

MOLDOVA'S FOOD CHAIN PROBLEMS: WASTE AND LOSSES AFTER HARVEST

Laureana ODAJIU; Nicolae MOCANU, Silviu STANCIU
"Dunărea de Jos" University of Galați, 47 Domnească Street, Romania

ABSTRACT

This study analyzes food waste in the Republic of Moldova, focusing particularly on losses that occur on farms after crop harvest. The post-harvest stages are a critical point where a significant amount of food is lost. In 2022, a severe drought caused the loss of approximately 95,000 tons of field crops after harvest, including cereals (wheat, corn) and oilseeds (sunflower, soybeans), representing about 5% of total production. For fruits and vegetables, farms lacking proper sorting and storage facilities can lose 10–15% of their harvest, while modern cold storage could reduce these losses to 3–5%.

Agriculture is of major importance to Moldova's economy, contributing over 18% of GDP (including the food industry) and accounting for approximately 45% of the country's exports. The main causes of post-harvest losses are climate challenges, inadequate storage infrastructure, and strict export market requirements.

The study concludes that reducing food waste and strengthening Moldova's agri-food sector requires technological modernization, digitalization, and alignment with international standards.

KEYWORDS

Food waste, post-harvest losses, Republic of Moldova, food security, agri-food supply chain.



CONTACT

SILVIU STANCIU
"Dunărea de Jos" University of Galați, Romania
E-mail: Silviu.Stanciu@ugal.ro
Telefon: +40722244407
Website: www.ugal.ro

