Species diversity of amphibians in the spawning ground in the village Schomyslitsa limited to 3 types.

Gray toads dominated (97,2%) while of outsiders – the moor frogs and green toads was the share only 2,0 and 0,8% respectively dominated. Emergence of amphibiouses on a spawning area wholly depended on weather conditions. In a clear weather, at a temperature from 9 to 13 °C, moderate humidity and pressure, the greatest number of species of Amphibia was observed. Population density of amphibiouses on a spawning area was very low and made 0,26 individuals on 1 m².

The analysis of features of manifolding of amphibians showed that the index of density of layings of caviar on 1 m² a reservoir in a reservoir of of Shchomyslits makes about 0,99. In the territory of all spawning area only seven places with the postponed layings of caviar of an moor frog were revealed. In process of increase in air temperature, the quantity of layings of caviar increased and by the time of the end of spawning made 111. All layings of caviar of gray and green toads were found in 4 places practically in a northern part of a reservoir.

It is well-known that during migration of an amphibian are more subject to anthropogenous loading (Pikulik, 1985; Handogiy, 1995). By us it is established that of 1500 m of Highway Shchomyslits – Minsk was the share about 236 frogs who died under wheels of the motor transport. In separate years of the current century (2006) here on the road about 350 frogs perished (the oral message A. V. Handogy). The index of density of the died amphibians on this highway made 0,46 frogs on 1 meter (2016).

Thus, absence in city landscapes of the favorable reservoirs for manifolding results in high concentration of amphibiouses on simple spawning areas and as a result – to their high death on roads at migration to them.

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INFLUENCE OF MINERAL FERTILIZERS ON HEAVY METALS ACCUMULATION IN SOILS

Besides main components of fertilizer (batteries) their composition usually contains heave metals and metalloids impurity. Their content degree depends on quality of feed stock and its processing technology. Heavy metals and arsenic concentration in nitrogenous and potash fertilizers is low. These fertilizers also can contain some not big impurities of Mn, Cr, Ni, Zn, Ti – up to 100–400 mg/kg, as well B – up to 50–60 mg/kg. Phosphoric fertilizers (table 1) are most enriched with chemical elements impurities.

Table 1. – Impurity level in superphosphates, mg/kg

Impurity	Contents	Impurity	Contents
Arsenic	1,2–2,2	Lead	7–92
Cadmium	50–170	Nickel	7–32
Chrome	66–243	Selenium	0–4,5
Cobalt	0–9	Copper	4–79
Vanadium	20–180	Zincum	50–143

By mineral fertilizers dose of 109 kg/hectare of NPK about 7.87 g of Cu, 10.25 – Zn, 0,21 – Cd, 3,36 – Pb, 4,22 – Ni, 4,77 – Cr come into the soil. According to TsINAO, 3200 t of Cd, 16633 t of Pb and 553 t of Hg were brought in soils during entire period of phosphoric fertilizers use in former USSR. The majority of chemical elements got into soil is in low mobile state. Cd half-life elimination is 110 years, Zn – 510, Cu – 1500, Pb – several thousands of years. By long time using (more than 70 years) of mineral fertilizers on soils with naturally low heavy metals content does not lead to achievement in them extreme or approximately admissible levels of metals concentration. But even in these cases somw species of crops, especially their vegetative parts, may contain metals and metalloids at MAC level. It can be linked with broader fertilizers effect onto «soil-plant» system. Mineral fertilizers using in soils naturally enriched by heavy metals can lead to metals accumulation in agricultural plants above MAC. Negative effect of systematic fertilizers use for plants can be caused by soil solution acidifying that increases mobility of heavy metals compounds and leads to change of microorganisms species structure. To prevent soil acidifying it is affected by lime application, but heavy metals get into soils as well as lime part (table 2).

Table 2. – Content of heavy metals in fertilizers and a lime, mg/kg

Type of the fertilizer	Zn	Cu	Ni	Pb	Fe
Potassium chloride	3,11	8,67	4,33	8,67	680,53
Ammonium nitrate	0,20	0,25	0,84	0,05	603,00
Lime	10,83	12,67	26,00	26,50	4853,00

It is difficult to set limits of safe maintenance for each element in the soil. Elements toxicity degree depends on granulometric composition of soil, its acidity, humus content, plants species and etc. If crop reduces productivity to 5–10% by presence of some metal, therefore its level content is considered as toxic. Thus, heavy metals balance calculation allows to determine ecological situation condition concerning heavy metals pollution of soils and gives scientifically based forecast about possible deterioration danger in situation as mineral fertilizers are not only a source of metals in agroecosystems, but also powerful tool of their cycles intensification.