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Proanalyzyrovanы suschestvuyuschye constructive and technological methods of calculation molotkovoy crushers and held usovershenstvovanye s about A yzmelchenyya byomassы for production lines hranulyrovannoho byotoplyva.

Molotkovaya drawbylka, Plotness materyala, CRITICALI lyneynaya velocity of the rotor, rotor diameter, length of the rotor.

The existent methods of structural-technological calculation of hammer crusher are analysed and their improvement is conducted in relation to growing of biomasses shallow for the lines of production of granular biopropellant.

Hammer crusher, closeness of material, stalling linear speed of rotor, diameter of rotor, length of rotor.

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Solution composition manure runoff CATTLE AT anaerobic fermentation in bioreactors

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The technology of processing solutions cattle manure in biogas plants in. V.Krupil "Ukrainian dairy company". It is shown that the effective operation of bioreactors with regulations is a technological parameter and sustainable alkaline mode, which must be carefully maintained.

Organics, Fermentation, perebrodzhenyy solution bioreactor.

Resolutionska problem. Agricultural industryindustrial complex (APC) in Ukraine today - is one of the few sectors that in the current environment evolves. [1] Livestock, as one of the sectors of agriculture, is also steadily growing. So the question of disposal of organic waste. Recycling organic waste leads to significant savings in valuable energy resources, as well as products that

otrymuyuting as a result of this process, biogas and semi-liquid mass, are of great value as gaseous fuel and organic fertilizer. [3, 5] complex processing of manure and animal manure only do some farming. There are various technologies of processing organic waste AIC [4].

AnaLiz recent research. In Ukraine, for the first time on the current toiohazoviy stations were carried out constant research and analysis of the data.

Metand research - Continuous monitoring of the processing of organic solubers during anaerobic fermentation. Based on the data to optimize the processing.

Rezultaty dperssurvey findings. I havefor toandDOMO, Opganic toidhody agricultural production, especially with high humidity, such as animal waste, is a favorable environment for the life of various types of microorganisms.

Totraces on farm biogas plant "Papardes" was proved that manure runoff soon defikatsiyi is intense microbiological process, changing the composition and quality characteristics of manure effluents and their freshness affect production of biogas.

The Institute of Thermal Physics long as test subjects for the study of organic agricultural waste. Working with manure runoff cattle (hereinafter - KRS) (c. V. Krupil "Ukrainian Milk Company"), we were interested in how the composition and quality of wastewater and perebrodzhenoho solution under anaerobic microorganisms during fermentation.

Prand decomposition of organic matter and increased acidity fromminyuyetsya pH. We know that by changing the acidity of the solution depends on the value of production of biogas and methane content.

In biogas plants (p. V. Krupil) manure removed three times day, when the cows are doyitysya. From the pumping station manure runoff immediately transferred to tanks in detention, and from there to the fermenter for processing. For the analysis of selected samples of two pump, capacity in detention and discharge nozzles three fermenters.

In the process of anaerobic digestion produce acid and alkaline (methane) phases. During phase acidic pH is reduced due to the formation of volatile acids. This decrease is offset by splitting volatile acids metanoutvoryuyuchymy bacteria and associated production of bicarbonate.

In biorektorah during a normal process of all microorganisms are united. All intermediate decomposition products

aboutdniyeyi processed by bacteria under the second stage. Vital activity of different groups of bacteria both phases is vigorously and agreed. If any - or disorders of the process - sudden changes in temperature, overload bioreactor presence of inhibitors and other reasons, disrupted the activities of methane bacteria most sensitive to changes in the environment. In such cases, the bioreactor increased number of products of acid phase pH changes.

In studies conducted in 1960, showed that the optimum pH for metanoutvoryuyuchyh bacteria are within 6.4 - 7.5 and that these bacteria are very sensitive to changes
this indicator.

In the laboratory, "Ogre" processing of raw materials was carried out under anaerobic conditions. Using standard methods for the study analyzed the composition of primary and perebrodzhenoyi
raw biogas output. In the Table. 1 shows data from studies on cattle manure.

1. Fizychni performance studies in cattle manure anaerobic processing in the laboratory "Ogre".

pH		Stakekist dry organic substances (COP), d		Volatile fatty acids mg/ L		Production of methane CH4, l/ H CMO	The destruction schedule CMOs%	MAl ne-re rob-ki (bro mine din-ing)
do Boot.	after Boot.	do Boot.	after Boot.	do Boot.	after Boot.			
7.6	7.9	80.8	58.7	2095.9	339.2	27.3	27.3	16

YesHow we work with bioreactors where they yield to sustainable technological regime took place and goes support their work optimally and in an environment that is fermented, this association was formed close to the optimal quantity and ratio of different groups of bacteria that have adapted to these conditions processing (constant temperature of 38 ° C Loading fresh raw materials at 8th, 16y and 24 th issue o'clock to 30 m3 cycle work mixers, etc.) can expect biogas yield within 66.14 m3 / day and produce up to
~ 12 MW / day of electricity and the appropriate amount of heat.

We are interested in how the pH within a day after zahruzok fresh raw materials in fermenters and daily values.

In the Table. 2 shows the average pH of the pump and fermenters per day for three consecutive cleansing and transfer of fresh raw materials for fermentation.

