NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF UKRAINE

DEPARTMENT OF TECHNOLOGY OF STORAGE, PROCESSING AND STANDARDIZATION OF PRODUCTS OF PLANT-GROWER

THE NAME OF PROF. B.V.LESIKA

APPROVE

Head of agrobiological faculty

O.I. Tonkha

«_____» _____

REVIEWED AND APPROVED

on meeting of department storage technologies, processing and standardization of plant products named after B.V. Lesyk

Protocol №8 25.05.21

Head of Department

_____ prof. G.I.Podpryatov

WORK EDUCATIONAL PROGRAM WITH DISCIPLINE: "STANDARTIZATION AND QUALITY MANAGEMENT OF PLANTING PRODUCTS"

Faculty: Agrobiology

Working program made: V.Voytsekhivskiy, PhD

Kyiv-2021

Description of the course
"STANDARTIZATION AND QUALITY MANAGEMENT OF PLANTING PRODUCTS"

Specialty, educational qualification level		
Educational level	Bachelor	
Specialty	Agronomic	
Program education:	Agronomic	
Characteristics of the course		
Type	Obligatory	
Total number of hours	150	
Number of ECTS credits	5	
Number semantic modules	2	
Course project (work) (if available in your curriculum)	_____ (name)	
Form of control	test	
Descriptions of the course for full-time and distance learning		
	Full-time education	Part-time education
Year of training	3	1
semester	5	2
Lectures	30 hours	6
Practical, seminars	30 hours	8
Laboratory classes		
Independent work	90 hours	46
Individual tasks		
Number of weekly hours for full-time study: classroom independent work of the student	 4 hours 6 hours	

Typical educational program

МІНІСТЕРСТВО АГРАРНОЇ ПОЛІТИКИ ТА ПРОДОВОЛЬСТВА УКРАЇНИ
ДЕПАРТАМЕНТ АГРАРНОЇ ОСВІТИ, НАУКИ ТА ДОРАДНИЦТВА
НАУКОВО-МЕТОДИЧНИЙ ЦЕНТР АГРАРНОЇ ОСВІТИ

ЗАТВЕРДЖЕНО
Департаментом аграрної освіти, науки та дорадництва
Міністерства аграрної політики та продовольства України
15 березня 2011 р.

СТАНДАРТИЗАЦІЯ ТА УПРАВЛІННЯ ЯКІСТЮ ПРОДУКЦІЇ РОСЛИННИЦТВА

ПРОГРАМА

навчальної дисципліни для підготовки фахівців ОКР "Бакалавр"
напряму 6.130103 "Агрономія"
з якими навчальним закладам III-IV рівнів акредитації
Міністерства аграрної політики та продовольства України

Київ
"Аграрна освіта"
2011

2. The purpose and objectives of the course

"Standartization and management quality of plant products" is optional subjects, which provided for educational and vocational programs (EPP) training educational qualification "Bachelor" direction " Agronomic". Educational discipline covers a wide range of problems in the field of agricultural production, and therefore its study helps broaden my horizons and create the necessary theoretical knowledge and practical skills of the future specialists in agronomic for sustainable use of plant products, determine its quality, prompt search and application in producing effective regulations.

The main purpose of learning a discipline - generate knowledge and practical skills for teaching the basics of standardization and quality control of crop production. The program is based on a study of the state of existing laws, regulations, and standards for agriculture. After learning of the course students should

know:

- theoretical foundations of standardization;
- - the basis quality management;
- - methods for determining the quality of plant products;
- - quality and safety of products, which are incorporated in the existing regulations for different types of plant products;
- - the basis certification of crop production;

be able to:

- to use educational, methodical and scientific literature for standardization;
- apply the appropriate methods for determining the quality of products;
- to determine the quality of the product (purpose);
- used in the production of various types of control;
- practically applied in the specific context of existing regulations;
- prepare a lot of products to certification procedures;

have:

- the method of determining the quality of cereals;
- methods for determining the quality of fruit and berry crops;
- the method of determining the quality of vegetable crops;
- the method of determining the quality of crops;
- operate with terms and definitions are governed by applicable regulations and are used in agronomic.

Acquisition of competencies:

- general competencies: 3. Ability to abstract thinking, analysis and synthesis; 4. Ability to communicate in the state language both orally and in writing; 5. Ability to communicate in a foreign language; 6. Knowledge and understanding of the subject area and understanding of professional activity; 7. Ability to apply knowledge in practical situations; 8. Skills to carry out safe activities; 9. Ability to search, process and analyze information from various sources.
- professional (special) competencies: 8. Ability to solve a wide range of problems and tasks in the process of growing crops, by understanding their biological characteristics and using both theoretical and practical methods; 9. Ability to manage complex actions or projects responsibility for decision-making in specific production conditions.

According to the normative part of the OS "Bachelor" with the direction " Agronomic " the study of the discipline allocated 150 hours, including 30 hours of lectures, 30 hours of laboratory work, 90 hours - independent work. Control of knowledge and skills of students is carried out by verbal questioning during laboratory classes, writing tests and module tests, preparation of differentiated credit.

Control of students' knowledge and skills is carried out in the form of an exam. The final form of control is an exam. An EEC has been developed and certified in this discipline, which is located at: https://elearn.nubip.edu.ua/course/view.php?id=406.

3. The program of the course

Introduction

Subject and methods of discipline its task. Educational activities, training sessions and individual tasks independent work. The value of the course in the formation of OCD experts "Bachelor" direction " Agronomic ". Intersubject communication. Suggested Reading. Historical overview of standardization in Ukraine and abroad. Function and purpose of standardization. Terms and concepts in standardization. Value problem as crop production. The role of standardization to improve the effectiveness, technical level and quality of crop production. Trends in standardization of crop production.

Module 1. The theoretical basis of standardization and of quality management

1.1. Organizational principles of standardization in Ukraine

The state system of standardization. Standardization bodies and services in Ukraine. Categories and types of standards. Classification standards. Objects of standardization. Major standards organizations of Ukraine. Order of the development, adoption and implementation of standards. Preparation enterprises to implement standards. State supervision and control of departmental implementation and compliance with the standards, specifications and as instrumentation. Goals, objectives and functions of state supervision.

1.2. Methodical bases of standardization

General preconditions for the emergence and development of the theory of standardization. The principles of standardization. Methods of standardization: standardization, standardization, aggregation, complex standardization, proactive standardization and barcoding. Types of standardization. The value of international cooperation on standardization and quality control for the development of science and technology and economic relations of Ukraine with foreign countries. International Organization for Standardization, Metrology and quality. International, European and international standards. The use of ISO standards - the path to world-class product quality and competitiveness in the global market.

1.3. Qualimetry - the scientific basis for evaluating the quality

Basic terms and definitions in the field of quality management. Classification and characteristics of quality. Factors that affect product quality. The role of human factors in solving quality problems. Competitiveness and product quality. Types and characteristics of quality. Methods for determining quality. Methods for evaluation of quality: the differential, integrated, mixed. Factors that affect the change in quality during harvesting and post-harvest handling and storage.

1.4. Technical quality control

Classification of technical control. The task of controlling service quality. Characteristics of the main types and methods of control. Performance evaluation as a form of commodity production. Standardization of measurement. Evaluation of the quality of labor in agriculture. Metrological measurements in agriculture.

