

ABSTRAK

Yoram Kristiadi Lbn Tobing: 5223520001 Proses Pembuatan Mesin Pengaduk Pakan Ternak Sapi Kapasitas 50Kg Per Proses Untuk Peternakan Surya Farm Di Desa Kelambir Lima. Tugas Akhir. Fakultas Teknik. Universitas Negeri Medan. 2025.

Mesin pengaduk pakan ternak sapi merupakan salah satu inovasi teknologi tepat guna yang diterapkan pada Peternakan Surya Farm di Desa Kelambir Lima untuk meningkatkan efisiensi dan produktivitas dalam proses pencampuran pakan ternak, khususnya pakan silase. Mesin ini dirancang untuk menggantikan proses pencampuran pakan secara manual yang membutuhkan waktu lama dan tenaga kerja besar, dengan sistem kerja mekanis yang lebih cepat dan praktis. Mesin pengaduk pakan ternak sapi ini terdiri dari beberapa komponen utama, yaitu rangka mesin, tabung pengaduk, mata pengaduk spiral (screw), poros pengaduk, mesin penggerak diesel, sistem transmisi berupa pulley dan V-belt, gearbox, pillow block bearing, penutup tabung, serta corong keluaran hasil pengadukan. Penerapan mesin ini di Peternakan Surya Farm memungkinkan proses pencampuran berbagai bahan pakan seperti hijauan, konsentrat, molases, dan EM4 dilakukan secara lebih merata dan efisien. Selain mampu menghasilkan campuran pakan yang homogen, penggunaan mesin ini juga dapat mengurangi beban kerja peternak serta meningkatkan keselamatan kerja karena proses pengadukan tidak lagi dilakukan secara manual. Berdasarkan hasil uji fungsional yang dilakukan di Peternakan Surya Farm, mesin pengaduk pakan ternak sapi berkapasitas 50 kg per proses menunjukkan kinerja yang baik, stabil saat dioperasikan, serta mampu mempersingkat waktu pencampuran dibandingkan metode manual. Oleh karena itu, mesin ini dinilai sesuai untuk diterapkan pada peternakan sapi skala kecil hingga menengah.

Kata Kunci: Mesin Pengaduk Pakan Ternak Sapi, Pakan Silase, Proses Pembuatan, Uji Fungsional, Peternakan Sapi.



ABSTRACT

Yoram Kristiadi Lbn Tobing: 5223520001 *Manufacturing Process of a Cattle Feed Mixing Machine with a Capacity of 50 kg per Batch for Surya Farm in Kelambir Five Village Final Project. Faculty of Engineering. State University of Medan. 2025.*

A cattle feed mixing machine is one of the appropriate technology innovations implemented at Surya Farm in Kelambir Five Village to improve efficiency and productivity in the livestock feed mixing process, particularly silage feed. This machine is designed to replace the manual feed mixing process, which requires a long time and substantial labor, with a faster and more practical mechanical operating system. The cattle feed mixing machine consists of several main components, including a machine frame, mixing chamber, spiral mixing blade (screw), mixing shaft, diesel engine, transmission system consisting of pulleys and a V-belt, gearbox, pillow block bearings, chamber cover, and a discharge chute. The application of this machine at Surya Farm enables the mixing of various feed materials such as forage, concentrates, molasses, and EM4 to be carried out more evenly and efficiently. In addition to producing a homogeneous feed mixture, the use of this machine reduces the workload of farmers and improves work safety since the mixing process is no longer performed manually. Based on functional testing conducted at Surya Farm, the cattle feed mixing machine with a capacity of 50 kg per batch demonstrated good performance, stable operation, and the ability to shorten mixing time compared to the manual method. Therefore, this machine is considered suitable for application in small- to medium-scale cattle farms.

Keywords: *Cattle Feed Mixing Machine, Silage Feed, Manufacturing Process, Functional Testing, Cattle Farming.*

