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Multiple criteria decision making in strategic planning of table egg production

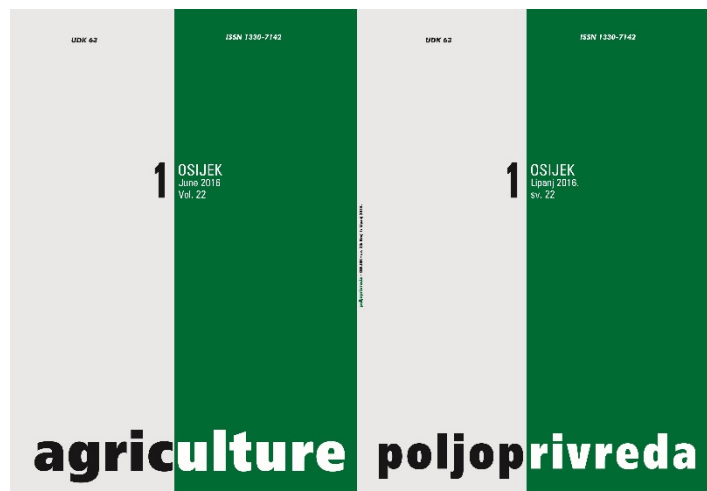
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VIŠEKRITERIJSKI MODEL ODLUČIVANJA U STRATEŠKOME PLANIRANJU PROIZVODNJE KONZUMNIH JAJA

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Disertacija (2)

Osnovni cilj istraživanja bio je analiza i vrednovanje različitih sustava proizvodnje konzumnih jaja primjenom višekriterijske analize, analitičkim hijerarhijskim procesom, pri odlučivanju u strateškome planiranju proizvodnje. Anкета je obuhvatila proizvođače konzumnih jaja upisane u Upisnik farmi kokoši nesilica na području RH. Definirani su kriteriji i podkriteriji, koji su međusobno uspoređeni u parovima, s ciljem određivanja težina, odnosno važnosti svakog od njih. Alternative su ocjenjivane na način utvrđivanja prioriteta sudionika, u kojoj mjeri zadovoljavaju svaki od definiranih kriterija i podkriterija. Intenziteti preferencija svakoga sudionika uneseni su u računalni program *Expert Choice*, s ciljem evaluacije rezultata rangiranja sustava. Definirani model sastojao se od kvantitativnoga kriterija, ekonomskih pokazatelja i kvalitativnih kriterija, tržišnih pokazatelja i tehničko-tehnoloških činitelja. Svaki kriterij imao je pripadajuće podkriterije koji su brojčano bili ravnomjerno raspodijeljeni. Na osnovi individualnih ocjena sudionika istraživanja, dobivena je ukupna zbirna ocjena sustava. Prema istoj, najprihvatljivija je alternativa proizvodnja jaja u stajskome sustavu držanja nesilica (prioritet 0,301). Slijedi slobodni sustav držanja nesilica (prioritet 0,253). Treća rangirana alternativa je kavezni sustav proizvodnje jaja (prioritet 0,226), dok je četvrta najmanje prihvatljiva alternativa, prema ukupnoj grupnoj ocjeni, proizvodnja jaja prema ekološkim principima (prioritet 0,220). S obzirom na dobivene rezultate višekriterijske evaluacije, ali i trendova u svijetu i EU, koje se ogledaju u promjenama navika potrošača, kao i zabrinutosti za sigurnost i kvalitetu hrane, te preferencijama potrošača usmjerenih na lokalno tržište i lokalne proizvode, preporuka je proizvodnja jaja u stajskome sustavu držanja nesilica. Poduzimanje aktivnosti usmjeravanja i koordiniranja proizvodnje te kroz uređeno vanjsko okruženje dovelo bi do preokreta u stvaranju prepoznatljivih proizvoda i sustavnome diferenciranju istih. U tome smislu, proizvodnja jaja na malim gospodarstvima u stajskome načinu držanja kroz organiziranu proizvodnju, osim što osigurava mogućnost samozapošljavanja i ostvarivanja dodatnih prihoda, zasigurno ima i razvojni potencijal.

Ključne riječi: višekriterijsko odlučivanje, analitički hijerarhijski proces, proizvodnja jaja, strateško planiranje proizvodnje

MULTIPLE CRITERIA DECISION MAKING IN STRATEGIC PLANNING OF TABLE EGG PRODUCTION

Doctoral thesis

The main research objective was to analyze and evaluate different systems of table egg production by using the multiple criteria analysis, the method of Analytic Hierarchy Process (AHP) in decision making within strategic planning of production. The survey involved 79 producers of table eggs registered in the Records on laying hens' farms in the Republic of Croatia. In the first stage, the research defined the criteria and sub-criteria for system evaluation which were compared in pairs in order to determine the weight or importance for each of them. Alternatives were evaluation based on definition of priorities of examinees and the extent to which they meet each of the defined criteria and sub-criteria. Intensity of examinees' preferences were entered into the Expert Choice software in order to evaluate ranking results of egg production systems. Defined model consisted of a quantitative criterion of economic indicators, and the other two referred to qualitative criteria, market indicators and technical-technological factors. Each criterion had its corresponding sub-criteria that were evenly distributed in numerical order. Based on individual assessments of the examinees, overall cumulative evaluation was obtained for the table egg production systems. Accordingly, the most acceptable alternative to egg production is the indoor keeping system (priority 0.301). It is followed by the free-range system of keeping laying hens (priority 0.253). The third-ranked alternative is egg production by hens kept in conventional cages (priority 0.226), while the fourth-ranked least acceptable alternative, as of the total evaluation, is the ecological system of egg production (priority 0.220). Taking into account the obtained results of multiple criteria evaluation as well as EU and world trends in changing consumers' habits including food safety and quality as well as customers' preferences towards local market and local products, it is recommended that eggs should be produced by laying hens kept in an indoor keeping system. In this sense, organized egg production on small farms in an indoor keeping system offers a possibility for self-employment serving as a source of additional income certainly has great potentials for development.

Key-words: multiple criteria decision making, analytic hierarchy process, egg production, strategic planning of production

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