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Hydrogen agronomy: research progress and prospects

Key words: Hydrogen gas, Hydrogen agronomy, New agriculture

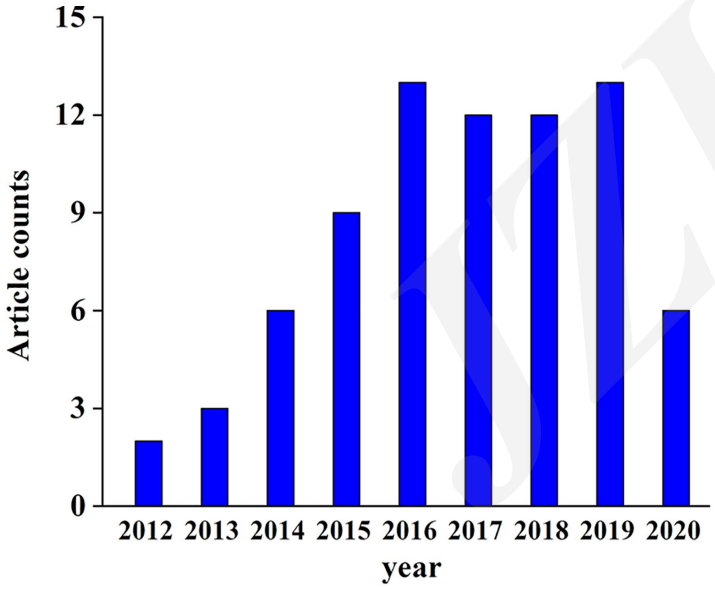
Research Summary

This review mainly focused on the research progress and prospects of hydrogen agronomy, and summarized the mechanism of hydrogen agronomy in the following aspects:

- **Development of hydrogen agronomy**
- **H_2 biosynthesis and hydrogen fertilizer**
- **Research methods of hydrogen agronomy**
- **H_2-related signaling in agronomy**

Innovation points

● **Introduction** **of the hydrogen agronomy from laboratory-based research to practice.**



● **Summary** **of the hydrogen agronomy-related papers.**

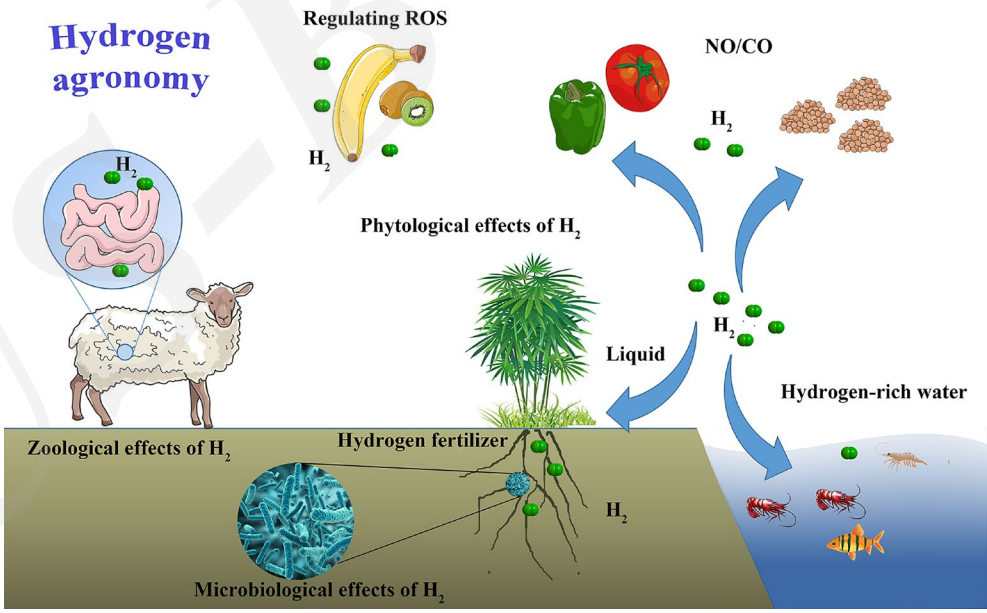
Figure 4

Innovation points

- **Emphasis** of the ROS, NO, and CO signaling in hydrogen agronomy.

- **Exhibition** of the extensive application in hydrogen agronomy.

- **Expectation** of bright future in hydrogen agronomy.



Innovation points

A series of comprehensive tables were generated to summarize the latest knowledge about hydrogen agronomy.

Table 1 | Summarizing the current situation of Chinese agriculture.

Table 2 | Research methods of hydrogen medicine and hydrogen agronomy.

Table 3 | Mechanisms of hydrogen biology in medicine and agronomy.

Table s1 | Listing hydrogen agronomy-related papers from 2012 to 2020.