2. Average pH per day.

Estse sampling	The transfer of fresh raw materials		
	1 cleaning	2 cleaning	3 cleaning
Pump. №1	6.79	6.69	6.56
Pump. Number 2	6.85	6,88	6.95
The enzyme. (Average)	786	763	765

Andnalizuyuchy survey data shows that the average pH in fermenters correspond to ~ 7.7 (alkaline phase metanoutvorennya) microflora in fermenters strong process of destruction goes focused on the production of biogas. For this day produced biogas - 67.8 m3 / day and electricity - 12.3 MW / day.

Minor differences in pH values of the first and second pump indicate that the pens that serves pump №1 cows are an older group, and in pens where the pump
Number2 - young cow herd.

At the biogas plant in the village. B. Krupil were conducted continuously monitor the work station. In the Table. 3 selectively present observation pH.

3. These pH values in primary and perebrodzhenyh solutions.

Estse sampling	Dates analysis							
	31.01 2009	10.06 2009	5.11 2009	30.10 2010	5.02 2011	26.04 2011	17.08 2011	9.11 2011
Nasos.1	6.56	-	648	-	6.82	6.93	7.02	7.07
Nasos.2	6.82	-	704	7.07	7.04	7.24	7.15	7.19
Capacity	-	661	686	672	695	656	701	715
Fermen.1	-	772	775	810	765	782	789	784
Fermen.2	697	783	775	790	769	785	780	802

PUSfor the biogas plant took place in early 2009. Analyzing the data table. 3 we see that over time the pH in fermenters change toward alkaline values, indicating that the bacterial community adaptation held and ripened relatively high and stable performance on biogas.

We, studies, or changing the pH
Sectionat the height of the solution in the fermenter. Height fermenters 6 m (without gas dome), a working solution ranges from 5.2 to 5.6 m. For this sampler samples were taken over the top layer of the solution and drain pipes perebrodzhenoho solution respectively after loading fresh product 40 minutes after mixing solution . Thus, the temperature of the solution in the tank

Draftdnoho retention was between 18 ° C (September) and 14 ° C (November) in fermenters within the regulations ~ 38 ° C. These studies are summarized in Table. 4.

4. From-identification pH layerin Robowhat tofermentatorah. Sectionabout heightsand Roserank

Date	Estse samplin g	Periodic dych - ness (time Cate	Curren t volume solutio n well,	pH	In theo- lo- gues t %	Abc. dry, %	Bioh. by RH. to abs.s, %	FromAul nay. by RH. to abs.s, %
	to Categories	1						
	to	2						
8.09	F 1		2100					
	Categories							
2010	to Categories		3					
	to Categories	4						
	F2							
	F3	Categories	12102					
	Yemn. pop. ut.		390					
	F1	Categories	1					
	2100 F2							
16.09 2010	to	1						
	Categories							
	to	2						
	F3 Categories		2063					
	to	3						
	Categories							
	Yemn. pop. ut.	1	304					
4.11 2010								

				6.86	94.78	5.22	84.46	15.54
F1	to C	1	2100	7.75 7.92	96,15 96.3	3.85 3.7	76.51 74.87	23.49 25.13
F2	to C	2	2101	7.77 7.91	96.3 95.93	3.7 4.07	77.31 75.93	22.69 24.07
F3	to Categories	3	2106	7.75 7,87	96.12 96.1	3.88 3.9	78.93 77,17	21.07 2283

Andnalizuyuchy data in the first fermenter (from 08.09.10 g) were taken during the day after each of the four zahruzok 20 m3 after mixing procedural solution for 40 min see that the pH value close to its height correspond alkaline solution and (metanoutvoryuyuchomu) processing. In the second fermenter (from 16/09/10 p) Downloads carried only three per day to 20 m3. The pH similar

Draftdnim. Interestingly, during the operation of the biogas plant, even at considerable showers solution of fermenters, lowering the temperature of the solution during the winter months of work, the pH in bioreactors not lowered to 7 or less, and remained at alkaline values. This again shows that in bioreactors formed a strong community of microorganisms that continually supports metanoutvoryuyuchyy process in fermenters.

Conclusions

Yesor obtained at the biogas plant in the village. B. Krupil "Ukrainian dairy company" and their analysis showed that the initial fermentation solution loaded high humidity (Regulation
– 93%), which affects the routine performance of the biogas plant. During his time in bioreactors formed a strong community of microorganisms that continually supports metanoutvoryuyuchyy process in fermenters, which corresponds to an alkaline pH.

Effectsness recycling process that should take place in a stable technological modes, estimated at 85 - 95%.

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Technology of solutions described Converting large horned livestock manure on byohazovoy station in the village. B. Krupyl «Ukrainskaia breast company. " Shown something эffektyvnaya Business byoreaktorov happening at rehlamente tehnolohycheskohO parameter of sustainable and alkaline regime kotorыCarefully podderzhyvat and mercy.

Orhanyka, Fermentatsyya, perebrozhennыy Solution, byoreaktor.

The technology of processing solutions cattle manure in biogas plant in village. V. Krupil "Ukrainian Dairy Company." It is shown that effective operation of bioreactors happens when regulations and constant technological parameter alkaline mode, which must be carefully maintained.

Organics, Fermentation, roam solution, bioreactor.