NATIONAL STANDARD OF UKRAINE

CORN. SPECIFICATIONS

DSTU-4525:2006

WITH CHANGES ACCORDING TO THE ORDER of Derzhspozhivstandart

AMENDMENT No. 1 - No. 326 dated September 12, 2009

Kyiv

STATE CONSUMER STANDARD OF UKRAINE 2009

PREFACE

1 DEVELOPED: Subsidiary of the State Joint-Stock Company "Bread Institute of Ukraine" "Kyivskiy Hliboprodukt", Institute of Grain of the Academy of Agrarian Sciences, Ukrainian Institute of Expertise of Plant Varieties; Cherkasy Regional State Grain Inspection

DEVELOPERS: H. Humenyuk, Dr. S.-G. sciences; V. Burtsev, Ph.D. biological sciences; E. Lebyd, Dr. S.-G. sciences; M. Kirpa, candidate s.-g. sciences; O. Honchar, candidate s.-g. sciences; A. Ivanytska; 3. Cubes

2 ADOPTED AND GRANTED INTO EFFECT: order of the Derzhspozhyvstandard of Ukraine dated February 28, 2006 No. 54

3 INTRODUCED FOR THE FIRST TIME (with cancellation in Ukraine GOST 13634 - 90)

CONTENT

DSTU 4525:2006

NATIONAL STANDARD OF UKRAINE

CORN

Specifications

CORN

Technical conditions

CORN

Specifications

Effective from 2007-04-01

1 SCOPE OF APPLICATION

This standard applies to corn in grain and on the cob, intended for use for food and non-food needs and for export.

The distribution of corn into types is presented in Table 1; indicators, characteristics and standards of corn quality — in Table 2; mandatory requirements for corn grain that guarantee the safety of life and health of humans, animals and the environment — in 5.2 (condition, smell, color of grain, contamination by pests), in 6.1 (toxic elements, mycotoxins and pesticides), in 6.2 (safety and industrial sanitation requirements), in 6.3 and 6.4 (environmental protection).

2 REGULATORY REFERENCES

This standard contains references to the following regulatory documents:

DSTU 2422-94 Grain procurement and supply. Terms and definitions

DSTU 3355-96 Agricultural plant products. Sampling methods in the process of quarantine inspection and examination

DSTU EN 12955-2001 Food products. Determination of aflatoxin B1 and the sum of aflatoxins B1 B2, G1, and G2 in cereals, hard-skinned fruits and products derived from them. Method of high-performance liquid chromatography using post-column derivatization and purification on an immune column (EN 12955:1999, IDT)

DSTU EN ISO 15141-1-2001 Food products. Determination of ochratoxin A in grain and grain products. Part 1. Method of high-performance liquid chromatography with silica gel purification

DSTU EN ISO 15141-2-2001 Food products. Determination of ochratoxin in grain and grain products. Part 2. Method of high-performance liquid chromatography with bicarbonate purification

CHANGE1 DSTU-4117-2002 Grain and its processing products. Determination of quality indicators by infrared spectroscopy

(DSTU-P-4117-2002 Grain and its processing products. Determination of quality indicators by the method of infrared spectroscopy - removed according to change 1)

GOST 17.2.3.02-78 Nature protection. Atmosphere. Rules for establishing permissible emissions of harmful substances by industrial enterprises (Protection of nature. Atmosphere. Rules for establishing permissible emissions of harmful substances by industrial enterprises)

GOST 10940-64 Grain. Methods of determining the typical composition (Grain. Methods of determining the typical composition)

GOST 10967-90 Grain. Methods of determining smell and color (Grain. Methods of determining smell and color)

GOST 11225-76 Grain. The method of determining the yield of grain from the initial kukuruzy (Grain. The method of determining the yield of grain from corn cobs)

CHANGE1 DSTU 4138-2002 Seeds of agricultural crops. Methods of determining quality

(GOST 12038 Seeds of agricultural crops. Methods of determining germination (Seeds of agricultural crops. Methods of determining germination - deleted according to amendment 1))

GOST 13496.20-87 Compound feed, compound feed raw materials. Method for determining the final amount of pesticides (Compound feed, compound feed raw materials. Method for determining the residual amount of pesticides)

