



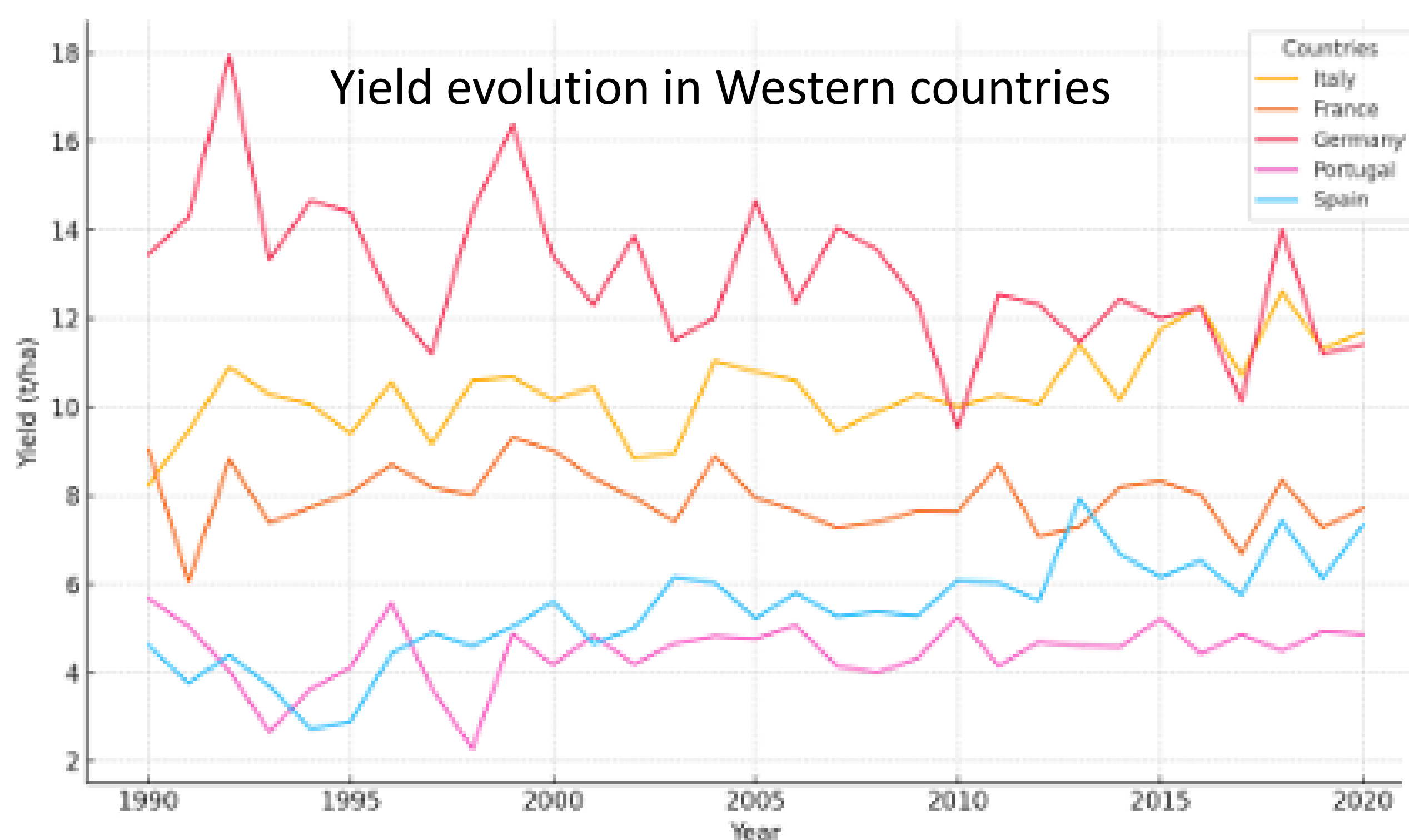
Comparative analysis of viticultural yield in the European Union

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Abstract: This paper presents a comparative analysis of viticultural yield in the European Union (EU) over a three-decade period (1990–2020), highlighting significant regional differences and the multiple factors influencing grape production efficiency. Yield, measured in tons per hectare (t/ha), is a key indicator of agricultural performance, reflecting both technological advancement and the sector's ability to adapt to pedoclimatic, economic, and institutional conditions. The study contrasts yield trends in two distinct regions: Western Europe—represented by Italy, France, Spain, Germany, and Portugal—and Central and Eastern Europe—including Romania, Hungary, and Bulgaria. Statistical data from harmonized official sources reveal a stable and upward trend in Western EU countries, where Common Agricultural Policy (CAP) instruments, infrastructure investments, and the widespread adoption of modern technologies have contributed to an efficient and sustainable viticulture model. In contrast, Eastern EU countries have shown more fluctuating developments, shaped by economic transition, fragmented farm structures, and limited access to resources. Romania, although possessing notable viticultural potential, still records yields below the EU average, despite recent improvements driven by modernization projects and EU funding. The paper emphasizes the need for continued investment and structural reform to reduce regional disparities and strengthen the overall competitiveness of European viticulture in the context of current sustainability and climate adaptation challenges.

