

UDC [504.54:67]: 631(043.2)

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ENVIRONMENTAL-ECONOMIC-LEGAL TOOLKIT OF ORGANIC WASTE MANAGEMENT ON THE EXAMPLE OF FALLEN LEAVES

Burning leaves is a common practice in many countries, especially during the autumn period. However, this practice has consequences for human health and the environment, especially during martial law.

Burning leaves has a negative impact on human health due to the release of harmful substances into the air, such as carbon dioxide, sulfur dioxide, nitrogen oxides, benzopyrene and other toxic substances. These substances can cause various diseases, including respiratory diseases, asthma, bronchitis and other diseases. Burning leaves and dry grass is a multifaceted problem that poses an extreme threat to the environment. Unfortunately, not enough attention is paid to this problem in Ukraine. Each ton of crop residues burned emits approximately 9 kg of microparticle smoke, which contains dust, nitrogen oxides, carbon monoxide, heavy metals and carcinogens.

In addition, during the rotting of leaves without access to oxygen, benzopyrene is released, which can cause cancer, and the smoke contains dioxins - one of the most poisonous substances for humans. Plants on plots are often treated with pesticides, which can also be released into the air when burned. A lot of garbage also burns together with leaves, which significantly worsens the air condition. In addition to the danger to human health, burning leaves and dry grass leads to the following consequences:

1. Combustion of overwintering beneficial insects, such as ladybugs, which could be useful in the development of aphids in the spring, which are in the egg stage on branches of dry leaves.

2. Destruction of soil cover, as plant residues are directly burned, which leads to the death of soil-forming microorganisms, as well as to death from heavy metals formed during combustion.

3. Creation of ash instead of returning substances necessary for plant development to the soil. Ash is not an effective fertilizer and thus the burning of leaves each year leads to more and more impoverishment of the soil.

4. Destruction of seeds and roots of herbaceous plants on natural areas and lawns, as well as damage to the lower parts of trees and bushes and the upper parts of their roots.

5. Destruction of natural leaf litter, which can lead to an increase in soil freezing by 2-4 times.

6. The risk of fire spreading to natural areas when burning grass on homesteads or stubble on farm fields, which can lead to violations of legislation and the destruction of wild plants and animals. Most steppe fires start with stubble burning in fields.

7. Risk of forest fires and burning of residential buildings.

The first bans on leaf burning were introduced in Sweden in the 1950s. At that time in Sweden, the burning of leaves and rubbish was a widespread practice, which

significantly polluted the air and led to the spread of smoke and environmental pollution. In order to reduce the harmful effects of leaf burning, a ban on this practice was introduced in Sweden. Later, bans on burning leaves began to be introduced in other countries of the world, in particular in Germany, France, Great Britain.

In Ukraine, it is also forbidden to burn leaves, especially the legal responsibility increased during martial law. According to Article 50 of the Constitution of Ukraine, which guarantees everyone an environment safe for life and health, everyone has the legal right to fight against the unauthorized burning of dry grass and plant residues. According to Article 20 of the Law of Ukraine "On Protection of Atmospheric Air", it is not allowed to burn industrial and household waste. In accordance with Article 245 of the Criminal Code of Ukraine, destruction or damage to forest areas, green areas around settlements, along railways, as well as stubble, dry wild grasses, vegetation or its remains on agricultural land by fire or other generally dangerous means -

- are punished by a fine from five thousand four hundred to nine tons seaker tax-free minimum incomes of citizens or restriction of freedom for the period from two to five years, or imprisonment for the same term

The same actions, if they caused the death of people, mass death of animals or other grave consequences, -

- shall be punished by deprivation of liberty for a term of five to ten years.
- as of March 3, 2022, amendments were made to the Criminal Code of Ukraine, which strengthen responsibility for crimes against the foundations of national security under martial law. Thus, in Article 113 "Sabotage" to the list of crimes committed with the aim of weakening the state or other actions aimed at destroying people or causing harm to their health, from now on, intentional arson, including dry vegetation, is added. From now on, such actions are considered a crime punishable by imprisonment for a term of 10 to 15 years or life imprisonment with confiscation of property.

We all have our responsibility to preserve natural resources and the environment. Instead of burning leaves, we can use their recycling to create compost and other natural fertilizers. It is also important to pay attention to the efficient use of energy, switching to the use of alternative energy sources and reducing the emission of pollutants into the atmosphere.

In conclusion, I would like to emphasize that burning leaves is not just an unpleasant smell or smoke. This is a serious environmental problem that endangers our health and the environment. But our possibilities are not limited to banning the burning of leaves. We can adopt responsible behavior by using leaves to create compost and natural fertilizers. We can also switch to alternative energy sources and use energy efficiently to reduce emissions of harmful substances into the air.