



Trough AI- the smart trough connected to an autonomous weighing system

In the context of TechCare, as well as improving the profitability of farmers, we have developed an autonomous weighing facility for livestock at the PLF lab at the Volcani Institute, which enables continuous monitoring of the animal's weight without additional manpower. The facility was designed to be very simple in order to allow for the rapid adaptation of all animals and reducing it to zero. In order to attract the animals, the device is attached to a trough. All troughs in the yard are connected to devices and each one can be used by up to 100 animals. This also allows us to monitor the amount of water each animal drinks throughout the day. When an animal comes to drink, it is weighed. The data that comes to the system at the end of the visit is the weight of the animal and the amount of water it has drunk. In addition, the animal's behavior in the group is monitored (how many times a day it comes to drink) and the animal's drinking behavior (the lowering of the head to the trough is counted). All the data is sent to the cloud, where statistical calculations are performed and information is returned (PC or cellphone) that provides alerts and recommendations for action. Example warnings – not reaching for drinks for more than 24 hours, weight loss or growth rate, change in the number of daily entrances, slow growth rate relative to the rate of the group, etc. We have also developed a system for automatically marking the animals when they are in the facility and are identified as needing to be checked. Although this concept of a facility used by a large number of animals exists in the sheep sector (weighing facilities, milking parlors), the autonomously aspect of this device is novel.



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