

Important user recommendations for KOFA® GRAIN -pH 5- / Please read carefully prior to use!

KOFA® Grain -pH 5- is ready to use and **must not be diluted with water**. KOFA® GRAIN -pH 5- is approved within EC for preservation of high-moisture grain and crimped/milled grain. KOFA® GRAIN -pH 5- cannot be used in grains for food, seed and beer production.

Prior to harvest:

- Clean storage thoroughly • Eradicate pests (e.g. cereal beetle)
- Apply acid-resistant paint or plastic film to concrete floor and walls. To avoid possible oxidation (rust formation) of steel silos (also of silos from galvanized metal), application is strongly recommended of acid-resistant cover (paint or plastic) on walls.
- Check general functioning of applicator. Calibrate applicator with KOFA® GRAIN -pH 5- or use digital, viscosity-independent technology. Calibration must be repeated if temperature fluctuates by more than 5 K, especially if it drops during the preservation process.
- Install min. 3 (better 4) nozzles. Distance between nozzles should be 1.5 the distance between fliers. Minimum distance between last nozzle and auger end should be 3 m, better 4 m. Install nozzles at 11 o'clock position on anti-clockwise rotating augers; at 1 o'clock position on clockwise-rotating augers. Auger angle should be between 40-45 °. Operate auger at 75% of maximum capacity.
- All pipes leading to nozzles must have same length.
- Prior to use of KOFA® GRAIN -pH 5-, remove nozzles from applicator, fill applicator and pipes up with KOFA® GRAIN -pH 5-; after use remove nozzles and flush with hot water.
- Check homogenous application by putting kernels freshly treated with KOFA® GRAIN -pH 5- onto paper towel or toilet tissue. Number of "finger prints" must match number of kernels used.

During preservation:

- Add safety margins on application rates when quality is poor (see back).
- Check regularly moisture and temperature of grain. Add safety margin to application rate if necessary (see back). Set application rate of KOFA® GRAIN -pH 5- according to moisture content and intended storage length; use same application rate for entire batch. Consider safety margins on application rate (see back).
- Level-in tip of heap. Loosen solidified surface of stored grain on a regular basis (e.g. by using a rake).

After preservation:

- Initial increase in temperature by about 5 °C during the first two weeks is normal due to residual enzymatic activity in the grain. Thereafter temperature will decline at varying rates. As long as temperature falls irrespective of absolute value, there is no need for action.

If temperature increases again act immediately by adding additional preservative!

⇒ If pest control is required, e.g. add Actellic 50 directly to KOFA® GRAIN -pH 5- (without additional water) and treat grain

Note: Applying KOFA® GRAIN -pH 5- to moist grain is **NOT** sufficient to safely protect mixtures of the treated material and other (untreated) components from spoilage. Additional treatment is then strongly recommended.

Application rates for preservation of high-moisture grain (minimal dosage in litres per tonne clean grain)

	Moisture	Storage length (months)		
	%	< 3	3 to 6	> 6 to 12
wheat, barley, oats, rye, triticale, grain maize	14	3.0	3.5	4.0
	16	4.5	5.0	5.5
	18	5.0	6.0	7.0
	20	6.0	7.0	8.0
	22	7.0	8.0	9.0
	24	8.0	9.0	10.0
	26	9.0	10.0	11.0
	28	10.0	11.0	12.5
	30	11.0	12.5	15.0
	> 30 to 35	-	15.0	17.0
	> 35 to 40	-	17.0	18.5
	> 40 to 45	-	18.5	20.0

Safety margins:

- + 10 - 15 % if non-cleaned material is preserved
- + 10 - 15 % if material is preserved at high temperatures (> 30 °C)
- + 10 - 15 % if milled or crimped material is preserved
- + 10 - 15 % if material is pneumatically transported

If high-capacity mills are used, increase dosage by 20% due to excessive heat generation.

Note:

In case of using KOFA® GRAIN -pH 5- to preserve germinating grain, please contact your ADDCON adviser first to discuss how to proceed.

Application rates for the use of KOFA® GRAIN -pH 5- as silage additive

against aerobic deterioration caused by yeasts and moulds:

grass, legumes, forage maize, corn-cob-mix, maize ear silage		3 - 5 l/t
crimped or milled cereals, including grain maize	< 18 % moisture 18 - 24 % moisture 25 - 30 % moisture 30 - 35 % moisture > 35 % moisture	4 l/t 6 l/t 4 - 5 l/t 3 - 4 l/t 2 - 3 l/t
sugar beet pulp, brewer's grains, distillers grains		3 - 4 l/t

Important note:

Since the use of KOFA® GRAIN -pH 5- is beyond our control, we can only assume liability for a consistent product quality. Our liability explicitly excludes the risk of use and storage.

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