## SUMY STATE UNIVERSITY

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## EQUIPMENT FOR FODDER PRODUCTION IN LIVESTOCK-BREEDING



The heat generating unit is designed (HGU) for fodder production for livestock farms in the conditions of the farm and can be used with the purpose of:

- **preparation of soybean suspension** (milk) that is performed in cycles (a cycle of preparation takes about 60 min.). The essence of the technology, implemented by the unit, is grinding soybeans in a liquid medium while stirring vigorously and heating the product due to friction forces to the temperature of 105-110  $^{\circ}$ C;

- **preparation of liquid fodder mixtures** – the HGU allows you to perform milling of cereals in a liquid medium while stirring and heating the mixture to the desired temperature (50-60 °C). Cooking is done cyclically (20-25 min.) at a weight ratio of water and dry grain 3:1. The cooking of liquid fodder from grain (wheat, barley, peas, corn, etc.) with the addition of molasses and various adjuncts is possible;

- water heating – the HGU advantage, when used for this purpose, is the lack of tubular electric heating elements (heaters).

The introduction of the HG units in th farms allows:

- preparing soybean suspension - to increase the marketability of the non-

collected milk by replacing it by soya-based milk during feeding young animals; to reduce the length of the feeding time of animals; to raise animals eating of dry feed mixtures (compound feed);

- **preparing liquid feed mixtures** – to save crops, reduce the duration of fattening animals, to replace several units: universal fodder crushing machine, mixer, electric water heater, fodder steamer, and to save energy;

- heating water - to abandon traditional heating elements (heaters), which prevents the formation of scale and increases equipment life, reduce the cost of time for heating water; save energy.

Specifications of the HGU			
Characteristic	Type / size		
	HGU-1	HGU-2	HGU-3
Power, kW	7.5	15	30
Tank capacity, l	50	100	200
Dimensions, m	0.82x0.9x1.2	0.7x0.7x2	1.1x1.3x1.7
Performance during preparation, kg / h:			
soybean suspensions	50	100	200
liquid feed mixtures	125-150	250-300	500-600
Amount of dry material during preparation, kg:			
soybean suspension (milk)	11	22,5	45
liquid feed mixtures	under 15	under 30	under 60
The number of attendants, people			1