GOST 13586.3-83 Grain. Acceptance rules and sampling methods (Grain. Acceptance rules and sampling methods)

GOST 13586.4-83 Grain. Methods of determining contamination and damage by pests (Grain. Methods of determining contamination and damage by pests)

GOST 13586.5-93 Grain. Moisture determination method (Grain. Moisture determination methods)

GOST 26927-86 Raw materials and food products. Methods of determination mercury (Raw materials and food products. Methods for determining mercury)

GOST 26929-94 Raw materials and food products. Sample preparation. Mineralization to determine the content of toxic elements (Raw materials and food products. Preparation of samples. Mineralization to determine the content of toxic elements)

GOST 26930-86 Raw materials and food products. Determination method arsenic (Raw materials and food products. Method for determining arsenic)

GOST 26931-86 Food raw materials and products. Methods of determining copper (Raw materials and food products. Methods of determining copper)

GOST 26932-86 Raw materials and food products. Methods of determination lead (Raw materials and food products. Methods for determining lead)

GOST 26933-86 Raw materials and food products. Methods of determination cadmium (Raw materials and food products. Methods for determining cadmium)

GOST 26934-86 Raw materials and food products. Methods of determination zinc (Raw materials and food products. Methods of zinc determination)

GOST 28001-88 Fodder grain, its processing products, compound feed. Methods for determining mycotoxins: T-2 toxin, zearalenone (F-2) and ochratoxin A (Grain for feed needs, its processing products, compound feed. Methods for determining mycotoxins: T-2 toxin, zearalenone (F-2) and ochratoxin A)

GOST 28396-89 Grain raw materials, compound feed. Methods of determination patulin (Grain raw materials, compound feed. Methods for determining patulin)

GOST 28419-97 Grain. Method for determining weed and grain impurities on the U1-EAZ-M fouling analyzer (Grain. Method for determining garbage and grain impurities on the U1-EAZ-M fouling analyzer)

GOST 28666.1-90 (ISO 6639/1-86) Cereals and legumes. Determination of latent infection by insects. Part 1. General provisions (Cereals and legumes. Definition of hidden insect infestation. Part 1. General provisions)

GOST 28666.2-90 (ISO 6639/2-86) Cereals and legumes. Determination of latent infection by insects. Part 2. Sampling (Cereals and legumes. Determination of hidden insect infestation. Part 2. Sampling)

GOST 28666.3-90 (ISO 6639/3-86) Cereals and legumes. Determination of latent infection by insects. Part 3. Control method (Grains and legumes. Determination of hidden infestation by insects. Part 3. Control method)

GOST 28666.4-90 (ISO 6639/4-86) Cereals and legumes. Determination of latent infection by insects. Part 4. Accelerated methods (Grains and legumes. Determination of hidden infestation by insects. Part 4. Accelerated methods)

GOST 29305-92 (ISO 6540-80) Maize. Moisture determination method (crushed and whole grains) (Corn. Moisture determination method (crushed and whole grains)

GOST 30483-97 Grain. Methods of determining the total and fractional content of weed and grain impurities; content of small grains and coarseness; content of wheat grains damaged by the turtle bug; the content of metallomagnetic impurity (Grain. Methods

determination of the total and fractional content of garbage and grain impurities; the content of small grains and coarseness; the content of wheat grains damaged by the shell bug; content of metallomagnetic impurity).

WITH. TERMS AND DEFINITIONS

This standard uses terms and their corresponding definitions concepts according to DSTU 2422 and documents in force in Ukraine:

grain composition

A legal entity that owns grain storage(s) and a certificate of conformity for grain storage services and its processing products

grain admixture

Inferior grains of corn and other cultivated plants, which according to the standards are classified as a grain admixture

corn grain size is the ratio of the mass of corn grains in the residue on a sieve with meshes with a diameter of 8 mm to the mass of the main grain, expressed as a percentage.

3.1 Clogging of grain

Impurities of organic and inorganic origin to be removed from corn grain in case of its intended use. Impurities are divided into grain and garbage.

