

Automatic Seed Sowing Machine

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Abstract

In agricultural farming, the use of conventional seeding process results in waste of time and increase in labor. The seed planting rate is slow and the time required for the total operation is long yet the total cost is high due to labor and hiring of equipment. Automatic Seed Sowing Machine can dig the ground and plant the seeds and cover it afterwards with soil. This undergraduate student project was inspired by 2030 vision of the kingdom of Saudi Arabia to create more sources of income and to meet local food demands. The development of this project will get us a step closer to the kingdom's vision by decreasing manpower dependency and increase in production. The project was carried out step by step from conceiving the main idea, sketching it on a piece of paper to discuss it within team members, designing each part with proper factor of safety, analyzed using 3D SolidWorks, manufactured and assembled as per design, and finally tested the prototype successfully. The results were encouraging yet leaving a lot of space for improvements such as remote control, solar power supply, and variable distance between seeding locations, and configuring the machine with GPS system.

Keywords

Machine, Seed, Farming, Sowing and Vision.

Biographies

Ryan Alzahrani a Passionate and ambitious hardworking human who believes in a better brighter and easier future. A man with many dreams to improve and grow the nation. He's not just your ordinary mechanical engineering student. Ryan is to be a Mechanical Engineer graduating from Yanbu Industrial College, Yanbu. He already acquired his Diploma with a GPA of 3.2 out of 4 in Mechanical Maintenance from Yanbu Industrial College, Yanbu. He earned best Senior Design Project award in Mechanical department for Automatic Seed Sowing Machine. During his time in college. Ryan built and polished his communication skills improved his attitude towards life learned to never settle for less than what he hoped for. Simply Ryan is a hardworking dreamer.

Abdulaziz Alahmadi has a Bachelor Degree in Mechanical Engineering Technology from Yanbu Industrial College. With a GPA of 3.65 out of 4. He looking to achieve his dreams and join to a great company. He had an Internship at ARAMCO in Jeddah Refinery Department for 4 months in 2016. He had Internship at NATPET Co. in Yanbu for 2 months in 2018. He took Advertising design course at Jeddah International Training institute in 2012. He took Occupational Safety and Health Specialist course by OSHA academy for 44 hours, which is include Hazard Communication program, introduction to safety management, Emergency action program, Electrical safety basics, Fall protection program, Introduction to emergencies, Energy control program – LOTO-, and Personal protection equipment. He is Good with using computer. He is good with using Microsoft Office programs. He is Good with using design programs (Cinema 4D, Flash macromedia, Photoshop, AutoCAD, Visual basic and SolidWorks). He Can speak, read and write in English. He is good dealing with others. He has Communication skills with different type of people. He can Withstand work pressure. He has the Ability to build social relationships. He has the Flexibility in performing tasks.

Anas Alahmadi he is 24 years old Mechanical Engineer he graduate from Yanbu Industrial College on April 2019 he took his COOP training when he finished his associate degree at Royal Commission Medical Center and at NATPET company when he took his Bachelor Degree . Our Senior Design Project is Automatic Seed Sowing Machine won the best project at the college. he hope in the future he can get job to use all his knowledge and experience on the company and to be useful and learn more.

Yousef Al Johani he is 24 years old is a Mechanical Engineer. He graduate from Yanbu Industrial College on April 2019. He has done his COOP training when he finished his Associate at Ministry of Water and Electrical in 2016. Also he did his training for bachelor at NATPET company when he took his bachelor degree in 2018. His Senior Design Project is Automatic seed sowing machine it got the best project in the Mechanical Department. He is a good in computer programming and he can works with team he can work under pressure. He has experience in AutoCAD, SolidWorks, Lapview programming.

Fahad Basudan has a Bachelor Degree in Mechanical Engineering Tech from Yanbu Industrial College . He loved to improve his skills ,experience and knowledge in many things. Also he was in a volunteer club (ethra) in the college with around 133 volunteer hours. He is good in communication skills with others , withstand working pressure, trying to get the best solution in any problem , AutoCAD , SolidWorks , Microsoft Office and photography. He had work in Tasheel for data entry , Saudi Electricity Company for data entry and Mashaer Al-mugaddassah Metro in Makkah to arranging the pilgrims he worked as a team leader. COOP training program in Saudi Arabian Airlines.He went to India for 9 months to learn English and get more knowledge from other culture and increase his skills and improve it.

Abdullah Alyoubi has a Bachelor Degree in Mechanical Engineering Technology from Yanbu Industrial College. Also he has COOP training for 14 week in the Ministry of Water and Electricity in Almadinah. Attend the summer training in Elastomer Industry's for 8 week at HIEI (high Institute for Elastomer Industry). Can write and speak in English. Experience in Microsoft Office programs. Good with AutoCAD program.