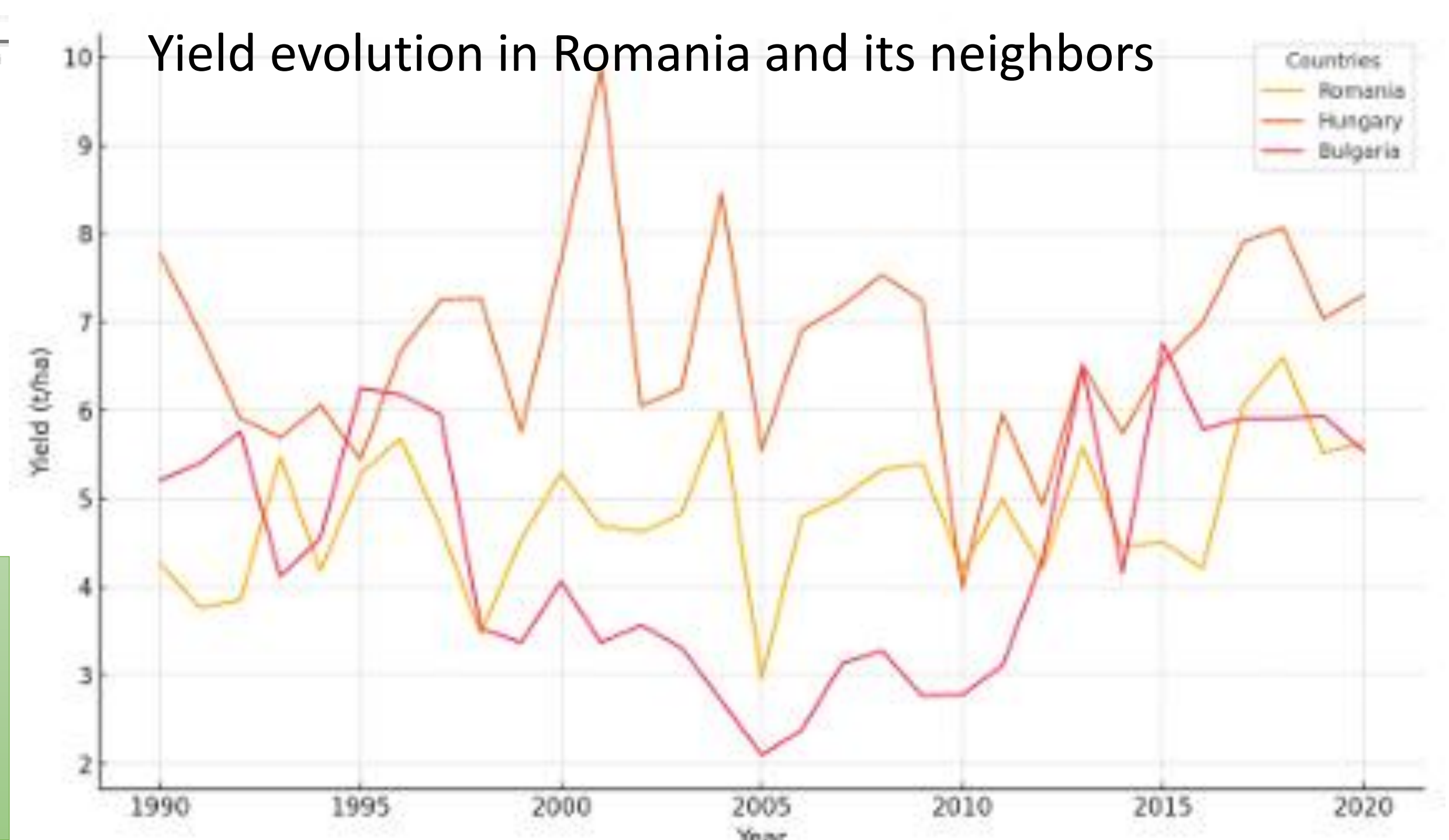


The yield value recorded by Romania and its neighbors provides a synthetic picture of the efficiency of the wine sector in this region of the European Union. To more clearly highlight the specific trajectories of each country and the differences in level or evolution, the data is also transposed in graphical form in the figure.

Grape production yield is an essential indicator of the performance of the wine sector, and its increase can be considered a sign of the maturation of the agricultural economy.

• Results and discussions

The comparative analysis of grape production yields in the European Union, carried out over the period 1990–2020, highlights structural and functional differences between countries with a consolidated tradition in viticulture and those in the process of developing or modernizing the sector. The yield expressed in tons/hectare (t/ha) reflects not only the technological level, but also the adaptability of the agricultural sector to the economic, climatic and institutional challenges of recent decades.



In the current context, in which sustainability and adaptation to climate change are becoming imperative, maintaining high yields must be achieved through sustainable methods, which combine product quality with environmental protection and the economic balance of agricultural holdings.