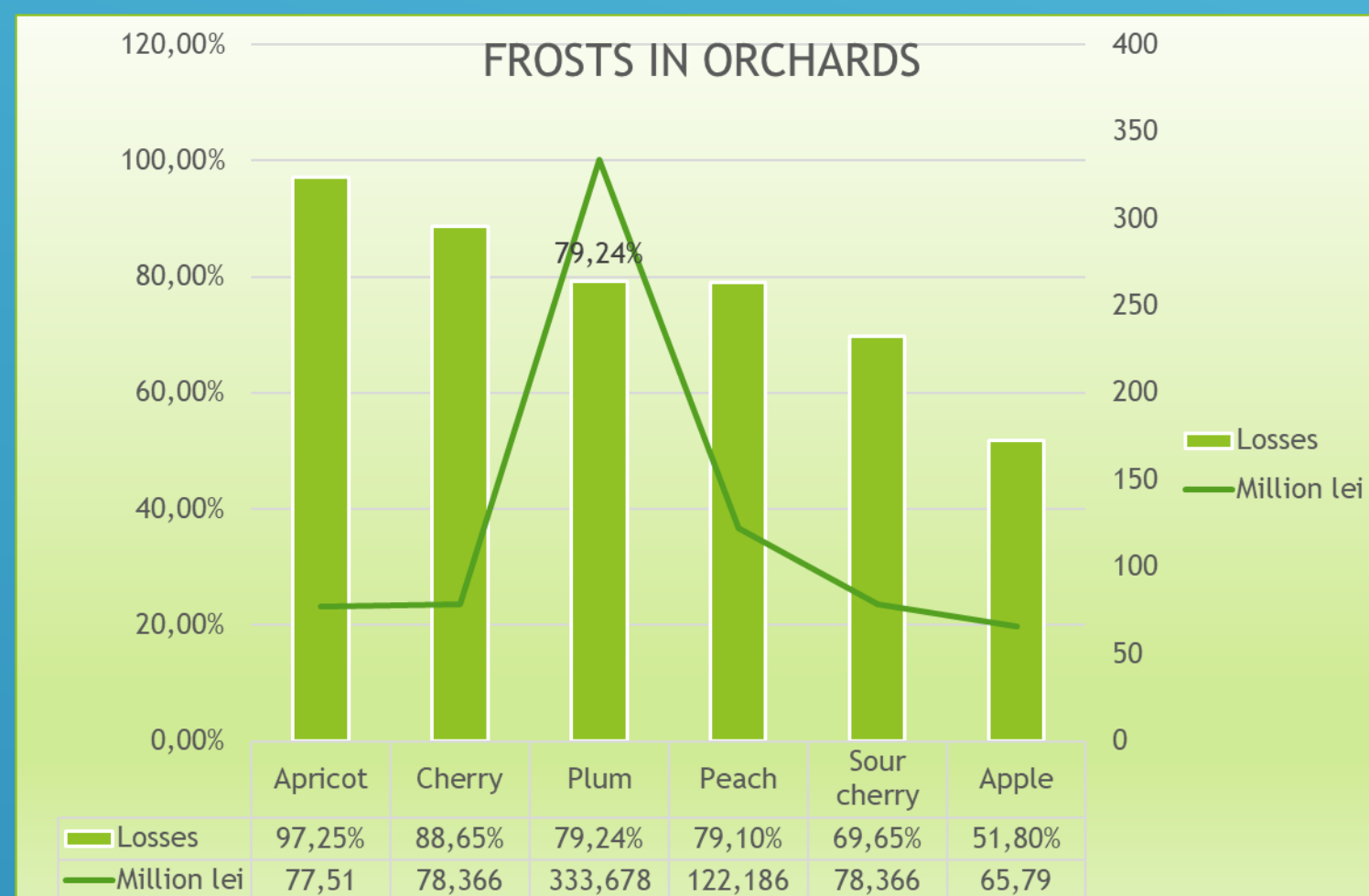
INTRODUCTION

Agriculture is one of Moldova's strongest economic pillars, generating over 12% of the national GDP and nearly half of its export revenues. Yet a substantial share of this production never reaches the market. Each year, tens of thousands of tonnes of grains, fruits and vegetables are lost during harvest and post-harvest handling — a result of outdated equipment, limited sorting and cooling capacity, and increasingly frequent climate shocks. The severe 2022 drought exposed the fragility of the system: production fell sharply, and post-harvest losses reached an estimated 95,000 tonnes. In horticulture, the lack of proper grading, pre-cooling and cold-chain infrastructure keeps losses as high as 10–15%, even though modern facilities can reduce them to below 5%. Reducing post-harvest losses is therefore not only a technical challenge, but a strategic necessity. Every tonne preserved strengthens Moldova's food security, boosts the competitiveness of its exports and supports a more resilient and sustainable agricultural sector.

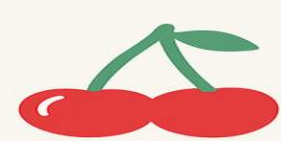
MATERIALS

Large volumes of Moldova's harvest are lost between the field, storage facilities and distribution.

CASE STUDY (april 2025)



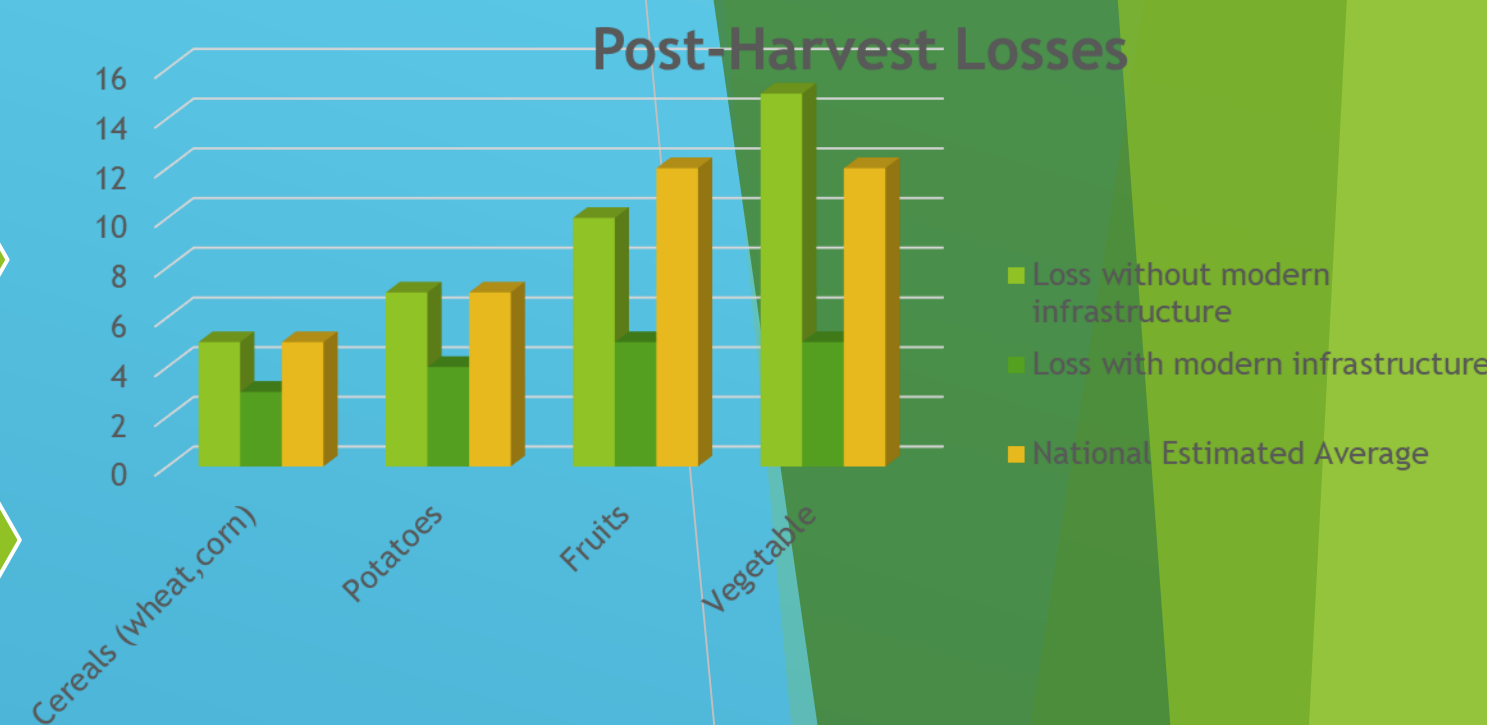
EXAMPLES OF MODERN POST-HARVEST INFRASTRUCTURE



