the calculus of variations. These links allow you to combine different stages of optimization problem solving approaches of a method.

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In this article the problem of optimal control decisions dynamycheskoy systemoy, kotoraja opysыvaetsya dyfferentsyalnыm equation echoed order. Shown Communications Between yzvestnыmy optimal control methods: varyatsyonnыm yschyslenyem, the maximum principle and Dynamic Programming. Optymalnoe Management Found in video communication in Accounting obratnoy restrictions on the value of control.

Dynamycheskoe programming, the maximum principle, varyatsyonnoe yschyslenye, Peak to management.

The optimal control problem by dynamical systems has been solved in paper. Dynamical systems is describing by differential equation of second order. Connection with known methods of optimal control (variational calculus, maximum principle, dynamical programming) has been showed. Optimal control has been calculated in feedback form with accounting control limitation.

Dynamical programming, maximum principle, variational calculus, control limitation.

UDC 620.95

ANALYSIS TECHNOLOGY biodiesel production

MY Pavlenko, a graduate student *

The analysis of biodiesel production technologies for use in households.

Vegetable oil products, grain, technology, diesel biofuel.

Problem. In today's production of alternative biofuels technologies, there is a wide variety of biodiesel production. Of all the technologies become widely use industrial and agricultural production technology of biodiesel using methanol as a constituent of transformation of vegetable oil in MEZHK (methyl esters of fatty acids).

The technology of biodiesel production consists of the following processes: esterification of vegetable oils and consistent treatment of methyl ester (biodiesel).

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However, to date, not fully substantiated location and sequence of processes that will ensure efficient biodiesel in terms of facilities.

Analysis of recent research. The study of biodiesel production involved Dubrovin VA [1,3,4,5,8,12] V. Polishchuk [5,7,9,10,11] Oil IP [4,6] Yevych P [4,12] A. Okocha [2], Which analyzed the current state of development of biodiesel production, production technology and describe ways to improve modern technologies involved implementation using biodiesel in blends with conventional diesel fuel, designed to ISO MEZHK.

The purpose of research. To prove the technological scheme of biodiesel production in terms of facilities.

Results. Industrial (Fig. 1) production technology traditionally used in large industrial plants and, with an annual output of biodiesel from 20,000 to 100,000 tons / year [8].

Industrial technology biodiesel production consists of the following processes: esterification; separation into fractions methyl ester (crude biodiesel) and glycerol (a by-product in the production of biodiesel) biodiesel purification (methanol stripping, washing with acidified water, repeated washing with water, dehydration and purification of gel-like precipitate by filtration or sedimentation biodiesel).

The advantages of industrial technology of biodiesel production can be attributed to the high quality that allows the use of diesel biofuel blends in, and without the addition of conventional diesel fuel. The main disadvantages: habarytnist equipment, low productivity, large energy demand, high cost of production.

Agroindustrial (Fig. 2) tehnoloniya biodiesel production is widely used in commercial and small plants with an annual output of biodiesel

from 100 to 5000 tons / year [3]. Agroindustrial Technology biodiesel production consists of esterification; separation into fractions methyl ester (biodiesel) and glycerol (a by-product in the production of biodiesel) biodiesel purification (methanol stripping and cleaning of the gel-like precipitate by filtration or precipitation).

The advantages of this technology are: less energy as compared to industrial technology, availability of use, lower cost of chemical reagents, less habarytnist equipment, low cost of the resulting product, lack of technological operations washing followed by dehydration biodiesel biofuels, which in turn reduces power inputs and reduces productivity by increasing the time of settling.

