

APPLICABLE METHODS FOR THE EVALUATION OF IMPACT ABOUT THE CONDITIONS UTILIZATION OF THE WASTE IN THE MANUFACTURE CARDBOARD

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Abstract: Which conclusions can fire at abaft implementation of studious methods for the quantification impact about average, activity of remake the waste: impact about the above-ground water is negative, positive influences shall appear just through the modernization reprocess the installation of remake the waste and the station of purging the worn-out reduced, the addition of waste in the composition of the paste of paper; The platforms of store the residues results from waste as well as the mud are due to corresponds the ecologic requirements, so that to is avoided the transport of to the pluvial waters pollutant compounds have these residues; the factors of average: Soil, air and human placements affected by-paths in special of the inadequate storage solid residues and the mud results from the activity of remake the waste.

Keywords: by-products of milk industry, oats flour, and bakery.

1. INTRODUCTION

The environment represents the ensemble of natural elements and artificial in which is unfurled his life the total amount of exterior factors of human organism such as: The atmosphere, the relief, light, the temperature, etc. as well as alive beings.

The air, the water, the soil, constituents have the biosphere am knower below the name of factors of average. In several of these is developed a fauna and a specific flora and can survived am due to assured a how much average the clean still healthier maul.

Know the conditions of life from the frame of average factor; he drives to an efficient protection. Is enforced to be known the sources of pollution, respectively which pollutants burn can harm the development life and then this impact about average life.

For the characterization, comparison and the mastery of specific of a phenomena guys of activities and know impact them about average to a moment gives, needs a model appreciatory global about state of his health pollute average. The basic what condition is prompted of a model is permitted comparison average state to a moment gives of property possible in a future close.

In last 30 of years they developed a series of the fashions and techniques of global quantification impact and the degree of pollution, carry surprising appearances of the problem analysis and methods of analysis the complicated maul, carry permit the combinations the maul many factors.

For the appreciation impact about circumambience, is rendered the implementation five methods appreciatory impact produced of the activity of remake the fated waste of the manufacture of the brooch paper and cardboards from Vrancart Adjud.

Were take as model of reference an installation of remake the waste with a capacity of 200 t/day waste.

2. MATERIALS AND METHODS

2.1. The graphic method of satisfy of a criterions, with advert to the average pollution

The work is adverted to the method application for the settlement of the profile of the activity, with acclimation specific to the stationary industry.

For the appreciation of the degree of selected pollution as the illustrative method the graphic method, with the utilization of the marks with the aisles: 2 - 4. 99; 5 - 5. 99; 6 - 6. 99; 7 - 7. 99; 8 - 8. 99; 9 - 10.

In the case of fittings of remake the fated waste of the manufacture of the brooch paper and cardboards, is can appreciated that, merely the quality of the air and the waters housekeepers preciously. The industrial productive waters a major impact about quality of the waters from receiver by-pathes with 2 - 4, the quality of the soil on which is stored the residues results from the remaking of the waste is can noted with 8 and the administration residues with 6.

The method impact evidence the water, through the content of suspensions.

This model presents a simple quantification in the qualitative general appreciation of the factors of average and can be considered for an appreciation schernatic.

2.2. The method index of average quality

For the calculus index of quality, as indicator for the appreciation of the degree of pollute average in specific conditions of the technologies of remake the waste from Vrancart Adjud is considered useful the presentation of technological phases rendered in the table no.1.

Evaluation of impact produced of the remaking of the waste from Vrancart Adjud. Table 1.

Sources of pollute	Effect about the factors of average			
	Human water	Air.	Soil	Placement
Warehouses of waste	0	0	-1	0
Fittings of unweave the waste	-1	0	0	0
Classification mill of the waste	-1	0	0	0
The remaking of worn-out water	-1	0	0	0
Platforms of store the mud	-1	0	0	0

The quality of the factor of average is expressed through indexes of quality what I_c characterizes the effects in the shape of quantitative sizes(E) and I permit the quantification impact on factors of average, on the strength of a scales of intermediation.