3.1.1 Corn grain admixture includes:

3.1.1.1 broken grain

Grain particles formed as a result of mechanical action

3.1.1.2 thin grain

The grain is not filled, shriveled, lightweight, deformed due to unfavorable conditions of development and maturation

3.1.1.3 pressed grain

The grain is deformed, flattened due to mechanical action

3.1.1.4 sprouted grain

CHANGE1. Grain with a root and/or sprout outside the shell, or a grain with a lost root and a sprout, but deformed, with a clearly changed color of the shell due to germination

(Grain with a root or sprout that has gone beyond the shell, or with a sprout that has broken, but has not reached the surface of the shell, and grain with a lost root and sprout -

deleted according to change 1)

3.1.1.5 grain damaged by frost

CHANGE1. Grain damaged by frost during ripening — freshly picked before thermal drying with a changed color of the shell (white or darkened) and a grayish seed. After thermal drying, the germ of such a grain acquires a brown color and is classified as an admixture of "damaged grain"

(Frost-killed grain Grain damaged by frost during ripening, with a modified in color (white or darkened) was removed according to change 1))

3.1.1.6 damaged grain

CHANGE1. Whole and broken corn kernels with discolored shells, with endosperm from cream to light brown in color, as well as with normal, endosperm, but with a darkened embryo from light brown to black in color, without visible growth of mold fungi on the surface or under the shell in germ zone as a result of frost damage, self-heating, drying and disease damage

(Grain with a changed from cream to light brown color of the shell and endosperm as a result of self-heating, desiccation and damage by diseases removed according to change 1

3.1.1.7 eaten grain

Grain eaten by pests regardless of the degree of its damage

3.1.1.8 unripe grain

Grain that has not reached full maturity; with a greenish tint, easy deforms when pressed.

3.1.2 Corn waste includes:

3.1.2.1 mineral admixture

Allowable admixture of mineral origin is limited (sand, clods of earth, pebbles, etc.)

3.1.2.2 organic impurity

Impurities of plant origin (particles of stems, leaves, rods, cob wrappers, films, etc.), remains of grain pests, seeds of wild non-poisonous plants

3.1.2.3 harmful admixture

Impurities of plant origin, harmful to human and animal health

3.1.2.4 spoiled grain

CHANGE1 Whole and broken corn kernels with clearly damaged endosperm from brown to black; with a fragile consistency of the endosperm, moldy - by the presence of a visible coating of mold fungi on the surface of the grain and (or) in the zone of the embryo under the shell

(Grain with clearly damaged endosperm from brown to black and grain with light endosperm that crumbles due to slight pressure. removed according to change 1)

3.2 The composition of the main grain, grain and waste impurities

3.2.1 The main grain of corn includes:

- whole and damaged grains of corn, depending on the nature damage not attributed to grain and garbage impurities;

– beaten corn grains that remained on a sieve with meshes with a diameter of 4.5 mm (3.5 mm for small-grain corn of the loose type — rice and pearl corn);

– **CHANGE1 in corn, which is supplied for feed needs — grains of grain and leguminous crops, which are not classified, according to the standards for these crops, by the nature of damage to grain and garbage impurities**

(in corn, which is supplied for feed needs — grains and seeds of other cultivated plants, which are not classified, according to the standards for these crops, by the nature of their damage to grain and garbage impurities. removed according to amendment 1)

3.2.2 Corn grain admixture includes :

- beaten corn grains that have passed through a sieve with meshes of 4.5 mm in diameter (3.5 mm for small-grained corn of the loose type - rice and pearl) and remained on a sieve with mesh size 1.2 mm x 20 mm;
- eaten grains;
- pressed grains;
- cobs - whole grains of corn that have passed through a sieve with meshes of 4.5 mm in diameter (3.5 mm for small-grained corn of the loose type - rice and pearl corn) and remained on a sieve with meshes of 1.2 mm x 20 mm;
- sprouted grains;
- **CHANGE1 unripe grains;** *(unripe grains removed according to change 1);*
- antifreeze grains;
- damaged grains;
- **CHANGE 1 In corn, which is used for feed needs, there are grains of grain and leguminous crops, which, according to the standards for these crops, are classified as a grain admixture by the nature of the damage**

  (in corn, which is used for fodder needs — whole and broken grains and seeds of other cultivated plants, which are not assigned, according to the standard, to these crops, by the nature of damage. to garbage admixture. removed according to amendment 1);

3.2.3 Corn **waste** includes :

- passage through a sieve made of a lattice cloth with a mesh size of 1.2 mm x 20 mm;

