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# Ecological and Legal Problems of Agro-Chemicalization

M.M. Brinchuk\*

## I. Introduction

Agro-chemicalization poses special legal problems associated with protecting the environment from chemical pollution. Agro-chemicalization is conducted within the bounds of specific organizational and legal mechanisms. In contrast to other forms of toxic waste handling which are regulated by environmental law (e.g., dumping of sewage water, discharge of pollutants into the atmosphere, solid industrial waste disposal, etc.), agro-chemicalization is an activity with a single purpose. Currently, the inevitable consequence of agro-chemicalization is pollution. There is much discussion in the press, including the scientific literature, pertaining to the problems presented by and the advisability of using agro-chemicalization.<sup>1</sup>

The advisability of using agro-chemicalization may be determined by balancing economic benefits against ecological losses. From a scientific viewpoint, such a comparison assumes the development of a scale of social values and priorities. The interests of society should be taken into account in producing the necessary quantity of agricultural products, in obtaining quality chemical products, and in preserving the environment. These interests should also be taken into account in the formulation of a legal mechanism for the ecologically sound use of agro-chemicals.

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1. Yablokov, A., *Game Against Pests*, Pravda, Oct. 26, 1987; Aydak, A.I., *Return of the Lark*, Sovetskaya Rossiya, June 17, 1988; *The 26th Congress of the Communist Party of the Soviet Union (CPSU) and Legal Problems of the Agronomist and of Environmental Protection*, Moscow, 1987, pp. 150-53.

The ecological and legal aspects of agro-chemicalization are regulated by a series of legislative acts. Until recently, the fundamental legal postures in this sphere were governed by sanitary legislation. Legal principles were incorporated into the requirements envisaged by the Principles of Legislation of the USSR and Union Republics concerning public health, and the use of new chemical substances, agents and methods for the production and processing of food products. These same principles were considered regarding the use of growth stimulators on agricultural food crops and animals, and chemical agents for protecting plants. They are permitted upon authorization by the USSR Ministry of Public Health.<sup>2</sup> These Acts include Sanitary Rules for the Storage, Transport and Application of Pesticides in Agriculture,<sup>3</sup> Sanitary Rules for the Storage, Transport and Application of Mineral Fertilizers in Agriculture,<sup>4</sup> and Instructions on Technical Safety with the Storage, Transport and Application of Pesticides in Agriculture.<sup>5</sup>

Some requirements pertaining to the protection of the environment from agro-chemical pollution are embodied in legislation regulating water and air. Land use legislation practically ignores agro-chemical regulation despite the fact that agro-chemicalization is a major source of pollution in soil. In 1987, the USSR Ministry of Public Health and the USSR *Gosagroprom*<sup>6</sup> adopted a joint resolution which mandated that a certificate of quality be supplied for each lot of crop grown.<sup>7</sup> The goal of the resolution was to provide for inspection of agricultural products to determine the residual content of agro-chemicals.

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2. Art. 27, § 3 Ved. Verkh. Sov. SSSR, No. 52, item 466 (1969), as amended Ved. Verkh. Sov. SSSR, No. 25, item 438 (1979).

3. *Id.*

4. *Id.*

5. *Id.*

6. The *Gosagroprom* of the USSR (the State Agricultural Industrial Committee) was created in 1985. As an extremely centralized system, the *Gosagroprom* absorbed not only five Soviet ministries, but also the whole system of consumer cooperatives and all the collective farms of the country. O. IAFFE AND P. MAGGS, *THE SOVIET ECONOMIC SYSTEM, A LEGAL ANALYSIS*, 23 (1987).

7. *Izvestiya*, July 13, 1988.

Protection of the environment from agro-chemical pollution in the USSR cannot meet society's present-day requirements for ensuring the ecologically safe use of agro-chemicals. The shortcomings of the legal regulation of agro-chemical use, and the production volumes of agro-chemical agents in the USSR and their application, resulted in a decision being made to prepare a draft resolution of the USSR Council of Ministers on measures for safeguarding the health of the population and protecting the environment while using agricultural chemicalization agents.<sup>8</sup> Presently, the draft is still undergoing revisions. A whole set of legal requirements may be attached to the resolution which would require testing and monitoring agro-chemicals, standardizing the permissible level of soil pollution, establishing conditions and procedures for applying pesticides and mineral fertilizers, and carrying out of State inspection of environmental protection and agricultural product quality.

## II. Sanctioned Procedures for Use of Agro-chemicals in the USSR

The use of agro-chemicals without the appropriate scientific-ecological validity may do enormous harm to nature and society. Therefore, it is important to establish through legislation the optimal set of inspection means. One such means is to sanction procedures for the use of each pesticide in isolation. Similar procedures have been established in many countries. The essence of the sanctioned procedures for safe agro-chemical use consists of special testing and an examination of the degree of potential danger of a chemical substance to the environment and to human health. If, in using the substance, it is impossible to prevent harm to natural objects or to human health, the use cannot be sanctioned.

