

Fruit seeds and kernels as by-products: Transforming fruit-processing waste into oil-producing raw materials

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INTRODUCTION

- Stone fruits and berries are widely cultivated, especially in Southeast Europe
- Fruit processing generates large amounts of stones and seeds
- These by-products are often discarded as waste
- However, they represent valuable oil-rich raw materials
- Their utilization supports sustainability and circular economy

AIM

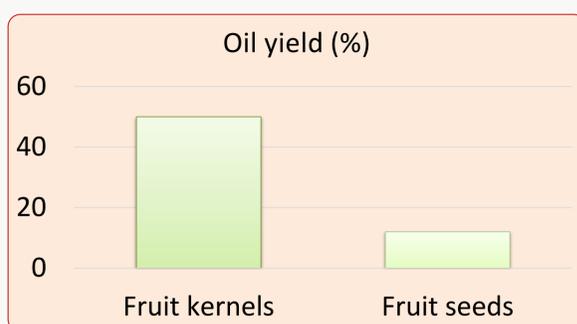
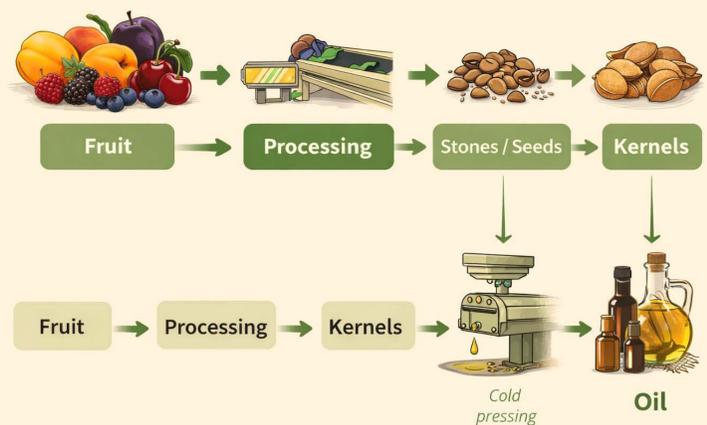


To evaluate fruit seeds and kernels as alternative oil-producing raw materials and highlight their potential for producing “special” cold-pressed oils.

MATERIALS & APPROACH



- Fruit seeds and kernels obtained as processing by-products
- Stones account for 7–20%, seeds for 5–15% of fruit mass
- Kernels and seeds processed shortly after separation
- Oil obtained by cold pressing



RESULTS & DISCUSSION



- Kernel oil yield: 40–60%
- Seed oil yield: 5–20%
- Fruit by-products show high valorization potential
- Oils belong to the group of “special” unrefined oils

APPLICATION POTENTIAL



Food industry



Cosmetics



Pharmaceutical applications

CONCLUSIONS

- Fruit seeds and kernels are not waste, but valuable oil sources
- High oil yields justify their industrial utilization
- Production of “special” oils expands the portfolio of plant oils
- Valorization contributes to sustainable food systems

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