– **CHANGE1 in the residue on a sieve with a mesh diameter of 4.5 mm and on a sieve with a mesh size of 1.2 mm x 20 mm: mineral and organic impurities**
(in the residue on a sieve with a mesh size of 1.2 mm x 20 mm: mineral and organic impurities are removed according to change 1);

- seeds of wild plants;

– spoiled corn grains;

– a harmful admixture — corns, sorghum **CHANGE1 affected by grain nematode,** creeping bitter gourd, thermopsis lanceolate, variegated knotweed, pubescent heliotrope, trichodesmus siva;

– in corn for food needs and the production of starch and molasses — various grains and seeds of other cultivated plants;

- in corn for fodder needs - grains and seeds of other cultivated plants, which are classified according to the standards for these crops, according to the nature of their damage, to garbage, as well as seeds of oil crops, CHANGE1 castor seeds .

–

4 TYPES

4.1 According to botanical and biological characteristics, color and shape of the grain, corn is divided into the types listed in Table 1.

Table 1 - Distribution of corn into types

Type	Color and shape of	Corn of other types
I Tooth-shaped yellow	grain Yellow, orange, yellow with a white top. Mostly oblong with chamfered sides and a depressed top of the grain. White, fawn,	15.0, including white no more than 5.0
II Tooth-shaped white	pale pink. Mostly oblong with beveled sides and a depressed top of the grain Yellow, orange with a white top. The tip	15.0, including yellow no more than 2.0
III Siliceous yellow	of the grain is rounded without depression. The grain is shiny White, fawn, pale pink. The tip of the grain	15.0, including white no more than 5.0
IV Flintstone white	is rounded without depression. The grain is shiny Yellow, orange. The form is transitional	15.0, including yellow no more than 2.0
V Semi-dentate yellow	from tooth-like to siliceous with a slightly depressed top of the grain or without depression. White, fawn, pale pink. The shape is transitional	25.0, including white no more than 5.0
VI Semi-dentate white	from tooth-like to siliceous with a weakly depressed top of the grain or without depression Yellow. Oblong with a beak-shaped or rounded top. The grain	25.0, including yellow no more than 2.0
VII Wicked yellow	is smooth. White. Oblong with a beak-shaped or rounded top. Smooth grain Maize that	15.0, including white no more than 5.0
VIII Wicked white	does not meet any of the above criteria (mixture of types)	15.0, including yellow no more than 2.0
IX Unclassified		
Note. A list of the main varieties and hybrids characterizing the type is given in Appendix A.		

4.2 Corn, which contains impurities of corn grain of another type more than the norm indicated in table 1, is defined as "unclassified" type with presentation of the typical composition in percentages.

5 GENERAL TECHNICAL REQUIREMENTS

5.1 CHANGE1 Depending on the directions of use, corn divided into classes, following the requirements given in table 2 *(Depending on the use, corn is divided into 5 groups, following the requirements given in table 2. removed according to change 1)*

Table 2 — Requirements for corn grain

Indicator	Characteristics and norm for corn grain *(Characteristics and norms for corn grain of different use groups were removed according to amendment 1)*				
	CHANGE1				
	2nd class	1st class	2nd class	3rd grade	
	Food concentrates and products	**Products baby food**	**cereals, flour**	**starch and molasses**	**feed needs**
Typical	I-VII types				I - IX types
composition Moisture, %, no more	15.0	15.0	15.0	15.0	15.0
The line was removed according to change 1 In particular after artificial drying, %, no less	*13.0*	*13.0*	*13.0*	*13.0*	*13.0*
Grain admixture, %, no more	7.0	3.0	7.0	7.0	15.0
In particular:					
sprouted grains	2.0	Not allowed	2.0	Within grain admixture	5.0
damaged grains	1.0	The same	1.0	The same	Within grain admixture
The row was removed according to the change 1 grains and seeds of other cultivated plants, classified to grain admixture	*Is not allowed*				*2.0*
Garbage admixture, %, no more	1.0	1.0	2.0	3.0	5.0
In particular:					
spoiled grains	0.5	Not allowed	1.0	1.0	1.0
mineral admixture	0.3	0.3	0.3	0.3	1.0
in particular: pebbles, slag, ore	0.1	0.1	0.1	Within the limits of mineral admixture	
harmful admixture	0.2	Not allowed	0.2	0.2	0.2
in particular:					
sedge and horns	0.15	The same	0.15	0.15	0.15
creeping mustard and multi-colored knotweed	0.1	The same	0.1	0.1	0.1
trichodesma siva, heliotrope pubescens and castor seed, *word deleted according to change 1 - ambrosia*	Is not allowed				
Coarseness, %, no less	80.0	Not defined *The word was deleted by amendment 1 Not limited*			
for corn VII—VIII types	Not is defined *The word was deleted by amendment 1 Not limited*				
Similarity, %, no less	Not is defined *The word was deleted by amendment 1 Not limited*	55,	Not is defined *The word was deleted by amendment 1 Not limited*	55.0	Not is defined *The word was deleted by amendment 1 Not limited*
Contagion pests	Is not allowed		Not allowed, except for tick infestation not higher than 1 degree		

