing the keyword "fipronil" were selected for the analysis). The obtained sample (N=513) was analysed using Microsoft Excel, Qlik Sense and the web monitoring application itself. In addition, the authors separately read the texts and assigned them to specific categories and different time spans.

RESULTS

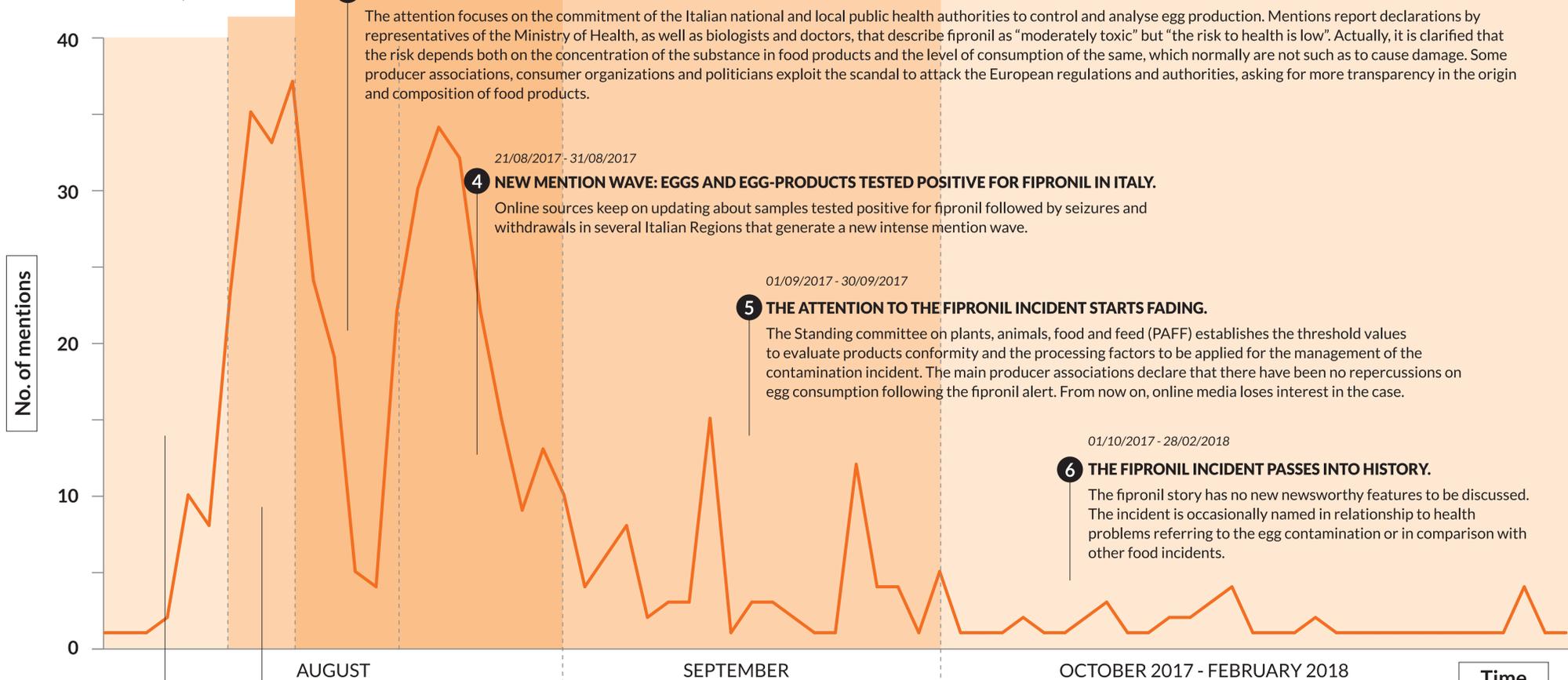
► **RQ1.** The web monitoring tool tracked 513 online texts mentioning "fipronil" and published from July 2017 until February 2018. The great majority was published between August and September 2017. News websites (278) and blogs (149) devoted major coverage to the event. Web sources that were mainly involved in talking about the fipronil incident correspond to renowned or specialized agencies (ansa.it, ilfattoalimentare.it) but also include general and social journalism websites (e.g. businessonline.it, it.blastingnews.com).

513

Online texts mentioning "fipronil"

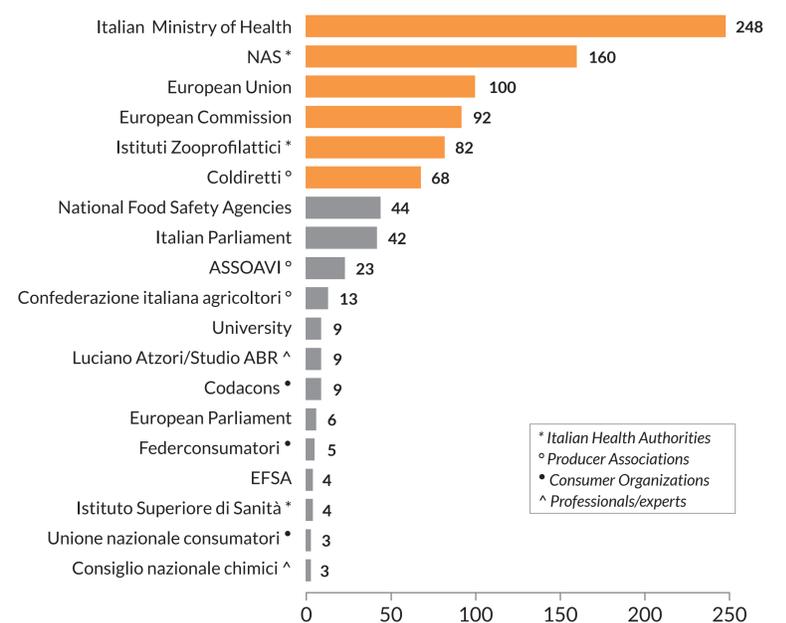


► **RQ2.** The analysis of the mentions returned 6 salient time spans.



► **RQ3.** Governmental Institutions (Italian MoH, European Commission) and national health authorities (Istituti Zooprofilattici, NAS) were the most cited figures, followed by producer associations (Coldiretti, ASSOAVI).

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* Italian Health Authorities
° Producer Associations
• Consumer Organizations
^ Professionals/experts

CONCLUSION

The fipronil incident gained particular attention among Italian online sources. Although the occurrence of the risk information was mainly delivered by general sources, official and authoritative figures operating for food safety were cited as major players in managing risk. This means that online sources actually disseminated what health authorities and well-established experts stated and did to solve the problem. No alarmism occurred despite the nature of the risk and occasional declarations that could have been misunderstood. In terms of food risk communication, results suggest that the web monitoring technique can be a valid tool to provide food risk managers with data and evidence based insights to infer what happens during food emergencies and which information online readers can be exposed to.

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