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DETERMINATION OF THE ENVIRONMENTAL RISK OF THE USE OF WASTES

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Summary. Problem statement. Nowadays to analyze and solve problems involved in making decisions related to risk, widely used method of trees. Among its advantages include ease and clarity of graphical representation. **Analysis publications.** Nowadays, there is absent a completed classification of risk in general and in particular environmental risk, corresponding to the level requirements But, attempts to create a classification of environmental risk is. **The purpose of the article.** Installing the possibility of using waste of IV hazard class by building and calculation of decision trees. **Problems.** The analysis conducted by constructing of a decision tree allows to quantify the risk reduction to solve the problem "whether to use low-hazard waste." In case, if it is not done any quantitative studies on the influence of waste on the environment, using of industrial waste reduces the environmental risk in 1.5 times. **Conclusions.** Due to the lack of data on reducing the influence of industrial waste on the environment (using them for manufacture of building materials) can be made the analysis in different levels of reduction influence . In other words, if we consider that using of granulated slag from the production of silicomanganese composed of fine-grained concrete we will get reduce of emissions manganese in ammonium acetate buffer in about 10 times (manganese content in soil is 15 MPC), will be built a new decision tree. In this case, the use of industrial waste reduces the environmental risk in 1.95 times.

Keywords: *environmental risk, decision tree, heavy metals, maximization, construction materials.*

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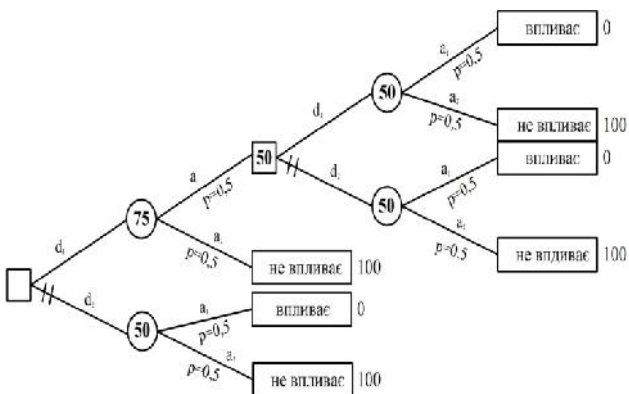
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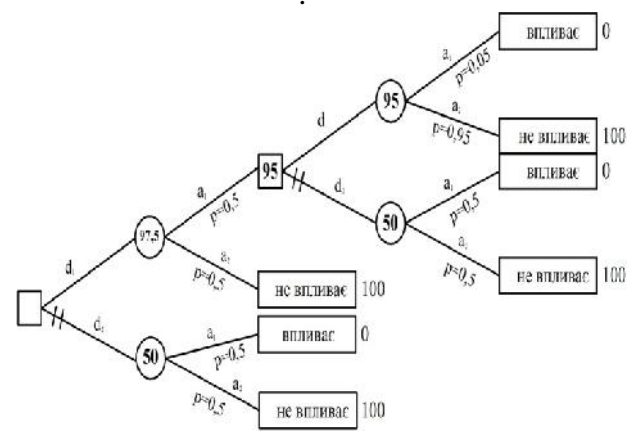
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3. : : / -
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4. // – 2004. – 5. – . 28-31. /
5. 11- , « » , 17-25 2015. – -
 , 2015. – 13 : – . 7-9.
6. / // : /
 - – , 2013. – .
17. – . 201-206.

REFERENCES

1. Babushkin V. N. *Ekologicheskie riski: raschet, upravlenie, strahovanie* [Environmental risks : calculation, management, insurance] *Uchebnoe posobie* – Manual. Moscow, Vyssh. shk., 2007. 360 p. (in Russian).
2. Vaganov P. A., Im M.-S. *Ekologicheskie riski* [Environmental risk]. Moscow, Sankt-Peterburg, 2001. 123 p. (in Russian).
3. Kasyanenko A. A. *Sovremennye metody otsenki riskov v ekologii* [Modern methods of risk assessment in ecology]. *Uchebnoe posobie* – Manual. Moscow, Izd-vo RUDN, 2008. 271 p. (in Russian).
4. Ovchinnikova I. N., Vasilevskaya V. D. *Kriterii ustoychivosti pochv k zagryazneniyu pri otsenke ekologicheskogo riska* [Criteria for soil resistance to pollution in the environmental risk assessment]. *Ekologicheskie sistemy i pribory* – Ecological systems and devices. 2004, no. 5, pp. 28-31. (in Russian).
5. Spilnyk N. V. *Derevo resheniy dlya opredeleniya ekologicheskogo riska* [Decision tree to determine the environmental risk]. *Materialy za 11-a mezhdunarodna nauchna praktichna konferentsiya, «B'deschite izsledvaniya»* – Proceedings for 11th international scientific and practical conference "Bdeschite izsledvaniya. *Ekologiya. Himiya i himicheski tehnologii. Selsko stopanstvo* – Ecology. Chemistry and chemical technology. Agriculture. 2015, no. 13. Sofiya. «Byal GRAD-BG» OOD. pp. 7-9. (in Russian).
6. Yakovyshyna T. F., Spilnyk N. V. *Ekologichna otsinka vplyvu vidvalu shlaku silikomargantsyu na rozpodil vazhkyh metaliv v Gruntovomu profile* [Environmental impact assessment of silicomanganese slag heap to the distribution of heavy metals in soil profiles]. *Ekologiya i pryrodokorystuvannia* – Ecology and nature. Dnipropetrovsk, 2013, no. 17, pp. 201-206. (in Ukrainian).

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