5.2 Corn of all **CHANGE1 classes** *(groups - word removed according to change 1)* must be in a healthy state, not shriveled and without heat damage during drying; have a smell characteristic of healthy grain (without musty, malty, moldy, other extraneous smells); the color characteristic of a healthy grain of the corresponding type.

5.3 Corn is harvested in grains or cobs. Corn in cobs must be delivered to enterprises in a state cleaned of wrappers, the content of cobs with wrappers is no more than 2%.

5.4 With the consent of grain warehouses and other subjects of business activity, the moisture content of grain and the content of grain and garbage impurities in corn are allowed to exceed the limit norms, if it is possible to bring such grain to the quality indicators specified in Table 2.

5.5 For processing for food and fodder needs, corn is supplied only in grain form.

CHANGE1 Typical composition of corn according to GOST 10940 is agreed between the consumer-processor and the supplier of grain for cereals, food concentrates, products, starch and molasses

(The typical composition of corn is agreed with the consumer - a processor of grain into cereals, food concentrates, products, starch and molasses according to GOST 10940. removed according to change 1)

5.6 Corn, which is formed for export, must be in a healthy state, have a normal smell and color, not be infected with grain pests. Requirements for the quality of corn according to other indicators are specified in the contract between the supplier and the buyer of grain.

6 SAFETY AND ENVIRONMENTAL PROTECTION REQUIREMENTS

6.1 The content of toxic elements, mycotoxins and pesticides in corn used for food and technical needs, as well as for export, should not exceed the permissible levels determined by the "Medical-biological requirements and sanitary standards for the quality of food raw materials and food products", No. 5061 [1] , and for fodder needs — permissible levels established by the Order of the State Department of Veterinary Medicine of Ukraine dated November 3, 1998 No. 16 [3]. According to radiological indicators, corn grain must meet the requirements of **CHANGE1 GN 6.6.1.1-130** *(DR-97 was removed according to change 1)* [2]. The maximum permissible content of harmful elements and mycotoxins in corn is given in Appendix B.

6.2 When working with corn grain, it is necessary to comply with the requirements set forth in the "Rules of safety technology and industrial sanitation at grain storage and processing enterprises of the Ministry of Bakery Products of the USSR" [4]

6.3 Monitoring compliance with the norms of emissions of harmful substances into the atmosphere must be performed in accordance with the requirements of GOST 17.2 3 02 and DSP 201 [5].

6.4 They protect the soil from contamination by household and industrial waste in accordance with the requirements of SanPiN 42-128-4690 [6]

7 RULES OF ACCEPTANCE

7.1 Acceptance rules are in accordance with GOST 13586.3.

7.2 In each batch of corn, the condition of the grain, smell, color, typical composition, moisture, grain and garbage impurities, pest infestation, size and similarity of **CHANGE1 are determined in accordance with the requirements listed in table 2.**

7.3 During the acceptance of corn in cobs, the quality and yield of grain is determined by the grain obtained during laboratory threshing of a sample of cobs taken from the batch.