1.5. Quality management

The purpose and main objectives of the quality management system. Quality as a management object. Milestones quality systems. The essence of quality management. Functions and principles of quality management. Stages of product life cycle. The need for development interrelated organizational, technical, economic, social and legal measures, methods and means to maintain the required level of quality at all stages of the life cycle. Planning for improving product quality, regulatory and technical support. Procedure development and implementation of a comprehensive quality management system of labor and production in agriculture. The requirements of international standards for quality management. Structure of the ISO 9000 series of standards for quality management systems.

Module 2. Standardization and quality control plant cultivation products

2.1. Standardization of cereal and pulse crops

National, european and international requirements as to the crops. Scientific and economic justification of quality in the current standard documentation for production of crops. Normalization of quality grain. Indicators of the quality of grain of various purpose. Signs of fresh corn. Contamination of grain weight control. Humidity and grade of grain. Quality indicators parties grain and seed crops a particular purpose: nature, Vitreuesness, similarities. Standardization of methods for assessing the quality of grain. The basic requirements of quality standards for wheat, barley, rye, oats, soybeans, peas, beans and other crops.

2.2. Standardization of fruit and berry crops

National, european and international requirements as to fruit crops. Scientific and economic justification of quality in the current standard documentation for production of fruit and berry crops. Features standardization of fruit and berries as objects of standardization. Structure standards for pome fruit, stone fruit and berry crops. The main sections Standards: Introduction, specifications, rules of acceptance, methods for determining quality, packaging, labeling, transportation, storage. Process indicators are normalized standards for fruit. The basic requirements of quality standards for pome (apple, pear), stone fruit (plum, peach, apricot) and berries (currants, gooseberries, strawberries) cultures.

2.3. Standardization of vegetable crops

National, european and international requirements as to vegetable crops. Scientific and economic justification of quality in the current standard documentation for production of vegetable crops. Features standardization vegetables. Structure standards for vegetable crops. Basic requirements for the quality of potato tubers different purpose, cabbage, carrots, beets, onions, tomatoes, cucumbers, peppers, other vegetables.

2.4. Standardization of technical crops

National, european and international requirements for crops. Scientific and economic justification of quality in the current standard documentation for production crops. Quality of sugar beet as a raw material for the sugar industry. Accounting sugar content during harvesting sugar beet. The influence of this parameter in the calculations. Methods of evaluation and quality control of sugar beet. Quality requirements lubovoloknystyh crops (flax, hemp). Quality of raw tobacco in accordance with national standards: ripeness, color, presence of dark green. Mechanical damage, disease and pest infestation, infestation, humidity. Description of commodity grades of raw tobacco. Requirements for raw materials used in the tobacco industry. Acceptance and methods for evaluating the quality of raw tobacco. Commodity Classification and requirements for quality of hop cones during harvesting. Acceptance and methods of quality assessment. Payment for sold raw hops, depending on the content of alpha acids.

2.5. Standardization seeds and planting materials

National, european and international requirements for crop seeds and planting material. Scientific and economic justification of quality in the current regulatory documentation for seed and propagating material. Indicators of quality seeds of cereals, legumes, forage crops and grasses. The current requirements for varietal purity, germination, pollution and disease infestation. Requirements for planting material pome (apples, pears), berries (blackberry, strawberry) cultures.

2.6. Standardization of plant protection products and fertilizers

Requirements for Pesticides and doryv reflected in the current legal documentation. Requirements regarding pesticide pollution. Mastering the basic terms and definitions in plant protection. Using international regulations when using crop protection products.

2.7. Basics product certification

Development of certification in the world and Ukraine. Terms and definitions in the field of certification. Types and certification system. The main provisions of the state system of certification Ukraine (Certification). Basic principles and general rules of UkrCEPRO. Accreditation and certification laboratory or production. Rules, schemes and procedures for certification. Liability in case of violation of the certification.

2.8. Fundamentals of metrology

The basic premise of metrology. Metrological traceability. The state metrological system of Ukraine. Metrological service of Ukraine. The main types of metrology. State metrological control and supervision over the observance of standards and measuring instruments. Metrological assurance of product quality.

2.9. Legal and economic aspects of standardization

Legal support standardization and quality control. Legislation in the field of standardization. Responsibility for violation of legislation on product quality. Economic efficiency standards. The method of calculation of economic efficiency improvement of product quality.

4. Structure of the course
Projected structure of content of the course and indicative allocation of teaching time, hours

Type of educational activity of students	Module (section, block content modules)		Number of hours for certain types of classes and independent work				
			lectures	lab. work	Ind. work		total
name	№	name			preparing to less.	indiv. task	
Training activities during training sessions		Introduction	2	-	-	-	2
	1.	**The theoretical basis of standardization and of quality management**	**14**	**-**	**45**	**-**	**59**
	1.1.	Organizational principles of standardization in Ukraine	2	-	9	-	11
	1.2.	Methodical bases of standardization	2	-	9	-	11
	1.3.	Qualimetry - the scientific basis for evaluating the quality	2	-	9	-	11
	1.4.	Technical quality control	2	-	9	-	11
	1.5.	Quality management	2	-	9	-	11
	2.	**Standardization and quality control plant cultivation products**	**16**	**30**	**45**	**-**	**91**
	2.1.	Standardization of cereal and pulse crops	2	10	7	-	18
	2.2.	Standardization of fruit crops	2	6	7	-	14
	2.3.	Standardization of vegetable crops	2	6	7	-	14
	2.4.	Standardization of technical crops	2	4	7	-	10
	2.5.	Standardization seeds and planting materials	2	2	7	-	10
	2.6.	Standardization of fertilizers	2	1	7	-	9
	2.7.	Basics product certification	2	1	5	-	5
	2.8.	Fundamentals of metrology	1	-	5	-	3
	2.9.	Legal and economic aspects of standardization	1	-	-	-	1
Total hours of discipline			**30**	**30**	**90**		**150**

5. Topics of seminars

№ з/п	Name of the topic	Amount of hours
1	The theoretical basis of standardization and of quality management	
2	Standardization and quality control plant cultivation products	

6. Topics independent work

№ з/п	Name of the topic	Amount of hours
1	The current state of standardization and certification	9
2	State System of standardization	9
3	ISO on agricultural products	9
4	Standards for agricultural products	9
5	Standards for quality monitoring	9
6	Standards for agricultural products	9
7	Factors that determine the quality	9
8	Current state certification of agricultural production	9
9	Activity metrological service of Ukraine to ensure product quality	9
10	Certification of quality systems	9

7. Topics of laboratory work

№ з/п	Name of the topic	Amount of hours
1	Standardization of wheat	*2*
2	Standardization of barley	*2*
3	Standardization of legumes (soybeans, peas)	*2*
4	Standardization of cereals (buckwheat, oats)	*2*
5	Standardization of oilseeds (sunflower, rape)	*2*
6	Standardization of cereal seeds	*2*
7	Standardization of vegetable seeds	*2*
8	Standardization of fruit crops (apples, pears)	*2*
9	Standardization of stone fruit crops (peaches, apricots, plums)	*2*
10	Standardization of berries (strawberries, gooseberries, currants)	*2*
11	Standardization root crops (carrots, beets)	*2*
12	Standardization of pumpkin and tomato vegetable crops (cucumber, tomato)	*2*
13	Standardization of potatoes	*2*
14	Standardization of cabbage vegetables	*2*
15	Standardization of sugar beet	*2*

8. Independent work (question for control)

Prepare reports and Protection essay on a given topic.