The monitoring of agro-chemicals is conducted by the Inter-Departmental State Commission for Pesticides and Mineral Fertilizers. This Commission has existed in the USSR

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8. *On Measures for Safeguarding the Health of the Population and Protecting the Environment While Using Agricultural Chemicalization Agents*, SP SSSR, (Draft Resolution of the Council of Ministers of the USSR).

since 1960. It was created initially under the USSR Ministry of Agriculture and included representatives from the USSR Ministries of Agriculture, Public Health, Mineral Fertilizer Production, Melioration and Water Supply, and the USSR State Committee for Science and Technology. The Ministry of Agriculture has an interest in the continuous expansion of the range of pesticides recommended for use in agriculture. To achieve its goals, the Ministry of Agriculture resorted to pressuring the Commission which was headed by an employee of the Ministry. Consequently, the ecological assessment of any given pesticide's performance was not always objective. The many years of experience of *Goskhimkomissiya's* (The State Chemical Commission) activities ensured that its incorporation within the Ministry of Agriculture system was unsuccessful. Presently, while the issue of creating a new commission is being decided, the *Gosagroprom* is also exhibiting an interest in having the Commission remain under its authority. The efforts of *Gosagroprom*, however, are encountering opposition from many departments, first and foremost from the USSR Academy of Sciences. A proposal has been made to create a commission under the USSR State Nature Committee, a special environmental protection organization not connected with economic activities.

The monitoring of pesticides and mineral fertilizers and the sanctioning of their use in agriculture should be preceded by a careful execution of their testing. During the testing process, information is obtained about the degree of toxicity of the agro-chemical and its chemical stability in the environment. The preliminary study of pesticides and mineral fertilizers consists of ensuring their harmlessness to man, agricultural livestock, crops, and environmental entities, while observing the conditions and requirements in their preparation, storage, transportation, and application.

The following measures should be implemented in tests conducted at the stage preceding the monitoring of the agro-chemicals:

- a) establishing a standard of maximum allowable concentration of the monitored chemical substance in

the soil (as well as in the surrounding air and water when necessary) and a corresponding maximum allowable residual quantity of the substance in food products and livestock feed;

- b) developing methods for determining substance content in the environment, in food products, and feed; and
- c) developing scientifically sound regulations for agro-chemical use. A deficiency in previous agro-chemical use in the USSR has been the lack of technical and legal instruments requiring inspection of the environment and the population's health, thereby detecting agro-chemical pollution.

Clearly, both domestically produced agro-chemicals and imported ones should be subject to agro-chemical monitoring. Agro-chemical purchases overseas should adhere to the requirements stipulated by Soviet legislation concerning environmental protection during agro-chemical use, methods for determining suitable substances in the environment, food products, and livestock feed.

Data from world and national experience with agro-chemical use demonstrates that the process of using chemical agents for many years has resulted in a need for change in the attitude toward such agents. Such a change could be expressed by stricter use limitations or the total prohibition of the agent's use. For instance, the use of dichlorodiphenyl-trichloroethane (DDT) is banned in most countries around the world. Several years ago in the USSR, physicians and scholars posed the question of banning the use of the herbicide "butifos," widely used since 1964 for defoliation of cotton. Physicians and scholars determined that this highly toxic substance causes a dangerous allergic reaction, liver disease, and abnormal pregnancies and births. Pressure from society, physicians, and scholars caused the use of butifos to be prohibited. In recent years, other pesticides have also been banned.<sup>9</sup>

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9. Literaturnaya Gazeta, July 30, 1986.

To update procedures and regulations for agro-chemical use, legislation must include a requirement of periodic re-monitoring of chemical agents, particularly pesticides. Presently, the creation of scientifically sound procedures for the use of existing pesticides is urgently needed to ensure protection of the environment and the health of people in the USSR.

### III. State Inspection

An important condition for efficient operation of the legal mechanism in protecting the environment from agro-chemical pollution is the organization of appropriate inspection. Supra-departmental and inter-departmental inspections are distinguished by the sphere of activity of the inspecting organizations.

The supra-departmental inspections were performed for a long time by the *Gosagroprom*, represented by the All-Union Scientific Production Association, "*Soyuzsel khozkhimiya*," the USSR Ministry of Public Health, and the USSR State Committee for Hydrometeorology and Environmental Inspection. The effectiveness of the inspections was minimal. The *Gosagroprom* (and its sub-unit *Soyuzsel khozkhimiya*) executes extensive economic and organizational functions. Thus, it is unable to carry out objective inspections needed to protect the environment from agro-chemical pollution. The formation of the USSR State Committee for Nature Protection (*Goskompriroda*)<sup>10</sup> is changing the situation. The appropriate sub-units of *Goskompriroda* provide for the inspection of *kolkhozes* (collective farms), *soukhozes* (State farms), and other agricultural enterprises to ensure adherence to the legal requirements for proper handling of agro-chemicals during their production, transport, storage, and application. Simultane-

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10. By creating this All-Union, or federal, State Committee on Environmental Protection, known as *Goskompriroda* in 1988, and with the establishment of analogous committees for environment protection in republics and local regions, the USSR moves toward instituting effective means to set and publicize enforceable standards for protection of the environment. Robinson, *Perestroika and Priroda: Environmental Protection in the USSR*, 5 PACE ENVTL. L. REV. 351, 367 (1988).

ously, the USSR Ministry of Public Health and its local organizations should take an active role in carrying out the inspections. The USSR Ministry of Public Health should bear responsibility for barring the sale of agricultural products which contain residual quantities above the maximum level allowable.

Preventing damage to the environment and human health from agro-chemicalization is possible with consistent observation of the appropriate legal requirements concerning their use. This task should be accomplished by inter-departmental inspection organizations. According to present legislation, environmental inspections have been entrusted to departments of *Soyuzsel khozhimiya*. Considering the social importance of regulating the use of agro-chemicals and the volume of chemicalization work being performed, an independent-inspection unit not connected with the execution of agro-chemical work should be created.

#### IV. Conclusion

In the USSR, progress is being made in improving the organizational and legal mechanisms for protecting the environment from agro-chemical pollution and putting such mechanisms into practice in accordance with society's nature preservation requirements.