STRĂȘENI (BUCOVAT)
Modern cherry sorting and packaging line
~1 million USD



UNGHENI – BERRIES GROUP
New cold storage facility for strawberries
reducing post-harvest losses by over 50%



In the spring of 2025, severe frosts devastated orchards across Moldova. In most affected regions, farmers lost over 70% of their expected harvest, and in some areas, losses reached nearly 100%. The cost of maintaining orchard health and preparing for the next harvest is estimated at 835 million MDL, a burden that threatens the economic survival of orchards and the country's fruit exports.



RECENT INVESTMENTS IN POST-HARVEST INFRASTRUCTURE

Moldova has made significant strides in modernizing its post-harvest food chain. Over 1,000 nationwide projects have been funded, with a total investment of approximately 340 million MDL.

Cold storage facilities ensure fruits, vegetables and grains remain fresh for longer periods.

Automated sorting line improve quality control and meet strict export standards.

Pre-cooling rooms rapidly reduce the temperature of freshly harvested crops, slowing spoilage.

Advanced packaging equipment minimizes damage during transport and extends shelf life.

ECONOMIC IMPACT

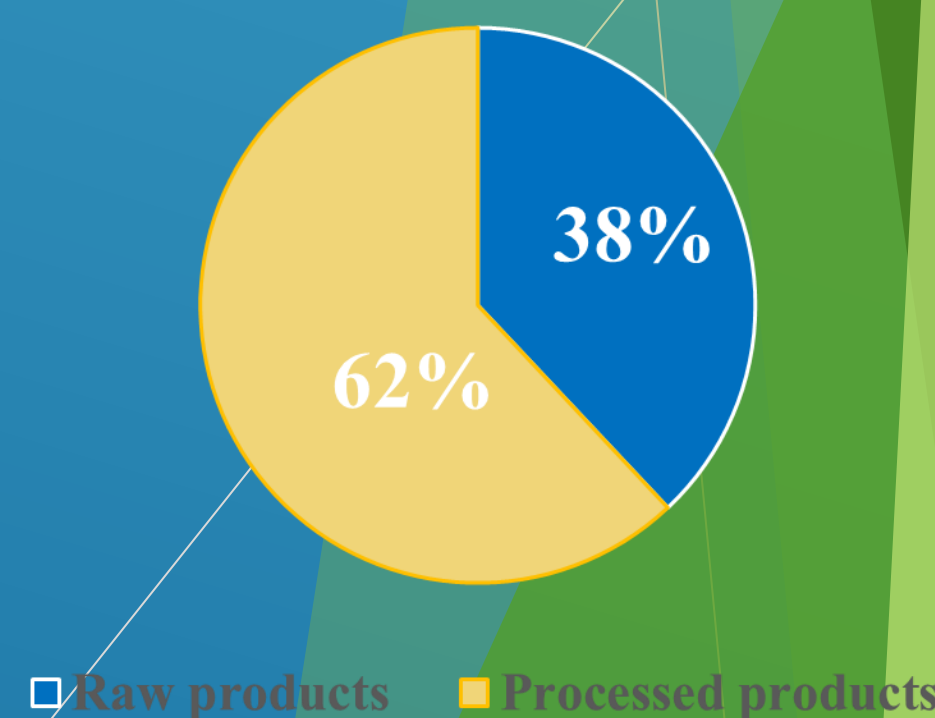
ESTIMATED FINANCIAL LOSSES

- Total agricultural losses exceed 2 billion MDL annually (drought+post-harvest losses+crop deterioration)
- Orchard losses due to frost and hail: 835 million MDL just for maintaining affected crops

IMPACT ON EXPORTS

- ❖ Agricultural products account for 45% of Moldovas exports
- ❖ About 62% are raw, unprocessed products, with low added value
- ❖ Post-Harvest losses reduce exportable quantities

Exports composition



CONCLUSIONS

Post-harvest losses represent a persistent and systemic challenge within Moldova's food supply chain, undermining both food security and economic resilience. Insufficient storage infrastructure, limited access to modern technologies, and increasing climate variability contribute to significant deterioration of agricultural products before they reach the consumer market.

These losses reflect not only a reduction in available food resources but also an inefficient use of labor, inputs, and financial investments across the agricultural sector. Strengthening post-harvest management through targeted investments, improved technological capacity, and coordinated institutional efforts is essential for enhancing competitiveness, reducing waste, and fostering a more sustainable and resilient agri-food system in Moldova.