• Define standard, standardization, quality management certification.
• Basic principles of standardization.
• Standardization as a regulatory framework.
• To develop standards.
• As related standardization with other sciences?
• Categories and types of regulations.
• The role of standardization in addressing the quality of products.

Features • Standardization of crop production.
• Classification of individual quality.
• Characterization of single quality indicators.

• Methods of quality products.
• Forms of expression evaluations of product quality.
• Species diversity and quality control.
• Types and application of ISO 9000.
• Use of standards in agricultural production.
• The essence of quality management.
• Quality System.
• Objects of quality and audit quality.
• Basic concepts of certification.
• General purpose and principles of certification.
• Mandatory and voluntary certification.
• Procedure for certification.
• Certification of food and non-food products.
• State system for ensuring the uniformity of measurements.

9. Individual tasks

For the acquisition skills of student working out a calculation material delivers computational problems (see example).

Task 1. Determine the quality (specify possible targets) as well as calculate the number of packaging units that will be in the sample and the mass of the combined sample. Party with cucumber greenhouses with the following parameters (see below), the mass party of 3 tons (weight 3 kg packaging unit):

Name of index	Characteristics and norm
Appearance:	fresh, whole, healthy, clean, typical shapes and
available	colors, with or without stem, yellowing top, slightly bent, torn stalk (less than 0.5 cm)
absent	without turgor, cracked, damaged mechanical and control with excessive moisture, rot
Smell and taste	characteristic
The internal structure	pulp of the fruit thick, watery seeds with underdeveloped
Fruit size, length, cm	18,0
Діаметр плодів, см	5,0
Available fruit of exceeding size, the length of 3.0 cm,%	7,0
Available benefits greater than the amount specified by the length (2.0 cm),%	2,0
Available with light fruit potertistyu contaminated with minor darkening of stroke, but not mint, with scratches on the skin and slightly flabby together: on open ground,%	5,0
Presence of earth stuck to fruit,%	No

The remaining parameters in the normal range

10. Teaching methods

Methods of organization and implementation of training and learning of students used in the study subjects.

1. in aspect transmission and perception of educational information: verbal (lecture); visual (picture, demonstration); practical (laboratory work);

2. in the aspect logic and thinking: explanatory, illustrative (presentation); reproductive (short test control);

3. in the aspect of learning management: job training under the guidance of the teacher; independent work under the guidance of the teacher;

4. in the aspect of of a team: incentives (extra points for abstracts);

5. in the aspect of self-employment: training module: stukturno-logic;sample tests.

11. Forms of control

Forms of control students used in the study subjects: current, quizzes and final control.

Current control knowledge is an integral part of the entire educational process and serves as a means of detecting the degree of perception (learning) training material. Academic Regulations only possible on the basis of the current control. The task of this control are as to: 1) identify the scope, depth and quality perception (assimilation) of the material under study; 2) identify gaps in knowledge and identify ways to address them;

3) identify the degree of responsibility of students and their attitudes to work, finding the reasons that prevented them from working;

4) identify the level of self-mastery skills of and identify ways and means for their development;

5) stimulate students interest in the subject and their activity in cognition.

The main objective of the current control - to help students organize their work, learn independently, responsibly and systematically explore all subjects.

Watershed (thematic, modular, block) control knowledge is an indicator of the quality of the study of individual sections and topics related cognitive, methodological, psychological and organizational skills of students.

Quizzes may be provided orally and in writing, in the form of tests, either individually or in a group.

Final assessment of students is conducted in order to assess their knowledge and skills in the discipline. The main goal - the establishment of actual content in terms of student learning, the quality and depth of skills and apply them in practice.

The main form of knowledge control is control the lectures on laboratory work, in extracurricular time for consultations and examinations.

Control of the lectures we spend as selective (oral questioning students) or the use of tests (the previously laid material).

Testing during lectures designed to teach students to systematic elaboration covered material and prepare for the upcoming lectures, establish the degree of assimilation theory to identify the most difficult students to read chapters from the following explanation of them.

Current control on laboratory studies conducted to elucidate ready students for employment in the following forms:

1. Selective oral examination prior to employment.
2. Front standardized survey for cards, tests for 5-10 min.
3. Front check homework.
4. Notice to board individual students for self-solving, written answers to specific questions, data on laboratory work.
5. Assessment of student activity in the course of employment, the proposals made, innovative solutions, additions previous answers and so on.
6. Writing (45 min.) Control work.

Control of extracurricular time.

1. Check the progress of homework and tests. Assessed the quality and accuracy of performance, accuracy and originality of solutions, reviewing the literature, the presence of elements of the study, the assignment of the prescribed amount according to set deadlines.
2. Checking lecture notes and recommended literature.
3. Testing and evaluation of the essays in the lecture course, which itself proroblyuyetsya.
4. Individual interviews with the student at the consultations.

Advice. The purpose of consultations - to help students understand the complex issues to resolve those students who can not understand yourself. Simultaneously consultations provide an opportunity to monitor students' knowledge to make a correct understanding of the progress and results of research work. Credits. In studying the discipline we apply differential test of performance appraisal on a five point scale.

Credits are taken from laboratory work on each task. The student takes notes, calculations. Exemptions from educational practice tabulated on the basis of these reports, and the characteristics of the head. Credit - differentiated, and evaluation consists of medium ratings from all sections of practice.

Standardized control of knowledge (test).

12. Distribution points that get students

Поточний контроль		Рейтинг з навчальної роботи $R_{НР}$	Рейтинг з додаткової роботи $R_{ДР}$	Рейтинг штрафний $R_{ШТР}$	Підсумкова атестація (екзамен чи залік)	Загальна кількість балів
Змістовий модуль 1	Змістовий модуль 2					
0-100	0-100	0-70	0-20	0-5	0-30	0-100

Примітки. 1. Відповідно до «Положення про кредитно-модульну систему навчання в НУБіП України», затвердженого ректором університету 03.04.2009 р., рейтинг студента з навчальної роботи $R_{НР}$ стосовно вивчення певної дисципліни визначається за формулою

$$R_{НР} = \frac{0{,}7 \cdot (R^{(1)}_{ЗМ} \cdot К^{(1)}_{ЗМ} + \ ... + R^{(n)}_{ЗМ} \cdot К^{(n)}_{ЗМ})}{К_{ДИС}} + R_{ДР} - R_{ШТР},$$

де $R^{(1)}_{ЗМ}$, … $R^{(n)}_{ЗМ}$ − рейтингові оцінки змістових модулів за 100-бальною шкалою;

n − кількість змістових модулів;

$К^{(1)}_{ЗМ}$, … $К^{(n)}_{ЗМ}$ − кількість кредитів ECTS, передбачених робочим навчальним планом для відповідного змістового модуля;

$К_{ДИС} = К^{(1)}_{ЗМ} + … + К^{(n)}_{ЗМ}$ − кількість кредитів ECTS, передбачених робочим навчальним планом для дисципліни у поточному семестрі;

$R_{ДР}$ − рейтинг з додаткової роботи;

$R_{ШТР}$ − рейтинг штрафний.

Наведену формулу можна спростити, якщо прийняти $К^{(1)}_{ЗМ} = … = К^{(n)}_{ЗМ}$. Тоді вона буде мати вигляд

$$R_{НР} = \frac{0{,}7 \cdot (R^{(1)}_{ЗМ} \ + \ ... + R^{(n)}_{ЗМ})}{n} + R_{ДР} - R_{ШТР}.$$

Рейтинг з додаткової роботи **$R_{ДР}$** додається до **$R_{НР}$** і не може перевищувати 20 балів. Він визначається лектором і надається студентам рішенням кафедри за виконання робіт, які не передбачені навчальним планом, але сприяють підвищенню рівня знань студентів з дисципліни.

