

 Trnavská cesta Leopoldov, SK  <b>Reg. number: SK 400 579</b>	Quality specification		<b>IKD: II.-ŠpK- 04e</b>
	<b>DDGS (Distillery Dried Grain Solubles) – fodder</b>		<b>Edition: 15.</b>
<b>Elaborated:</b> Ing. Ľubica Svetlíková, chief auditor and referent for feeds	<b>Checked:</b> Ing. Michaela Cibulková, plant manager	<b>Approved:</b> Ing. Marek Šulc, Director of BED	<b>Page: 1 / 1</b>
<b>Administrator of document:</b> Ing. Ľubica Svetlíková, chief auditor and referent for feeds			<b>Validity: 01. 05. 2017</b>

### 1.12.11 DDGS (Distillery Dried Grain Soluble) – fodder

**Fodder description:** by-product of ethanol production obtained by indirect drying and pelletizing of solid residues of fermented corn grains.

**Aim of usage:** valuable fodder for preparation of fodder mix for animals

**Raw material:** grain of maize (*Zea mays* L.) determined for bioethanol production and DDGS, which quality corresponds with work standard “PN 01-2006 Maize. Technical and qualitative parameters of raw material for bioethanol production and DDGS” as well as legislative of SR.

**Modification:** solid pellets with abrasibility max 30 %, proportions – diameter 8 till 13 mm, length 10 till 30 mm.

**Organoleptic properties:**

Complexion: pellets without foreign substances

Color: golden/honey

Odour/smell: typical for given product, without foreign smell

**Quality requirements**

DDGS shall be suitable with requirements under mentioned

Parameters	Allowed values
Dry matter % wt.	min. 86,0
Protein NL (N x 6,25) % wt. *	min. 30
Fibre % wt. *	min. 7
Fat % wt. *	min. 8
Ash insoluble in HCl % wt.	max. 2,2
ME (MJ/kg) *	min. 12,0

\* values are calculated in 100% dry matter, ME - metabolizable energy

**The product is made in accordance with the requirements of GMP + B.2 and ISO 9001.**

**Sanitary harmless**

- DDGS shall be sanitary harmless, without living vermin and strange odour. Presents of mouldy or molding pellets is not allowed.
- Amount of ineligible matters present in DDGS (toxic metals, mycotoxins etc) is in accordance with relevant legislation EU and SK (Regulation No.767/2009/ES, 178/2002/ES and 183/2005/ES and Governing Direction SR No. 438/2006 code of law about ineligible matters in fodder and about harmless indication and fodder usage).

**Information about GMO and additives:**

We are not using antibiotics in the process of DDGS production. The product does not come from genetically modified organisms and meets the requirements of the European Parliament and Council. 1829/2003 and 1830/2003.

**Storage specification:** storage and equipments shall be dry, kept clean and in suitable technical condition without possibility of vermin penetration. Storage shall be in suitable condition to kept DDGS intact of molding process.

**Minimum shelf life:** 6 months from date of production under conditions of storage

**Package:** free dispatched

**Transport requirement:**

- Only authorized carrier is allowed for transporting of the fodder.
- Trucks and transporting vehicals for transport of free dispatched DDGS shall be regular cleaned, disinfected and without any deposits of last transports.
- Transported fodder during transport shall be kept intact to weather condition.

**Taking samples and laboratory testing:** performed in accordance with methodology mentioned in Edict Ministry of Agriculture SR No. 2548/2005-100.