7.4 CHANGE 1 Corn, in which the admixture of cereals, legumes and oil crops is more than 15% of the total mass of grain together with impurities, is accepted as a mixture of corn with other crops and its composition is indicated in percentages (Corn in which the admixture of other cereals and leguminous *seeds crops is more than 15% of the total mass of grain, is taken as a mixture of corn with other crops and its composition is indicated in percentages. deleted according to change 1)*

7.5 The content and periodicity of control of toxic elements, mycotoxins and pesticides and radionuclides in corn used for food, technical needs and for export are carried out in accordance with the methodological recommendations "Periodicity of control of food raw materials and food products according to safety indicators" [7], and for feed needs — according to the methodical recommendations "Procedure and periodicity of control of compound feed and compound feed raw materials according to safety indicators" [8].

7.6 Each batch of corn is accompanied by a certificate on the content of pesticides, toxic elements, mycotoxins, radionuclides and a certificate or certificate of quality.

8 CONTROL METHODS

8.1 Samples are taken according to GOST 13586.3 and DSTU 3355.

8.2 Determine the typical composition according to GOST 10940.

8.3 Odor, color and discoloration are determined according to GOST 10967.

8.4 Moisture is determined in accordance with GOST 13586.5; GOST 29305 (ISO 6540); DSTU-(P *removed according to change 1)*- 4117

8.5 They determine garbage, harmful and grain impurities and grain size according to GOST 30483, GOST 28419

8.6 Similarity is determined according to **AMENDMENT 1 of DSTU 4138** *(GOST 12038 deleted according to amendment 1)* with the following addition

— from the average sample of grain, selected in accordance with GOST 13586.3 using a divider or by hand, separate a weight of grain weighing 400 g. The grain of the weight is mixed, leveled with a thin layer in the form of a square, which is divided diagonally into four triangles and from two opposite triangles, starting from the top , count down to 100 in a row

of whole grains, which are not classified as grain or trash IMPURITIES, receive two samples of 100 grains each. The remaining grain is mixed again and two more samples of 100 grains each are separated according to the above method.

8.7 Pest infestation is determined in accordance with GOST 13586.4; GOST 28666.1 (ISO 6639/1-86);
GOST 28666.2 (ISO 6639/2-86); GOST 28666.3 (ISO 6639/3-86); GOST 28666.4 (ISO 6639/4-86).
Note. ISO standards for quality control methods are used if this is provided for in the corn export contract

8.8 Determination of toxic elements

Prepare samples for analysis in accordance with GOST 26929, determine mercury in accordance with GOST 26927, arsenic in accordance with GOST 26930, copper in accordance with GOST 26931, lead in accordance with GOST 26932, cadmium in accordance with GOST 26933, zinc in accordance with GOST 26934.

8.9 Pesticides in food corn are determined according to DSanPiN 8.8.1.2.3.4-000 [9], in the stern - according to GOST 13496.20.

8.10 Mycotoxins in **food corn** are determined according to the methods approved by the Ministry of Health: aflatoxin B1 — according to MP No. 2273-80 [10] or MU No. 4082-86 [11], DSTU EN 12955; zearalenone — according to MP No. 2964-84 [12]; T-2 toxin — according to MU No. 3184-84 [13]; deoxynivalenol (vomitoxin) — according to MU No. 3940-85 [14] or No. 5177-90 [15]; ochratoxin A — according to DSTU EN ISO 15141-1 or DSTU EN ISO 15141-2; **in fodder corn:** zearalenone and T-2 toxin —
in accordance with GOST 28001; patulin - according to GOST 28396; deoxynivalenol (vomitoxin) — according to MU No. 3940-85 [14] or No. 5177-90 [15]; aflatoxin B1, zearalenone and T-2 toxin — according to the methods approved by the Ministry of Agriculture of Ukraine — No. 15-14/23 [16] and patulin — No. 15-14/22 [17] radionuclides strontium-90 and cesium-137 — according to MU No. 5778 [18] and No. 5779 [19].

8.11 Determine the grain yield from corn cobs in accordance with GOST 11225.

9 TRANSPORTATION AND STORAGE

9.1 Corn is transported in bulk by all types of transport according to rules of cargo transportation valid for this type of transport.

9.2 Vehicles must be clean, without extraneous odors. During loading, transportation and unloading, corn grain must be protected from atmospheric precipitation.

9.3 Corn is placed and stored in clean, dry, odor-free granaries that are not infected with grain pests in accordance with sanitary rules and storage conditions approved in accordance with the established procedure in Ukraine.