Рейтинг штрафний **$R_{ШТР}$** не перевищує 5 балів і віднімається від **$R_{НР}$**. Він визначається лектором і вводиться рішенням кафедри для студентів, які матеріал змістового модуля засвоїли невчасно, не дотримувалися графіка роботи, пропускали заняття тощо.

2. Згідно із зазначеним Положенням ***підготовка і захист курсового проекту (роботи)*** оцінюється за 100 бальною шкалою і далі переводиться в оцінки за національною шкалою та шкалою ECTS.

Шкала оцінювання: національна та ECTS

Сума балів за всі види навчальної діяльності	Оцінка за національною шкалою	
	для екзамену, курсового проекту (роботи), практики	для заліку
90 – 100	відмінно	зараховано
74-89	добре	
60-73	задовільно	

Студенти, які протягом навчального семестру набрали менше 42 балів з навчальної роботи, зобов'язані до початку екзаменаційної сесії підвищити свій рейтинг з навчальної роботи, інакше вони не допускаються до іспиту з дисципліни СУЯПР і матимуть академічну заборгованість. У кінці терміну засвоєння дисципліни студентам, які з поважних причин пропустили заняття, відводиться термін (1–2 тижні), протягом якого можна відпрацювати заборгованість (згідно з графіком відпрацювань пропущених занять, складеному на кафедрі) і підвищити свій рейтинг з навчальної роботи на більш високий.

Рейтинг з навчальної роботи проводиться у формі контролю знань студента по модулям із дисципліни СУЯПР, що вивчається, охоплює весь матеріал і проводитися у декілька етапів, зсунутих у часі.

Загальна кількість модулів при вивченні дисципліни складає 3 модулі. Кількість балів отриманих при вивченні модуля складається із 3-х складових: лекційні заняття, лабораторні роботи та самостійна підготовка під керівництвом викладача. Рейтинг з кожного модулю визначається за таким принципом:

- **1 Модуль**: лекційні – 50 балів (за опрацювання лекційного курсу і написання модульної роботи (тестів)), лабораторні – 30 балів (відпрацьовані і захищені); самостійна – 20 балів (індивідуальні розрахункові та тестові завдання). Максимальна кількість балів за модуль складає **100 балів**.
- **2 Модуль:** лекційні – 50 балів (за опрацювання лекційного курсу і написання модульної роботи (тестів)), лабораторні – 30 балів (відпрацьовані і захищені); самостійна – 20 балів (індивідуальні розрахункові та тестові завдання). Максимальна кількість балів за модуль складає **100 балів**.

Максимальна кількість балів, які можна отримати за 2-и модулі становить 2**00 балів.**

Підсумкова атестація проводиться за тестовими технологіями.

Під час вивчення дисципліни студент може отримати таку кількість балів за темами та модулями табл.:

The name of the topics, their content	Number of points
Modul 1. The theoretical basis of standardization and of quality management	
Lectures	
The theoretical basis of standardization and of quality management	*1*
Organizational principles of standardization in Ukraine	*1*
Methodical bases of standardization	*1*
Qualimetry - the scientific basis for evaluating the quality	*1*
Technical quality control	*1*
Quality management	1
Laboratory works	
Standardization of wheat	*7*
Standardization of barley	7
Standardization of legumes (soybeans, peas)	7
Standardization of cereals (buckwheat, oats)	7
Standardization of oilseeds (sunflower, rape)	7
Standardization of cereal seeds	7
Standardization of fruit crops (apples, pears)	7
Independent work	
The current state of development of standardization and certification	2
State system of standardization	2
ISO standards	2
Standards of control methods	2
Написання модульної роботи	*30*
Всього за перший модуль	*100*
Modul 1. Standardization and quality control plant cultivation products	
Lectures	
Standardization of cereal and pulse crops	1
Standardization of fruit crops	1
Standardization of vegetable crops	1
Standardization of technical crops	1
Standardization seeds and planting materials	1
Standardization of fertilizers	1
Basics product certification	1
Fundamentals of metrology	1
Legal and economic aspects of standardization	1
Laboratory works	
Standardization of stone fruit crops (peaches, apricots, plums)	*7*
Standardization of berries (strawberries, gooseberries, currants)	7
Standardization root crops (carrots, beets)	7
Standardization of pumpkin and tomato vegetable crops (cucumber, tomato)	7
Standardization of potatoes	7
Standardization of cabbage vegetables	7
Standardization of sugar beet and green crops	7
Independent work	
Factors determining the quality of products	2
The current state of certification in Ukraine	2
Activities of the metrological service of Ukraine to ensure product quality	2
Certification of quality systems	2
Написання модульної роботи	*30*
Всього за другий модуль	*100*

13. EDUCATIONALY-METHODICAL MATERIALS

Basic

1. Бичківський Р.В., Столярчук П.Г., Гамула П.Р. Метрологія, стандартизація, управління якістю і сертифікація. – Л.: Вид-во Національного ун-ту "Львівська політехніка", 2004. – 559с.
2. Бойко Т.Г. Основи стандартизації. – Л.: Вид-во Національного ун-ту "Львівська політехніка", 2004. – 232 с.
3. Гличев А.В.Основы управления качеством продукции. – М.: Издательство стандартов, 1988.
4. Койфман Ю.І. та інші. Міжнародна стандартизація та сертифікація систем якості. Довідник – Львів-Київ. Видання ТК-93 “Управління якістю і забезпечення якості”, 1995
5. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Посібник / За наук. ред. Скалецької Л.Ф. - Луцьк: Терен, 2-е вид. випр. і перер. – 2013. - 752с.
6. Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Видавництво Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000.
7. Тарасова В.В., Малиновський А.С., Рибак М.Ф. Метрологія, стандартизація і сертифікація. –. – К.: Центр навчальної літератури, 2006 – 264 с.

14.Recommended Literature

1. Койфман Ю.І. та інші. Принципи, методи та досвід роботи у сфері забезпечення якості і сертифікації: система якості, правила сертифікації. Посібник. – Львів-Київ, 1995.-348 с.
2. Сертифікація в Україні. Нормативні акти та інші документи. – К.: Основа. – Т.1.- 1998. – 368с.
3. Цюцюра С.В., Цюцюра В.Д. Метрологія, основи вимірювань, стандартизація та сертифікація. – К.: Знання, 2005. – 242с.
4. Якість в Україні – шлях до відродження, шлях в Європу: Матеріали 7-го Міжнародного форуму "Дні якості в Києві-98". – К.: Українська асоціація якості, Міжгалузевий центр якості "Прирість", 1999. – 151 с.

