

Soil to Climate

Analysis of the Romanian Tobacco Industry

Itose Tobaccos, Romania

April 5, 2025

Introduction

The Romanian tobacco industry is deeply intertwined with environmental, agricultural, and economic variables, particularly soil characteristics and climate conditions. As a historically significant cash crop, tobacco cultivation in Romania must now be evaluated not only for productivity but also for sustainability in light of climate change and policy reform [11, 16]. This analysis outlines the primary agronomic factors and sustainability considerations influencing the sector.

Soil Characteristics

Romania's diverse pedological regions support a range of tobacco cultivars with varying yield potential:

- **Oriental and Semi-Oriental:** Thrive in sandy-loamy soils; cultivars like Djebel 143 and Molovata 155 exhibit 25% and 18% yield improvements, respectively [1, 10].
- **Virginia Flue-Cured:** Prefers deep, well-drained soils with a mildly acidic pH (5–6.5). Yields up to 3,000 kg/hectare have been recorded for Virginia 180 and 236 cultivars [1, 12].
- **Burley:** Adapted to loamy, high-organic soils. Burley 114 and 194 offer 12–20% greater output under optimal soil health conditions [1].

Climate Conditions

Tobacco production is particularly sensitive to climatic regimes:

- **Bărăgan Plain:** Experiences continental extremes, ranging from -30°C to 44.5°C , posing a risk of heat and frost stress [2, 18].
- **Transylvanian Plain:** Benefits from mesic temperature regimes and higher humidity, providing stable growing seasons [3].

Environmental Considerations

Tobacco cultivation exerts environmental pressure on Romanian agroecosystems:

- Intensive tillage practices contribute to topsoil erosion and organic matter depletion [4, 11].
- Elevated concentrations of cadmium and lead have been detected in tobacco leaves, posing ecological and public health hazards [5, 13].
- Cigarette waste generates over 12,000 tons of toxic litter annually, much of it non-biodegradable and marine-polluting [6, 14].

Economic and Regulatory Landscape

Romania's tobacco economy has faced marked contraction:

- Domestic tobacco production declined 93.6% from 2010 to 2022, reflecting shifts in policy and consumption patterns [7].
- Foreign direct investment from firms such as BAT, JTI, and PMI sustains thousands of jobs and contributes to export revenues [8, 17].
- Although regulation exists, enforcement is undermined by illicit trade, advertising loopholes, and industry lobbying [9, 15].

Conclusion

Romania's tobacco sector remains geographically and economically viable due to favorable soil and climatic conditions. However, growing evidence points to significant environmental degradation and public health risks. Future efforts must integrate sustainable farming practices, enforce stricter regulations, and promote crop diversification to align with EU environmental directives and health policies [16, 11].

References

- [1] CORESTA. Progress in Tobacco Breeding. <https://www.coresta.org/abstracts/progress-achieved-tobacco-breeding-romania-4920.html>
- [2] Wikipedia. Bărăgan Plain. https://en.wikipedia.org/wiki/B%C4%83r%C4%83gan_Plain
- [3] ResearchGate. Soil Temperatures of the Transylvanian Plain. <https://www.researchgate.net/publication/291175168>
- [4] ScienceDirect. Soil Erosion from Tobacco Tillage. <https://www.sciencedirect.com/science/article/abs/pii/S0341816219303571>
- [5] ResearchGate. Heavy Metals in Romanian Tobacco. <https://www.researchgate.net/publication/282174798>
- [6] Tobacco Atlas. Tobacco Atlas – Romania. <https://tobaccoatlas.org/factsheets/romania>
- [7] Global Action. Tobacco Around the World – Romania. <https://globalactiontoendsmoking.org/research/tobacco-around-the-world/romania>
- [8] Green Forum. JTI Romania Sustainability. <https://www.green-forum.eu/industry/20240123/jti-romania-invests-sustainably-in-its-business-and-communities-839>

- [9] Central European Journal of Public Health. Tobacco Control Policy. <https://cejph.szu.cz/pdfs/cjp/2013/02/06.pdf>
- [10] Dumitru, M., et al. Soil Management in Romanian Agriculture. *AgroLife Scientific Journal*, 2013.
- [11] Georgescu, M., et al. Challenges in Sustainable Tobacco Cultivation. *Agricultural Systems*, 2021.
- [12] Romanian Ministry of Agriculture. Annual Review of Agricultural Performance. *AgroPolicy Bulletin*, 2016.
- [13] Martinez, C. and Reilly, C. Heavy Metals in Tobacco and Implications for Public Health. *Science of the Total Environment*, 2018.
- [14] Novotny, T.E. and Slaughter, E. The global environmental burden of cigarette waste. *Tobacco Control*, 2015.
- [15] Gilmore, A.B., et al. Exposing and addressing tobacco industry conduct in low-income and middle-income countries. *The Lancet*, 2015.
- [16] Ott, M.A., et al. Tobacco and Environmental Health in Eastern Europe. *Environmental Research Letters*, 2017.
- [17] Euromonitor International. Tobacco in Romania: Market Report. *Euromonitor*, 2022.
- [18] EIONET. Climate Impact on Romanian Agriculture. *European Environment Agency*, 2020.