HHME15-Z10
LIVESTOCK FERTIRRIGATION WHEAT-MAIZE SYSTEM BASED GROUNDWATER SAFETY

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Aims: By using a combination of anaerobic treatment plant and farmland fertilizer recycling is an economic and feasible strategy to deal with the livestock pollution in China. However, the irrigation time and amount in different crops would determine nutrient use efficiency and the risk of groundwater pollution.
Methods: A 3-year of winter wheat - summer maize rotation experiment with livestock fertirrigation was conducted to investigate soil nutrients, crops yield and groundwater quality in yangliuqing county, Tianjin city. On the basis of series field data, parameters of Root Zone Water Quality Model were calibrated and validated.
Results: Optimization pattern is anaerobic wastewater (with nitrogen concentration is 300-1447 mg/l) dilutes with five times fresh water, with a fertirrigation quota as 830 m^3/ha in the overwintering stage and jointing stage, meanwhile fresh water irrigation in tasseling stage with 830 m^3/ha. Yields of wheat and maize could maintain 5625 kg/ha and 8403 kg/ha, respectively. Under the optimal conditions, copper, zinc, arsenic and ascaris eggs were not detected in the groundwater. But total bacteria, fecal coliform and coliform bacteria were increased significantly than fresh water irrigation.
Conclusions: From the experiments, a livestock wastewater safety irrigation pattern for wheat-maize system was put forward. Meanwhile, disinfection device should be increased to meet hygiene requirements before farmland reuse.
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HHME15-Z11
THE MECHANICAL STRUCTURE FINITE ELEMENT DESIGN AND SIMULATION RESEARCH OF INTELLIGENT BIOLOGICAL SENSOR

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Aims: There are two questions in the field of intelligent biological sensor. One is the objective requirements of the sensor in terms of volume. The other is the interoperability capability under severe conditions. Intelligent biosensor that can meet these two requirements is not yet large-scale application.In this paper, a networked embedded intelligent biosensor is designed based on finite element modeling and simulation.
Methods: The structure design and Simulation of the sensor are carried out which using method of comparison test and based on design and finite element simulation analysis software using UG and MSCPATRAN software.
Results: This paper discusses the intelligent biosensor can adapt to high altitude, water and other bad environment Compared with the traditional biological sensor in the same volume and detection accuracy. Meanwhile, its embedded structure can improve the stability of the network and data analysis than the traditional sensor 50%.
Conclusions: By the analysis it can be shown that the intelligent biosensor can greatly improve the clinical experience of the customer, and the environment adaptability and the stability of the network can be improved significantly..

Keywords: mechanical structure; biological sensor; finite element; structural design

HHME15-Z12
IMAGE PROCESSING AND DETECTIVE SYSTEM APPLIED IN ZOOLOGICAL PHARMACOLOGY

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Aims: The experiment of animal's spontaneous activity is widely used in pharmacological evaluation and zoological research. With The application of the new technologies,such as the image recognition technology, the pharmacology and zoology science have been improved greatly.
Methods: The image processing recognition and detective system contains three aspects.firstly,a series of image segmentation methods, such as Movement Detection and Watershed algorithm, have been used to separate animal from the background. secondly, the standing up posture has been recognized by the animal's vertical and horizontal length, because this animal changes if the animal moves continuously. Last, the animal's position in the screen has been transformed into its real position in the animal's moving plane by coordinates conversion formula, which is deduced from the perspective principle.
Results: From the real experiment, it is found that this kind of detective method had high efficiency in catching plane movement of animal.
Conclusions: This paper designs a image processing and detective system on the basis of consulting abundant references of image process and recognition.

HHME15-Z14
MULTI-PERSPECTIVE ANALYSIS OF THE INFLUENCE TO THE HOSPITAL PHILOSOPHY AND BEHAVIORS BY THE ACCOUNTING STANDARD

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Aims: The reform of accounting standard not only exerts influence on financial report and capital market, but also produces great influence to hospital philosophy and behaviors.Meanwhile, the hospital behavior is multi-perspective, not only it includes accounting behaviors and financial behaviors, but also covers performance evaluation, supervision governance, daily operation and so forth
Methods: Based on the psychological theory, this paper analyzed the influence to the hospital philosophy and behaviors by the reform of accounting standard. Combining the current results from empirical research, the analysis was on the basis of multiple perspectives in terms of accounting behaviors, evaluation, governing, operating philosophy and other hospital behaviors.
Results: It will be beneficial for the enterprise managers to promote their cognition and absorbing abilities, and thus to optimize the hospital behaviors.
Conclusions: Through the analysis, this paper concluded that the reform of accounting standard could guide the enterprise to create value oriented by capital market, focus long-term development based on the shareholder benefit, as well as promote the optimization of hospital financing, investment, allocation, evaluation, governing and other behaviors.