Information resources

http://www.leonorm.com/
http://www.ukrcsm.kiev.ua
https://uk.wikipedia.org/wiki/%D0%A1%D1%82%D0%B0%D0%BD%D0%B4%D0%B0%D1%80%D1%82%D0%B8%D0%B7%D0%B0%D1%86%D1%96%D1%8F
http://uas.org.ua/ua/services/standartizatsiya/
http://csm.kiev.ua/index.php?lang=ru

INDIVIDUAL TASKS
"Standardization of planting products"

- Give determination: standard, standardization, quality, certifications.
- Basic principles of standardization.
- Standardization as normative base.
- Objects of standardization.
- Order of development of standards.
- As is standardization linked with other sciences?
- Categories of normative documents.
- A role of standardization is in the decision of problem of quality of products.
- Types of standards.
- Features of standardization of products of plant-grower.
- That does the base norm of quality mean?
- That does the maximum norm of quality mean?
- What optimum quality of products.
- That you understand under quality of products.
- That is the attribute of quality of production means
- What indexes of quality of products do you know?
- Classification of single indexes of quality.
- Description of single indexes of quality.
- Methods of determination of quality of products.
- Forms of expression of estimations of quality of products.
- Kinds and varieties of control of quality of products.
- Kinds and applications of standards of ISO of series 9000.
- The use of methods of standardization is in an agricultural production.
- Complex programs of standardization.
- Essence of quality management of products.
- System of quality.
- Audit of quality.
- Objects of quality.
- Basic concepts of certification.
- Primary purpose and principles of certification.
- Obligatory and voluntarily certification.
- Rule a certification.
- Order carrying out of certification of products.
- Certification of food products.
- State system of providing of unity of measurings.

The complete set of tests, control questions for definition of a level of knowledge of students from discipline **"Standardization of planting products"**
by the students of speciality "Agronomics"

Task 1. Specify, what of you know principles of standardization?

1. Planing, perspective, optimum, dynamic, systemic, compulsion..
2. Sampling and complete test.
3. Standardizations, unitizations, typifications, complex standardization.
4. Outstripal standartizacya.
5. Public, expert, instrumentation.

Task 2. Transfer, that on the whole it is possible to attribute standardizations to the objects.

1. Products, processes, services.
2. Grain, tubers, apples, alcohol.
3. State system of standardization.
4. System of certification.
5. Methods of standardization.

Task 3. What is attributed to the normative documents?

1. Rule technicians of safety, sanitary-hygenic requirements to the production.
2. Standards, collections of rules of regulations.
3. Recommendations, documents from a certification.
4. Quality certificates.
5. Documents are from accreditation of laboratory or production.

Task 4. What does mean a term „standard"?

1. High-quality products.
2. Buhigh-quality products.
3. Standard, norm, standard of quality.
4. Quality certificate
5. Documents are from accreditation of laboratory or production.

Task 5. What character of action does standardization have on Ukraine?

1. Prominent.
2. Local.
3. Regional.
4. World.
5. State.

ABSTRACT OF LECTURES WITH DISCIPLINES:
"Standardization and sertification of planting products"

LECTURE 1

TENDENCIES DEVELOPMENTS OF STANDARDIZATION AND MANAGEMENT BY QUALITY IN UKRAINE.

1. Basic concepts and determination in branch of standardization and management by quality.
2. Standards are a normative base of management by quality of products.
3. Essence of standardization as sciences.
4. Functions, purpose and task of standardization.
5. Problem of quality of products and standardization.

The economic policy of Ukraine is directed on creation of market relations, which a healthy competition and activity of enterprises, directed on satisfaction of necessities of users is possible at. A major task is upgrading commodities, resursozberezhennya, guard of environment. Their successful decision to a great extent depends on development of standardization, level of metrologii and quality management of products.

Standardization is activity with the purpose of achievement of optimum degree of arrangement in certain industry by establishment of positions for the general and multiple use of really existent or possible tasks. Therefore knowledge of aims of standardization, principles of it basic methods of operating on providing of high technical level and high quality of commodities necessary future workers.

Functions Indexes, norms and requirements, brought in standards and technical terms, determine the level of quality of that products which they are developed on. Especially it touches a today's period, when in the conditions of market economy there is alteration of organizational structures of management, planning methods and others like that. International, regional, national standardization.

Functions of standardization: civilizing, informative, resursozberigayucha, raesourceconserving, social and cultural, communicative, protective.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3. Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *Give determination of modern term "standardization".*
2. *Purpose and task standardization.*
3. *What legislative acts are followed by standardization in Ukraine?*
4. *To transfer functions and basic principles.*
5. *To describe essence of standardization.*

LECTURE 2

THE STATE SYSTEM OF STANDARDIZATION IN UKRAINE.

1. Organs are from standardization in Ukraine.
2. Substantive provisions of the state system of standardization of Ukraine.
3. Organization of works from standardization and general requirements is to the standards.
4. An order of introduction of standards and state supervision is to their using.
5. Tendencies and basic directions of development of standardization are in Ukraine.
6. Efficiency of works is for standardizations.

The state system of standardization of Ukraine determines a primary purpose and principles of management, form and general organizationally technical rules of implementation of all types of works from standardization. It shows by itself the complex of interconnected rules and positions which regulate organization and order of conducting of works on all questions of practical activity in the field of standardization of country.

Major structural elements of SSS: organs and services of standardization; the checking system is after introduction and implementation of normative documents; complex of normative documents.

Substantive provisions of SSS. Subjects of standardization: technical committees, central organ of executive power, advice of standardization. Categories of normative documents: intergovernmental standards, state standards of Ukraine, industry standards, standards of scientific and technical and engineerings societies and unions of Ukraine, technical terms, standards of enterprises. Types of standards: fundamental, on products and services, on processes, on the methods of control. Objects of standardization are after categories and types of standards. Main and base organizations are from standardization of products of AIK.

Order and stages of development of standards. Order of introduction of standards. Preparation of enterprises is to introduction of standards. A state supervision and department control is after introduction and inhibition of standards, technical terms and state of measurings devices. Purpose, task and functions of state supervision. Economic efficiency of standardization.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3. Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *What does show by itself SSS? Basic structural elements of SSS.*
2. *Describe organization of works from state standardization in Ukraine.*
3. *Functions of Dergspogivstandartu in Ukraine.*
4. *Categories of normative documents which operate in Ukraine. Their short description.*
5. *Types of standards.*
6. *Name the basic stages of works in relation to development of state standards.*
7. *What features are in development and assertion state standarts and standarts of enterprise?*

LECTURE 3
METHODOLOGICAL BASES OF STANDARDIZATION

1. Intergovernmental system of standardization (ISS).
2. International and European activity from standardization that participating in it in Ukraine.
3. Basic tendencies developments of international standardization of the and systems of quality.
4. International standards of ISO of series 9000, 10000, 14000.
5. Methods of standardization.

Task of international cooperation: increase national products and its competitiveness; an improvement of the normative providing of collaboration of Ukraine is with foreign countries; harmonization of the state system of standardization with international, by the regional and progressive national systems of foreign countries with the purpose of increase of level of domestic standards and forming of optimum fund on the basis of wide application of international and regional standards.

International organizations: international organization from standardization (ISO); international electrical-engineering commission (IEC); international organization of legislative metrology (OIML). Basic directions of activity of ISO. Short description of ISO.

Regional organizations are from standardization: The European committee is on standardization (SEN); The European committee is on standardization in the electrical engineering (CENELEC); European organization is from quality (EOYA); intergovernmental Advice is from standardization, metrology and certification of countries of the CIS.

Basic modern progress of works trends in industry of standardization, evaluation and certification of the systems of quality, their introduction and application, it is possible to define thus: distribution and working out in detail of those elements, structure and functioning of enterprises which are included in the system of quality and standardizations are subject within the limits of standards of ISO of series 9000 and 10000, and also working out in detail of the standardized functions and providing and quality management, development of methods, facilities of technology of planning of the systems of quality; a concentration of works is in relation to introduction of the systems of quality, their certification, accreditation of organs from the certification of the systems of quality, preparation and in-plant of personnel training, preparations of experts of public accountants from the systems of quality in more certain and clear organizational forms through creation of international and regional organizations which operate on the base of the proper programs.

