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ODOUR PROBLEM OF ANIMAL KEEPING IN HUNGARY

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Among the harmful effects of human activity on the environmental elements, the pollution of ambient air with odors has a special place. The peculiarity of the odor load is due to the fact that its nature and extent are directly perceived by the population, so the population smells common.

Keywords environmental odour, air pollution, animal keeping, legislation

Investigation of the validity of public complaints, technical substantiation of official decisions on the reduction or eventual elimination of emissions (objective quantification of the odor problem) is a measurement task that requires significant equipment and high preparedness. [1]

A common undesirable side effect of animal keeping is an unpleasant odor. [2] From the point of view of the assessment of odor emissions, it is important to distinguish between livestock (backyard) livestock and recreational livestock farming carried out by the population as an economic activity with a larger volume and, as a result, significant emissions. [3]

In the case of small-scale recreational or self-sufficient livestock farming, small-scale activity rarely results in the development of significant, already disturbing odor concentrations.

In addition, the change in the lifestyle of the rural population in recent decades has resulted in a decline in backyard animal husbandry.

At the same time, the decline in backyard animal husbandry in several settlements also resulted in a more sensitive response of the non-livestock population living in the area to the otherwise insignificant odor effect of the remaining backyard stock,

Backyard animal husbandry and its odor effect are nowadays a common cause of neighborhood disputes and legal lawsuits. [1] In previous years, these disputes were often settled on the basis of local livestock regulations of municipalities. These regulations contained restrictions, albeit indirectly, in relation to odor emissions from livestock farming.

With the repeal of these regulations in 2012, this is not possible at present, so backyard animal husbandry is currently being approached as a neighborhood issue, and odor measurements are being carried out to assess the extent of the disturbance. [1] It is also an essential issue to assess the conditions of animal husbandry in order to assess the necessity or inevitability of the release and, in this context, of the disturbance.

In most cases, the volume of livestock farming in the framework of economic activity exceeds backyard livestock farming by orders of magnitude.

In addition, we need to base our assessment of the emissions of related activities, such as manure storage, composting, field application, operation of slaughterhouses and food establishments, destruction of slaughterhouse by-products and pests, on environmental protection, in particular air quality. [4], [5], [6], [7]

The odor ("environmental odor disturbing the population") and the related tasks have been incorporated into the legislation on air quality protection, for example, Government Decree 306/2010 (XII. 10.) contains a definition of odor and empowers the competent authority to prescribe operational requirements for odor-emitting technologies.

In the environmental permit of livestock farms, the issues of manure storage, handling and transport, as well as the application of manure in the field are regulated in all cases, the purpose of which is to reduce the odor effect to a significant extent.

The authority also has the option of requiring the installation of odor control equipment. [4] Among the passive and active methods of reducing the odor effect, in the case of livestock farms, the passive methods are dominated by the very frequent use of a protective forest strip or various cover films. Other activities related to animal husbandry, such as the processing of slaughterhouse by-products or animal carcasses, use active odor reduction methods, in most cases biofilters.

No legal or technical regulation improves the condition of the environment if its observance or fulfillment cannot be objectively verified.

Therefore, it is necessary that the odor emission (emission) and the odor effect (immission) in the environment can be quantified and measured.

In addition, it is necessary to regularly determine the proper operation and odor reduction efficiency of odor control equipment [7], which requirements are also set out in the permit of the authority.

When approving the establishment or expansion of livestock farms, the protection zone to be designated for the purpose of air quality protection is of special importance.

The protection zone may not contain a residential building, a holiday building, an educational, health, social and administrative building or a residential area designated in the development plan [4], therefore the size of the protection zone around the site means the minimum required distance from the settlement. The protection zone is designated on the basis of the impact area determined by propagation modeling based on the measured values of the site's odor emissions.

The result of the model calculation and the size of the impact area determined by the calculation are influenced by the type of the applied model, the input data of the model (mainly atmospheric data and the emission data of the plant), and the value of the permissible concentration in the ambient air.

Both the legislation and the technical standards in force contain restrictions on the models used and the input data, so if they are used (high-altitude meteorological data, annual hourly wind data, etc.), the model calculations can give comparable results. [4], [7], [8] In the case of modeling the spread of odor emissions from livestock farms, it is of paramount importance that the odor emission data used in the model calculation be real, measured data, as even a small change in housing conditions can significantly change the amount of odor emissions.

In the model calculation, the boundary of the impact area is given by the envelope along which the concentration of the tested air pollutant decreases to the expected value (fixed by law).

It is important to mention that in the case of odors, the limit values for ambient air have been laid down in legislation [6], the boundary of the impact area is set at 3 SZE / m³ (odor effect of intensive animal husbandry) and 1.5 SZE / m³ (processing of animal remains).

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