10 WARRANTIES OF THE SUPPLIER

The supplier company guarantees the compliance of the corn with the requirements of this standard if the conditions of transportation and storage are observed.

APPENDIX
A (reference)

LIST OF THE MAIN VARIETIES AND HYBRIDS OF CORN THAT CHARACTERIZE THE TYPE

A type of corn		Variety, hybrid of corn
And	tooth-shaped yellow	Dnipro 172 MB, Dnipro 193 MB, Dnipro 273 AMV, Dnipro 284 MB, Dnipro 337 MB, Dnipro 450 MB, Dnipro 473 SV, Odesa 10, Odma 310 MB, Odesa 297 MB, Odesa 346 MB, Odesa 508 MB, Kharkiv 294 MB , Kharkiv 311 MB, Collective 225 MB, TOSS 230 MB, Borysfen 191 MB, Borysfen 490 AMV, Naddniprianska 50
II	Tooth-shaped white	There are no plant varieties of Ukraine entered into the Register
III	Silica yellow	Collective 111 SV, TOSS 218 MB
IV	Silica white	There are no plant varieties of Ukraine entered into the Register
V	Semi-dentate yellow	Dniprovskyi 177 SW, Dniprovskyi 203 MB, Slavutych 271 MB, Dniprovskyi 310 MB, Dniprovskyi 345 MB, Platan MB, Corsair MB, Karat SV, Kharkivskyi 199 MB; Kharkiv 290 MB, Kharkiv 315 MB, TOSS 156 MB, Collective 210 ASV
VI	Semi-dentate white	There are no plant varieties of Ukraine entered into the Register
VII	Wicked yellow	Dniprovska 298, Dniprovskyi 925
VIII	Promiscuous white	Erlikon
IX	Unclassified Mixture of varieties and hybrids	

APPENDIX
B (mandatory)

MAXIMUM ALLOWABLE CONTENT OF HARMFUL SUBSTANCES IN CORN GRAIN

Indexes	Corn grain used for	
	food and technical needs and exports	**feed needs**
Toxic elements, mg/kg:		
lead	0.5 (0.3 for baby food) 0.1 (0.03 for baby	5.0
cadmium	food) 0.2	0.3
arsenic		0.5
mercury	0.03	0.1
copper	10.0	30.0
zinc	50.0	50.0
Mycotoxins, mg/kg:		
aflatoxin B	0.005	0.025-0.1
zearalenone	1.0	2-3
T-2 toxin	0.1	0.2
deoxynivalenol (vomitoxin) patulin	0.5—1.0	1-2
	Not regulated	0.5
Radionuclides, Bq/kg:		
strontium-90	**20.0** *(5.0 removed according to change*	100
cesium-137	*1)* **50.0** *(20.0 removed according to change 1)*	600
Pesticides	The list of pesticides for which corn grain is controlled depends on their use in the specified territory and is coordinated with the services of the Ministry of Health and Veterinary Medicine of Ukraine	

APPENDIX B
(additional)

BIBLIOGRAPHY

1. Medical and biological requirements and sanitary standards for the quality of food raw materials and food products, approved by the Ministry of Health of the USSR on August 1, 1989, No. 5061

2. **CHANGE1 ÿÿ 6.6.1.1-130-2006 State hygienic regulations "Permissible levels of radionuclides Cs-137 and Sr-90 in food and drinking water, approved by the Ministry of Health of Ukraine on 05/03/2006, order No. 256**

(Permissible levels of radionuclides Cs-137 and Sr-90 in food and drinking water (DR-97), approved by the Ministry of Health of Ukraine on 19.08.97 p., No. 255 removed according to amendment 1)

3. Mandatory minimum list of studies of raw materials, products of animal and plant origin, compound feed raw materials, compound feeds, vitamin preparations, etc., which should be carried out in state laboratories of veterinary medicine and based on the results of which a veterinary certificate (F-2) is issued, approved by order of the State Department of Veterinary Medicine of Ukraine dated 03.11.98 p., No. 16

4. Rules of safety technology and industrial sanitation at grain storage and processing enterprises of the Ministry of Bakery Products of the USSR, approved by the Ministry of Bakery Products of the USSR on April 18, 1988, No. 99-88

5. DSP 201-97 State sanitary rules for the protection of atmospheric air in populated areas (against pollution by chemical and biological substances), approved by the Ministry of Health of Ukraine on 07.09.97, No. 201

6. SanPiN 42-128-4690-88 Sanitary rules of maintenance populated areas

7. Methodological recommendations MP 4.4.4-108-2004 "Periodicity of control of food raw materials and food products according to safety indicators", approved by the Ministry of Health of Ukraine on July 2, 2004 No. 329

8. Methodological recommendations "Procedure and periodicity of control of compound feed and compound feed raw materials according to safety indicators", approved by the Ministry of Agro-industrial Complex of Ukraine on October 3, 1997.