Methods of standardization: method of the system of prevailing numbers, standardization, unitization of machines and mechanisms, typification, complex and passing ahead standardization, outstripping of standardization.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3. Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *Explain of task of international cooperation in industry of standardization.*
2. *What organizations do work in industry of international standardization?*
3. *Describe activity of ISO.*
4. *What regional organizations from standardization you known? Their basic tasks.*
5. *What the normative documents of regional and international organizations are obligatory for implementation on the territory of Ukraine?*
6. *What basic progress of international standardization of the systems of quality trends.*

LECTURE 4
QUALITY OF PRODUCTS, INDEXES OF QUALITY AND THEIR DESCRIPTION

1. Terms and determination in industry of quality of products.
2. Classification of indexes of quality of products.
3. Description of single (Individual) indexes of quality

Quality is an aggregate of descriptions of object, which touch him ability to satisfy the set and foreseen necessities.

An index of quality is quantitative description of one or a few properties of products, which make its quality and examined in relation to the certain terms of its creation and consumption.

All of indexes of quality of products are depending on character of tasks, which decide at the estimation of level of quality of products, classified after different signs: 1. After properties which are characterized: setting, reliability, ergonomics, aesthetically beautiful, to technologicalness, standardization and standardization, transporting, patent-legal, ecological, to the unconcern, interchangeability. 2. On the method of expression: in cost units; in be what units. 3. After the amount of properties which are characterized: single, complex (group, generalized, integral). 4. In relation to an estimation: relative, base. 5. After the stage of determination of indexes: prognosis, project, production, operating.

The indexes of setting characterize properties of products of, which determine it basic functional setting. To them belong: classification, functional, structural, will make structures.

The indexes of technologicalness are characterized by properties of products. That stipulate optimum allocation of materials charges, facilities of labour and time at technological preparation of production, making and exploitation of products. To the basic indexes of technologicalness take: indexes of labour intensiveness, materiality and coefficient of the use of materials.

The indexes of standardization and standardization characterize the scope of products standard, compatible and original component parts, and also level of standardization with other wares. The coefficient of adaptation, coefficient of repetition, coefficient of mutual standardization and other, belongs to these indexes

Economic indicators characterize charges for development, making, exploitation or consumption of products. To the economic indicators charges belong on a production and test of pre-production models.

The legal providing of standardization and quality management is one of functions of state control the system by quality products. Types of activity: legal adjusting; legal activity; law-enforcement activity.

The legal adjusting is development and claim of legal norms (standards, rules, standards and others like that). Legal activity is providing of effective application of operating norms and rules, their introduction and inhibition. Law-enforcement activity is legal responsibility after the observance of norms which are ratified a legislative way.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3.Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *What do you understand under quality of the products?*
2. *Classification of indexes of quality of the products.*
3. *Description of single indexes of quality.*
4. *What sign of products?*

LECTURE 5
KINDS, METHODS AND VARIETIES OF CONTROL OF QUALITY PRODUCTS

1. Essence and indexes of quality of products.
2. The standardized methods of determination of indexes of quality products, entered in standards are standardized.
3. Methods, kinds and varieties of control of quality of products.
4. Forms of expression of estimations of products are in standards.

Control objects in an agricultural production are capital goods, technological processes and products prepared for realization.

Control of quality of products is control of quantitative and high-quality descriptions of properties of products. Depending on the stage of creation and existence of products distinguish production control and operating. Production control is carried out on the stage of production. He engulfs all of auxiliary, preparatory and technological operations. Operating control is carried out on the stage of exploitation of products.

Types of control: entrance, operation, receiving and inspection.

Entrance control is verification of accordance of technical and technological information of technique, equipment, spare parts, yadokhimikativ, mineral fertilizers, mixed fodders to the requirements of state standards but other ND.

Operating control is control of products or process during implementation or after completion of technological operation (control of technology of production of povnoracionikh forages, drying of food and seminal grain, active aeration of products, control of terms of storage, sanitary).

Receiving control is control of products as a result of which make a decision about its fitness to deliveries and use.

Inspection control is carried out by the specially authorized people with the purpose of verification of efficiency (rightnesses) ranishe the executed control.

Methods of determination of indexes of quality of products.

A measuring method is carried out on the basis of hardwares measurings, physical, chemical, physical and chemical, microscopic, biological, physiology and technological.

A registration method is carried out on the basis of supervision and count of number of certain events, objects or expenses.

A calculation method is carried out on the basis of the use of indexes got other methods.

Organoleptic – carried out on the basis of feeling of man's organs (to sight, ear, nyukhu, taste, touch).

A sociological method foresees determination of numerical indexes of quality of products on the basis of collection and analysis of actual or possible data from users.

An expert method is carried out on the basis of decisions of the specialists-experts accepted a group.

On a form expression of estimation of quality metrical, ball and dimensionless.

Metrical estimations express the results of measurings in the existent systems of metrical measures.

Ball estimations show by itself the method of expression of results of measurings and estimation of quality of products in marks. He is widely applied at utillized organoleptichnikh and expert methods of researches.

Dimensionless estimations utillize for expression of level of wares of the different setting. At this method an estimation is expressed in the stakes of unit or in percents.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3.Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *Methods of determination of quality of products.*
2. *Forms of expression of estimations of quality of products.*
3. *Kinds and varieties of control of quality of products.*

LECTURE 6
STANDARDIZATION OF INDEXES OF QUALITY OF PRODUCTS OF AGROINDUSTRIAL COMPLEX

1. Standardization of grain and leguminous cultures.
2. Standardization of fruit, vegetable and berry cultures.
3. Standardization of technical crops.
4. Standardization of products which enters agriculture.

Cereals. To the group of grain and leguminous cultures, which are processed in our country, belong; wheat, rye, barley, oat, corn, rice, millet, buckwheat, sorghum, pea, kidney bean, lentil, vetch, china, nut, lupin, bobs are the forage.

Quality of grain is determined as an aggregate of properties grains which stipulate his fitness to satisfy certain necessities in accordance with setting.

On grain of all of grain and leguminous cultures of, which is provided, there are state standards. On separate cultures (wheat, rye, barley, oat, millet, buckwheat, pea) the standards of technical terms are ratified

and operate separately on grain which is provided and is supplied on the having a special purpose setting (for industry of groats, on a malt in an alcoholic production, to the auction network, on an export). The unique standards, in which requirements are set both on that grain which is provided and on grain which is supplied after the certain setting, operate on other cultures.

The indexes of quality of grain is: smells – smutal, mould, wormwood, musty, malt, stranger; admixtures: grain, weedy, mineral, organic, harmful, metaly-magnetical, difficultly separated; defects of grain – damaged, spoiled, puny, beaten, pressed, freezebeat, discoloured, germinating, not fully ripe, brought down, damaged wreckers, smut grain, fuzarim grain, pinkishcoloured, and for rice – red, glyutinozne, pozhovtivshe; fuzariozne, rozhevozabarvlene, and for rice – red, glyutinozne, gluteny; infection of grain by wreckers – in an obvious and hidden form; consistency – glassy grain, farinaceous, partly glassy. The indexes of quality, entered in standards, is also humidity of grain, plivchastist', color, quality of gluten, ability of germination, viability, ash value, number of falling, output of grain from cobs, mass 1000 grains.

