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THE TECHNICAL INVESTIGATIONS OF SPRAYERS IN POLAND IN ASPECT OF PROTECTION OF NATURAL ENVIRONMENT

Загрязнение сельхозугодий в результате применения химических методов является серьезной проблемой для многих стран. Необходимо минимизировать угрозу загрязнения окружающей среды, исходящую от применения химических способов защиты растений. Химическое обработка производится надлежащим образом только в случае применения технически эффективного оборудования. Поэтому представляется целесообразным проведение сертификационного исследования такого оборудования. С 1999 г. в Польше проводится обязательные технические испытания распылительных аппаратов. Эти испытания выявляют надежность работы агропульверизаторов. Законодательной основой системы технических испытаний является Закон о защите сельхозпродукции.

The contamination of agricultural environment in result of usage of chemical method is serious problem in many countries. It should aim to minimalizing the threat of contaminations which coming from chemical protection of plants. Chemical intervention is correctly conducted only then, when it will be executed with technically efficient equipment. Therefore it was necessary to introduction of certificate investigations of equipment to plants protection. Since year 1999 has begun in Poland the obligatory technical investigations of sprayers. These investigations check the regularity of work sprayer. The legal basis for system of investigations of technical sprayers was law about the crops protection.

Threats from use of inefficient equipment

The investigations of sprayers used to interventions of the plants' protection permit on avoidance the basic sources of contamination of air, soil and subterranean waters, which are result from incorrect intervention (fig.1).

Some elements of inefficient sprayer are: leaks witch leading to undesirable leakages of working liquid, or incorrect stabilization of field beam, which give repeated spraying the same surface. It causes to local contaminations of soil, subterranean waters as well as air.

Technical investigations of sprayers

The technical investigations of sprayers are possible to compare to periodical technical investigations of cars. They be executed periodically (once on three years) and they have to check the efficiency of individual elements, and also to put the diagnosis for or against further exploitation. Investigations of equipment of protection plants does concern field sprayers as well as orchard, attached, hung and self-propelled. Investigations in Poland do specialist institutions, witch possess qualified personnel and also have indispensable equipment to their carrying out. The initiating the system of investigations as well as holding the control over him was charged to General Inspectorate of Plants Protection from seat in Warsaw.

Organization of investigations of sprayers in Poland

The authorizations to the conformity certification of equipment gives General Inspectorate of Plants Protection. On day 31. December 2003 in whole country be licensed to carrying out investigations 321 points. Changes of quantity of control station of sprayers (CSS) in individual years shows fig.2.

The largest growth of quantity CSS was observe on the turn years 1999/2000, what be connected with beginnings the creating of system of the certification of equipment. In next years the quantity of station of control got smaller, what be caused with smaller needs of market.

The investigations of sprayers be carried out at institution witch doing their or directly at client. Every examinees sprayer with positive opinion after investigation receives a special

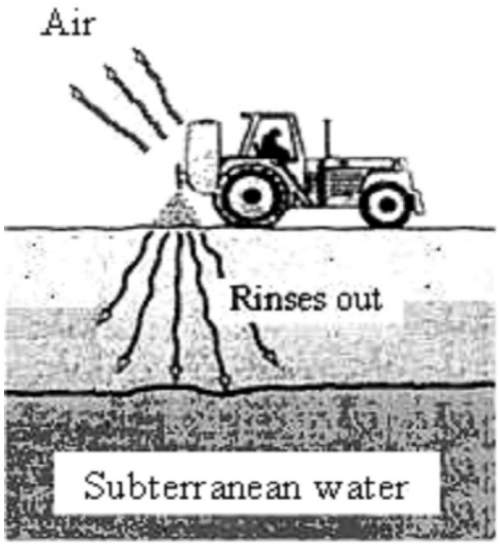
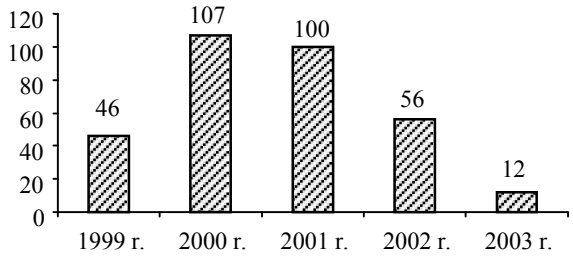


Fig.1. Contamination of air, soil and subterranean water from incorrect spray



Source: General Inspectorate of Plants Protection

Fig.2. The quantity of licensed points to investigations of sprayers in years 1999/2003

control tick. Poland possesses over 300 thousand sprayers dependent to the obligatory technical investigation.

Tab.1. Quantity of investigations of sprayers in years 1999/2003

Quantity of sprayers in years 1999/2003		Quantity of examined sprayers in 2003	
total [specimen]	examined [specimen]	[specimen]	[%]
301829	**98862**	**37141**	**32,76**
Source: General Inspectorate of Plants Protection			

The table shows the changes of investigations of sprayers in analyzed period. In year 2003 with totality was examined almost 40 thousands of sprayers. On gross amounts of equipment examined in this year until 98 % got control ticks, what was about 15 % more than in last years. On the whole test period of sprayers in Poland until the end of 2003 was examined almost 100 thousands of machines (that state 1/3 of their general quantity). In comparison with year 2002 the quantity of examined equipment growed up about over 10 %.

Recapitulation

Through investigation of sprayers should be understand their diagnostics. Technically efficient and correctly used sprayer will not poisoned natural environment. The consciousness of Polish farmers improves under in relation to consequence of use of inefficient equipment. This is good situation, because the wide understood protection of agricultural environment depends from farmers mostly. Higher level of acquaintance of questions of environmental protection like also use to protection of plants of skillfully technical equipment will contribute to measurable effects, what are healthy food and friendly environment. With this is conclusion, that the carrying out of the certification investigations of equipment to the plants protection is necessary, which shows the conducted analysis.

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