The index of quality I_c is direct accessible to the technological phases, be in absolute value, inversely proportionate the sum E of the size of the effects.

$$I_c = 1 E \quad (1)$$

The representation of the size of the effects E about the factors of average is rendered in figure no. 1.

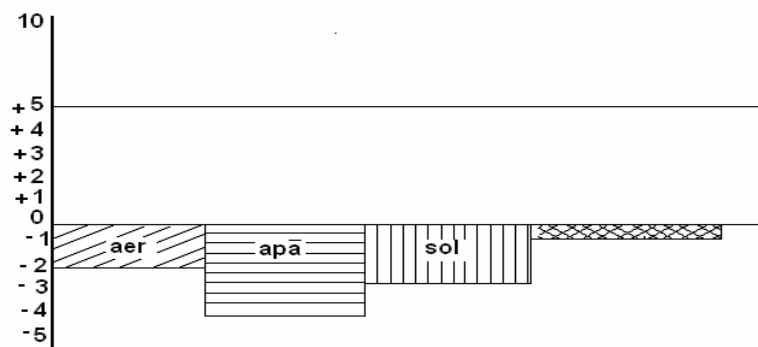


Fig. 1 Effects in the conditions of utilization of the waste

The interpretation indexes of quality for each factor of average, is presented as follows:

- ❖ Index of quality for aboveground waters - 0. 2.

Impact about the above-ground water is negative, positive influences shall appear just through the modernization, reprocessing the installation of the remaking of the waste, of the station of purifying the worn-out waters, thus that indicators of worn-out waters to framed in the limits enforced of NTPA 002/1997.

Needs as the platforms of store the residues results from waste, as well as the mud, be due to corresponds the ecologic requirements, so that to is avoided the transport of to the pluvial waters compounds these residues.

- ❖ Index of quality for soil - 0.

The soil is affected of the inadequate storage residues and the mud. In both cases the situation is can solved through the storage accordingly his residues through retraining them.

- ❖ Index of quality for human placements - 1.

The human placements the affected by-paths of the storage residues and the mud created of the inadequate these storage. This model of evaluation has the disadvantage that don't offers than a qualitative general quantification on each factor of average, existing a degree of subjectivism in the choice of the factors from matrix.

2.3. The method index of pollution.

The method index of pollution, frames the indexes of in a pollution scale of reliability, with the settlement of the limits between different degrees of pollution, as well as general measures of act about the factor of average pollutant. The quantification of impact about the water in the case remaking of the waste from Vrancart Adjud is rendered in the table no.2.

Indicators of quality for the worn-out waters, with effects about circumambience. Table 2.

Indicators	UM	Values obtained	Concentration admitted NTP 002/1997	Individual Ip	Note	Effect about average
pH	mg/L	6,5	8,5	13	5	Middle area
Matters the solid totals	mg/L	800	300	-45	1	Very bad area
CCOCr	mg/L	800	500	-23	1	Domain very bad
CBO ₅	mg/L	500	300	-18	1	Domain very bad
Substances retrievable	mg/L	20	20	0	4	Alert level

This model of impact estimate a activities about quality of the factors of average is else complex than obverse two presented previously, but don't nice and expanded for an analysis completes a real situation through insufficient number of dominant elements analyzing.

2.4. THE METHOD INDEX OF POLLUTE AVERAGE

Impact with advert to the addition of waste in the composition of the choice stationery, he achieved and in the conditions of the appreciation of global index of remaking, Igp, adapted for the specific conditions of pollution stationery from industry, through the generalization of the method felled across Rojanski.

3. RESULTS AND DISCUSSIONS

Because in the respective method for the factor of average aboveground water by-path proposes just for organic substances, ammonium and oxygen dissolved.

In work proposed a scale of reliability and for indicatory Ph, specify the worn-out waters of the activity of remake the compliant waste STAS 47061988.

For four one factors of average analysis he obtained a square, the real situation be quadrangular with a little surface, contained in the figure ideal state represented the chart for 10 units of reliability. The situation of the installation and the addition in the composition of the paste of maximum paper 20 waste), is contained between two one surfaces.