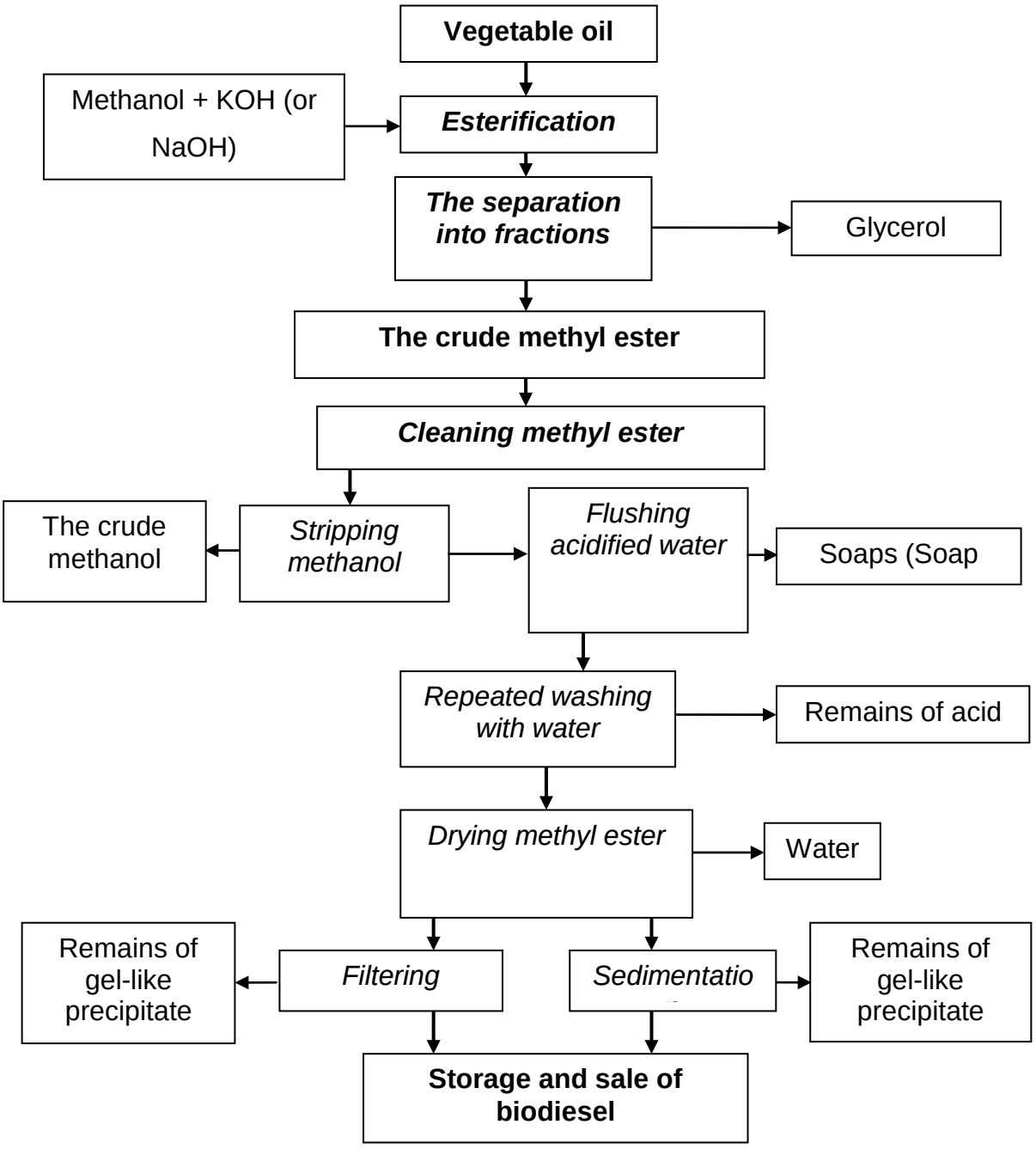

Fig. 1. Scheme for industrial biodiesel production.

Conclusion. Given the need for and the price of fuel today's market fuel and lubricants are needed introduction of new technologies of biodiesel production derived products which could compete with conventional diesel fuel. Agro-industrial biodiesel production technology to meet the needs of business entities own fuel for machine-tractor units, it is available in material cost and easy to use.

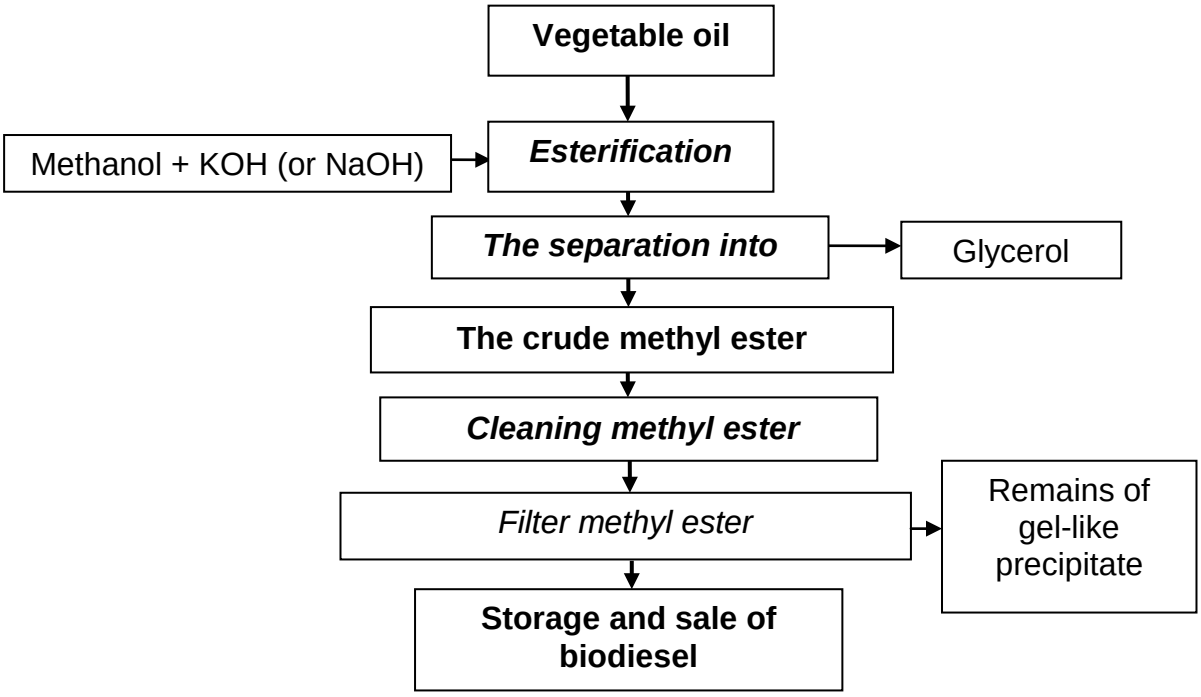

Fig. 2. Scheme agro biodiesel production.

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Conducted analysis technologies for production of diesel byotoplyva Using in terms farms.

Rastytelnoe oil, Products, grain, TECHNOLOGY, Diesel byotoplyvo.

The analysis of technologies of production of diesel biopropellant is conducted for the use in the conditions of economies.

Vegetable butter, products, grain, technology, diesel biopropellant.