9. DSanPiN 8.8.1.2.3.4-000-2001 Permissible doses, concentrations, quantities and content levels of pesticides in agricultural raw materials, food products, air of the working area, atmospheric air, water of reservoirs, soil, approved by the Ministry of Health of Ukraine from 20.09 .2001 No. 137

10. Methodological recommendations for the detection, identification and determination of the content of aflatoxins in food raw materials and food products, No. 2273-80, approved by the Ministry of Health of the USSR on December 10, 1980.

Methodological recommendations for the detection, identification **11.** and determination of the content of aflatoxins in food raw materials and food products using high-performance liquid chromatography, No. 4082-86, approved by the Ministry of Health of the USSR on March 20, 1986

Mr.

12. Methodological recommendations for the detection, identification and determination of the content of zearalenone in food products, No. 2964-84, approved by the Ministry of Health of the USSR on January 23, 1984.

13. Methodical instructions for detection, identification and determination of T-2 toxin in food products, No. 3184-84, approved by the Ministry of Health of the USSR on December 29, 1984.

14. Methodological recommendations for the detection, identification and determination of the content of deoxynivalenol (vomitoxin) in grain and grain products, No. 3940-85, approved by the Ministry of Health of the USSR on October 20, 1985

Mr.

15. Methodical instructions for the detection, identification and determination of the content of deoxynivalenone (vomitoxin) and zearalenone in grain and grain products, No. 5177-90, approved by the Ministry of Health of the USSR on June 1, 1990.

T-2 Rules for the simultaneous detection of aflatoxin B1, patulin, **16.** sterigmatocystin, toxin and zearalenone in various feeds, approved by the Ministry of Agriculture and Food of Ukraine 04/09/1996 p., No. 15-14/23

17. Rules for determining mycotoxin patulin in feed and food products, approved by the Ministry of Agriculture and Food of Ukraine 04/09/1996 p., No. 15-14/22

18. Methodical instructions No. 5778-91 "Determination in food strontium-90 products", approved by the Ministry of Health of the USSR on January 4, 1991.

19. Methodical instructions No. 5779-91 "Determination in food cesium-137 products", approved by the Ministry of Health of the USSR on January 4, 1991.

UKND: 67.060

Key words: corn for food needs, corn for feed needs, types, requirements, quality control, acceptance, transportation, guarantees.

AMENDMENTS
INTRODUCED IN IPS No. 3-2006

(The basis is the order of the Derzhspozhivstandard of Ukraine dated March 30, 2007 No. 70)

Place of amendment	Printed	Should be
Section "Approved national standards of Ukraine", p. 9, line		
DSTU 4521:2006	Valid from 01.01.2007	Valid from 01.07.2007
C 10, lines:		
DSTU 4522:2006	Effective from 01.01.2007	Effective from 01.07.2007
DSTU 4523:2006	Effective from 01.01.2007	Effective from 01.07.2007
DSTU 4524:2006	Effective from 01.01.2007	Effective from 01.07.2007
DSTU 4525:2006	Effective from 01.01.2007	Effective from 01.07.2007
p. 12, line		
DSTU 4520:2006	Valid from 01.01.2007	Valid from 01.07.2007
C 12, section "Designation of approved national standards of Ukraine", lines: DSTU 4520:2006		
DSTU 4521:2006	01.01.2007	07/01/2007
DSTU 4522:2006	01.01.2007	07/01/2007
DSTU 4523:2006	01.01.2007	07/01/2007
DSTU 4524:2006	01.01.2007	07/01/2007
DSTU 4525:2006	01.01.2007	07/01/2007
	01.04.2007	07/01/2007

(IPS No. 4-2007)