The index state of global pollution (Igp) arises from the report among the area, presenting the ideal state (Ai) and the area real state (Ar):

$$I_{gp} = \frac{A_i}{A_r} \quad (2)$$

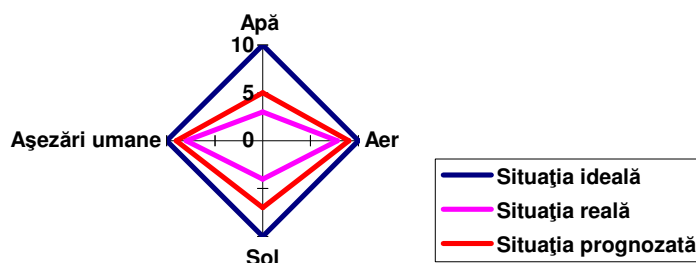


Fig. 2. Analyze the factors of average depending on the notes of reliability.

In the sight analizării tuturor of the situations and the of a elaboration evolutions index of global pollution, they calculated the values global index for the possible cases.

Consisted, the of a possibility variations from 1 to 6 for the index of global pollution.

In case of present $I_{gp} = \frac{A_i}{A_r} = 3,57$ therefore, he corresponds the indicative class A5 the class 3 - 4, submissive average the effect of human activity, challenging the disturbances of the forms of life, justifying thus the technical what measures are enforced for the decrease of the degree of pollute average.

The appreciation of impact felled across the utilization of the waste about average quality has next advantages:

- ❖ Offers a global image average quality to a moment gives.

- ❖ Permits comparison of state zones in different moments of times, the dynamics of the evolution of average state for this zone.

Abaft summarization of the notes on the strength of study accomplished, he obtained for the report M/I a score of 924/1045 which corresponds the note of reliability 4, with the magnitude of impact for threshold of alert, dangerous pollution of the forms of life, requires the of a implementation measures of struggle the sources of pollution.

Technological phases depending on the importance impact granted differentiated how much a score, so that totally to form 100%.

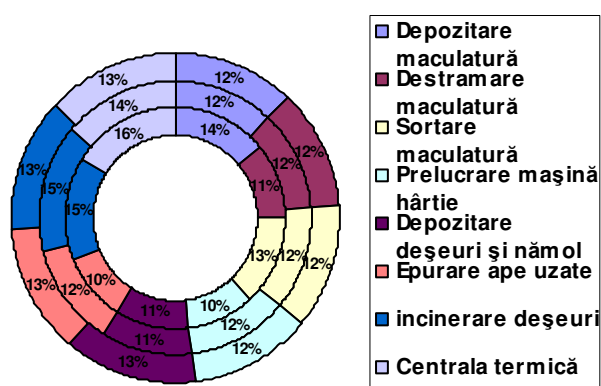


Fig. 3. Percent values for technological phases

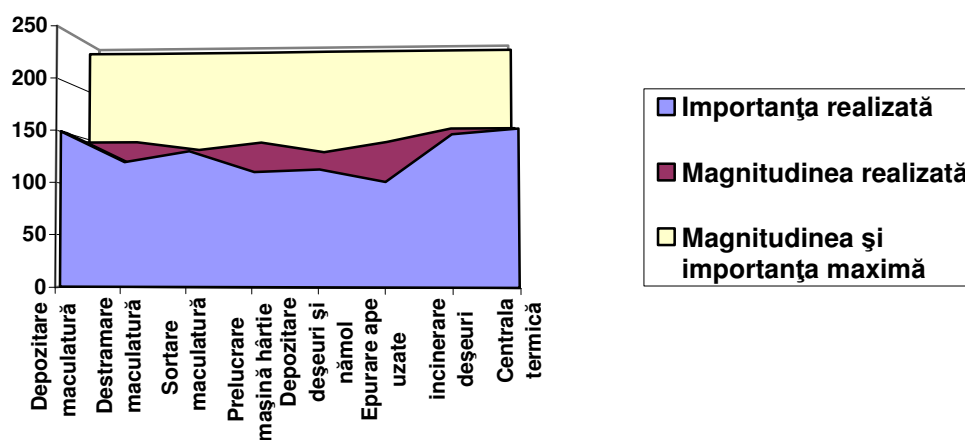


Fig. .4. The relation between among the magnitude and the importance impact.