Oil cultures. To the oil -bearing cultures which are processed in our country, the seed of which are utillized for the industrial processing, belong: a sunflower, castor oil, mustard, oily flax, oily poppy, saflor, rape, perilla, lallemantia and other. For the receipt of oil industry processing the seed of other cultures much: flax-long-stalk flax, hemps, kenaf, cotton plant, soy, peanut.

One of basic indexes which determine qualities of seed, quality of butter which is made from him is an acid number which shows, what amount caustic potassium in milligrams goes to neutralization of fat acids which are contained in a 1 gramme of butter. What acid number below, the higher quality of butter.

A standard is developed on the basis of information about quality of beet taking into account his mechanized harvesting, deliveries from the field on a factory in the turgorly condition and application of modern methods of providing of optimum terms of his storage. A standard is instrumental in the subsequent applying in industry of complex mechanization of till and collection of sugar beet, development of intensification of beet grower.

Products of bast-fibrely cultures. After raising of straw or trusts in the field of it immediately order to the processed enterprise and when such possibility is not - make for temporal storage on verge of the field or elsewhere in order to execute this work in not tense for a transport time. The stay of sheaves and rolls in the field is impermissible: they become wet and deteriorate.

Quality (number) of straw and trusts of flax for GOST set lengths on indexes, by maintenance of bast in the stems of straw and fibre in stems trusts, by bursting effort, fitness to treatment, color of stems at a straw and fibre in trusts, diameter of stems, they are determined by such devices, as longmeasured DL-3 and DL-2, clamping shoe trees with a comb for combing, crusher of ML-3, dynamometer of DKV-60, drying closet for drying of tests, stalkmeasured of S-2, SP-50, and such index as color – organoleptic.

Hop. On this time on a hop standards operates a “Hop-raw. Technical terms” and “Hop is pressed. Technical terms”.

Operating standards determine brewing advantages of hop cones after maintenance of alpha-acid, most valuable for brewing of component of bitter matters, that adds beer to 80 % bitter taste. The estimation of hop after this index allows more rationally to using raw material which is provided.

Fruit and vegetable production. Standardization of fruit and vegetables directed on the improvement of their quality its guarantees, increases of the labour and decline of unit cost productivity, liquidation of unjustified variety of requirements to quality of the same types of products and their arrangement, cutback of spending at a production, storage, transporting, trade or processing, facilitation of process of acceptance of handing over of products for its best use.

For fruit and some vegetable cultures requirements are set the row of to integrity and presence of fruit stem, as at the precipice of peduncle fabric of fruit which results in contamination and it is death is damaged.

The characteristic feature of standards on fruit and vegetable products are the so-called «admissions», that possible rejections in size and quality from norms. It is caused the features of products, it relatively by low firmness to the damages, difficulty of calibration and sorting at high exactness.

Requirement to quality of potato «Fresh potato requirements at preparation and delivery. Technical terms» and «Fresh potato for processing on the products of feed. Technical terms», but it is needed to know and follow also «Fresh potato. Governed acceptance and methods of determination of quality».

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва:
Навчальний посібник. —Київ: Арістей, 2004. — 615 с.
2. Хилевич В.С. и др. Стандартизация и контроль качества продукции в сельском хозяйстве. — Киев: Высш. школа, 1987. — 255 с.
3. Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. - К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 200. — 120 с.
4. The standard on production plant-grower

Control questions

1. List the indexes of quality on grain of wheat.
2. What cultures do behave to grain?
3. What indexes are brought in standard on sugar beets for the technical processing?
4. How do determine the sort-number of flax?
5. What base bitter taste of cones of hop which is utillized in brewing?
6. How many commodity sorts of apples of late term of ripening?
7. What rejections to sizes are assumed in a standard on the tubers of potato which providing?

LECTURE 7
GENERAL INFORMATION ABOUT DOMESTIC AND FOREIGN EXPERIENCE OF MANAGEMENT BY QUALITY OF PRODUCTS

1. Factors which stipulate quality of products.
2. Quality of products is a typical object of management.
3. Domestic control the system by quality products.
4. Experience of the industrially developed countries is in the management by quality of products.
5. A human factor is in the management by quality of products.
6. Ways of improvement of domestic control the system by quality products.

Quality of products – it set characteristic of products (process, favour) which can ability satisfy the content and surpassing (foreseen) are necessities.

In the conditions of market relations quality is provided and guaranteed an enterprise. The far of factors, which operate both independently and in intercommunication, between itself, influences on quality of products, both on the separate stages of life cycle of products and on a few. All of factors are incorporated in 4 groups: technical, organizational, economic and subjective.

To the technical factors belong: construction, ents, technology of making, facilities of technical service and repair, technical level of base of planning, exploitation and other

To the organizational factors belong: division of labor and specialization, forms of organizations of production processes, rhythm of production, form and control methods, order of producing and handing over the products, form and methods of transporting, storage, exploitation (consumption), technical service, repair and other.

To the economic factors belong: price, prime price, forms and level of pay-envelope, level of expenses on technical service and repair, degree of increase of the public labour productivity and other.

Human factors are related to activity of man, that depend on a capacity and relation of people for implementation of production functions: professional trade, general level, psychological composition of man, personal interest in a result of labour.

Control the system by quality products is on national enterprises: faultless making of products; system of faultless labour; quality, reliability, resource, is from the first wares; scientific organization of work is with the increase durability of engines; complex control the system by quality products; complex control the system by quality products, effective use of resources; complex system of increase of efficiency of production.

Basic principles of management by quality: an orientation on user, leader, bringing in of workers, process approach, system approach of the management, permanent improvement, making a decision on the basis of facts, mutually beneficial relationships with suppliers.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3.Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *What factors influence on quality of commodity?*
2. *What classes and groups industrial products part on?*
3. *Name the basic stages of loop of quality?*
4. *What domestic systems on perfection of quality you known? Describe them.*

LECTURE 8
BASES OF CERTIFICATION

1. General information about development and modern status of certification.
2. Primary purpose and principles of certification.
3. Substantive provisions of the state system of certification of UKRSEPRO.
4. Rules and documents on conducting of certification.
5. General rules, charts and order of conducting of certification of products, are in Ukraine.
6. Certification of System of Quality.

A certification is procedure by which the third party gives a writing guarantee, that products, process or favour, answer the set requirements

The certification of products is carried authorized organs from a certification (by enterprises, establishments and organizations) with a purpose: prevention realization of products, dangerous for life, health and property of citizens and natural environment; an assistance an user is in the competent choice of products; creation of conditions for participating of subjects of entrepreneurial activity in international economic, scientific and technical cooperation and international trade.

Types of certification. An obligatory certification is confirmation authorized on that by the organ of accordance of this products, process or favour to the obligatory requirements of standard.

A voluntarily certification is a certification, which is conducted on voluntarily basis on initiative of producer (performer), salesman or user of products.

The state system of certification is created by the Statutory committee of standardization, metrology and certification of Ukraine – national organ of Ukraine on a certification, which carries out and co-ordinates work in relation to providing of its functioning, namely: determines basic principles, structure and governed systems of certification in Ukraine; asserts the lists of products which is subject an obligatory certification and determines the terms of its introduction; appoints organs from the certification of products; accredi defined ts organs from a certification and tester laboratories (centers)

Circuit of certification is composition and sequence of executions of the third party at the estimation of accordance of products, services, system of quality and personnel. A certification is conducted after charts, set systems of certification of homogeneous products.