4. CONCLUSIONS

The researches with advert to the technical appearances and ecologic through retraining of fibrous materials they achieved, utilizing a program in the centered rotated system of order II with three free variables:

- The number of recycler for waste: 1 -4.
- The addition of waste 10 – 50%.
- Agents of afflux: Poliacrilamiddasol, sursolan K12 in variable size 0. 5 – 2%.
- The appreciation of the degree of pollution for the worn-out waters he achieved through the determination:

- The fixed residue to 105⁰C, suspensions;
- CBO5, favorite feature, directing to difficult biodegradable compounds with dominant influence.

The addition of waste depending on the number of loops of utilization causes the shipment of the waters through the residual as far as fibers values of fixed residue of 1200 mg/L, with improvability to 600 - 800 mg/L and a content of CBO5 of 800 mg/L, in the conditions of the addition of poliacrilamidă. To an addition of waste of maximum 30 for the choice of brooch paper sulphate, technical paper sulphate and the brooch paper, agents of afflux have limited efficiency. For a constant addition of agents of afflux and identical for the used-up products, the order of the efficiency is next:

$$\text{Poliacrilamida} < \text{PPE} < \text{Medasol} < \text{C24} < \text{Sursolan K121}$$

In the program work as implementation methods appreciatory impact produced of the activity of remake the fated waste of the manufacture of the brooch paper and cardboards. Were taking as models of reference an installation of remake the waste with a capacity of 200 t/day. Through the of a use number of 5 the fashions of quantification, were the sources of specific pollution activity of remake the waste from Vrancart Adjud, were suggested a series effect of about average and the notes of reliability on certain areas of affectation: To the method global index of pollution of average quality by-path propose concerning the scale of reliability From 1 to 10 and the score from minimum 192 to maximum 1920. Through the implementation of the methods of quantify impact the activity of remake the waste about the factors of average through: Graphic representations, the calculus indexes of pollution, the calculus global indexes of his pollution the magnitude impact calculatingly through the dot-matrix method, they obtained the next results:

- ❖ As per the graphic method, the activity has a major pact about the factor of average, the water.
- ❖ The interpretation indexes of separate quality for each factor of average are next (the method index of average quality.
- ❖ Index of quality for aboveground waters - 0. 2.
- ❖ Index of quality for air - 0. 5.
- ❖ Index of quality for soil -0.33.
- ❖ Index of quality for human -1

In the case of the method of the index of were quantified impact about the water, the index the total of pollution be $I_p = -14.9$, accordingly the note of reliability 3, in the bad area, be necessary measures of identify the sources of pollution with the technical repair of the fittings or the used-up technologies to Vrancart Adjud. In the situation of the method of global index of were obtained the value for $I_{pg} = 3.57$, I carry corresponds the indicative class S5, classify 3-4., submissive average the effect of human activity, challenging the disturbances of the forms of life. „The dot-matrix model of global evaluation impact (the method Leopold "present one the better method of estimate impact, due to possibility took in analysis a very big range of components of average and of which activities can generate pact about average. In this case he obtained for the report., Magnitude of impact/ Importance of impact,,(M/I), the value 924/1045, carry corresponds the note of reliability 4, with the magnitude impact for threshold of alert, dangerous pollution of the forms of life, requires the of a implementation measures of struggle the sources of pollution. As importance impact this is regional very big.

The research results permit the following conclusions:

- ✓ Oat flour adding in 6 – 9 % limits permits to obtain dough with improved functional specific features;
- ✓ The necessary technological conditions are represented through:
 - 91 – 94 % wheat flour type 650 adding;
 - duration of fermentation, 60 minutes;
 - sodium chloride 1.5 %;
 - bakery dregs 3 %;
 - 30 – 40 % by-products of milk industry adding reported to 50 % liquid adding.
- ✓ The extension of industrial level can influence positively the economical impact.

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