Accreditation of tester laboratories is official confession of that a tester laboratory has a right to carry out defined tests or defined types of tests. Criteria of accreditation are an aggregate of requirements, which are utillized an organ from accreditation, which a laboratory must answer in an order to be accredited.

Attestation of laboratory is verification of tester laboratory with the purpose of determination of its accordance of establishment criteria, by a necessity for its accreditation. Attestation of production is official confirmation by an organ from a certification or other authorized for this purpose by the organ of presence of necessary and sufficient terms which provide the productions of certain goods of, stability of requirements to it, which are set in normative documents and controlled during a certification.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3.Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *What is mean a certification?*
2. *What have Purpose and principles of certification?*
3. *What is certification?*
4. *Rulesis certification.*
5. *Order of certification of products.*

LECTURE 9
METROLOGICAL PROVIDING OF QUALITY PRODUCTS

1. Quantitative estimation of indexes of quality of products.
2. An estimation of quality of products is on the stages of life cycle.
3. Activity of metrological service of Ukraine is on providing of quality of products.
4. Responsibility for violation of metrologichnikh rules.

Metrologiya is science about measuring, methods, facilities of providing of their unity and methods of achievement of certain exactness.

Measuring functions are in a national economy: an account of products is in a national economy for mass, long, by volume of, by charges, power, energy; control and adjusting of technological processes; scientific researches. A test and control of products is in different industries of national economy.

An estimation of level of quality products on the stage of its development is comparing of aggregate of indexes of quality this products to the proper aggregate of base standard.

The estimation of level of quality consists of such stages: choice of nomenclature of indexes of quality; a choice of base standard is for comparison; determination of indexes of quality; choice of method of estimation of level of quality of products; determination of level of quality of products.

The evaluation of level of quality can be carried out for homogeneous products (wares of one class and setting) and for heterogeneous products which is produced

Methods of estimation of level of quality of homogeneous products: differential, complex and mixed. Differential – is based on the use of single indexes qualities which compare the value of single indexes of quality of the estimated and base standards.

The complex method of estimation of level of quality is based on the use of summarizing index of quality, which shows by itself a function from the single indexes of quality of products.

At the mixed method of estimation of level of quality of commodity at first unite the single indexes of level of quality after the groups of properties (settings, aesthetically beautiful but other) and for every group expect complex ostensible, and then group complex indexes estimate a differential method.

The level of quality of heterogeneous products is estimated by determination of indexes of quality and imperfectness, which are universal indexes for the estimation of quality of products of enterprise on the whole and to the analysis of his changes for a few years.

Metrological service of Ukraine – one of link of state administration, the basic tasks of which is realization of complex of measures on the metrologichnomu providing of activity of enterprises and organizations, increase of efficiency of production and quality of the made products.

Depending on functions which are executed by metrologichna service, it is divided into state and department.

Functions of government metrological service: organization of conducting of fundamental researches is in industry of metrology; organization of creation and functioning of standard base of Ukraine; standardization of norms and rules of the metrological providing (requirement to facilities of measuring, requirement to metrological attestation); development and claim of state standards, other ND; introduction of State catalogue of measuring facilities is for application in Ukraine.

Functions of department metrologichnoy service: Service of main metrologa of department carries out is conducting of analysis of the state of measurings and metrologichnogo providing of activity of department; collection of materials is about a technical level and quality of facilities of measurings; verification, repair and metrologichna attestation of facilities of measurings; introduction of state standards, industry standards and normative documents.

Metrologichna service of enterprise is engaged in creation of requests on acquisition of measuring facilities; carries out control after the state and storage of facilities of measurings; makes plans and graphic arts of repair and check; organizes repair of facilities of measurings forces of enterprise; determines the requirements of enterprise in exemplary and workings.

The recommended literature

1. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Навчальний посібник. – Київ: Арістей, 2004. – 615 с.

2. Хилевич В.С. и др. Стандартизація и контроль качества продукции в сельском хозяйстве. – Киев: Высш. школа, 1987. – 255 с.

3.Шаповал М.І. Основи стандартизації, управління якістю і сертифікації. – К.: Вид-во Європейського університету фінансів, інформаційних систем, менеджменту і бізнесу, 2000. – 120 с.

Control questions

1. *Is than engaged metrologiya?*
2. *Are there what functions of measuring in a national economy?*
3. *Are what methods of estimation of level of quality?*
4. *Standards are their classification.*
5. *Functions of government and department metrologichnoy service.*

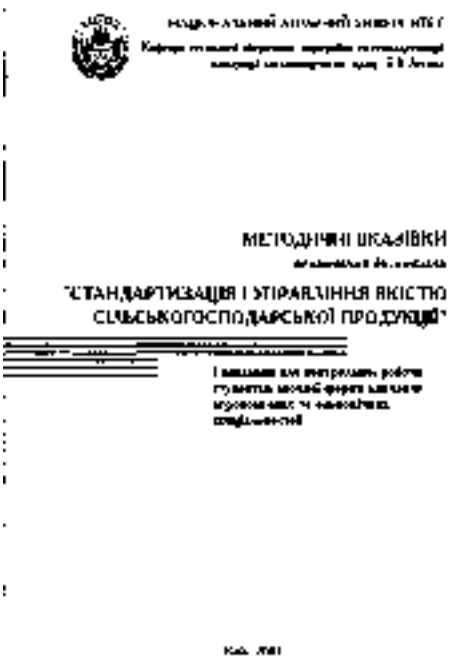
Educational-methodical materials from discipline

1. Подпрятов Г.І., Сеньков А.М., Войцехівський В.І. Технологія зберігання, переробки та оцінка якості кормів. – К.: Видавництво НАУ. – 2003. – 214с.

2. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М., Рожко В.І. Основи стандартизації, управління якістю та сертифікація продукції рослинництва: Посібник. - К.: Вид-во Арістей. 2-е видання перероб. і допов. – 2006. - 620 с.

3. Подпрятов Г.І., Войцехівський В.І., Мацейко Л.М. Методичні вказівки до вивчення дисципліни “Стандартизація і управління якістю сільськогосподарської продукції” і завдання для контрольної роботи студентам дистанційної форми навчання економічних спеціальностей / Видавничий центр НАУ. – 2007. – 270 с.

4. Подпрятов Г.І., Скалецька Л.Ф., Войцехівський В.І., Мацейко Л.М. Стандартизація та контроль якості продукції рослинництва: Практикум / За ред. В.І.Войцехівського. – К.: Вид-во НАУ, 2008. – 294 с.



Methodical Instructionsand tasks for students of the correspondence form

1. Подпрятов Г.І., Хилевич В.С, Мацейко Л.М., Войцехівський В.І. Методичні вказівки до вивчення дисципліни “Стандартизація і управління якістю сільськогосподарської продукції” і завдання для контрольної роботи студентам заочної форми навчання агрономічних та економічних спеціальностей / Видавничий центр НАУ. – 2003. – 13с.
2. Подпрятов Г.І., Скалецька Л.Ф., Войцехівський В.І., Мацейко Л.М. Стандартизація та контроль якості продукції рослинництва: Практикум / За ред. В.І.Войцехівського. – К.: Вид-во НАУ, 2008. – 294 с.