

Design and Development of Mechanical Power Weeder

Mr R K Belkar, Gandhake Mahesh Subhash, Dhonnar Kiran Namdev, Sangale Sarthak Dattatray, Jejurkar Audumbar Somnath

Department of Mechanical Engineering
Sir Visvesvaraya Institute of Technology (SVIT), Nashik, Maharashtra, India

Abstract: *Agricultural area has been in the area of continuous research, and has made significant improvement in the recent period. Currently, standard cultivation removes weeds from the majority of the bed using sweeps, knives, coulters and blades. Typically a 4-inch wide band is left around the seed line. Weeds in the uncultivated band are typically removed by hand, and the density of weeds that occur there, determines how laborious and costly subsequent hand weeding will be. Mechanical weeding machine is a project used to remove unwanted plants/weeds, which grows around the crops. Technology will continue to develop and improve in the coming years. These technologies do not entirely replace the need for hand labor, but they can make subsequent hand weeding operations less costly and more efficient. So we are going to make a machine which removes these unwanted plants more efficiently and at a considerable less cost. We have made a machine which removes weed from in the line and around the plants. It uses rotary motor operated jaws which indeed removes weed. The design and other technical details are presented in the report.*

Keywords: Solar power, mechanical weed control, motorized, mechanism.

REFERENCES

- [1] Li Nan, Zhang Chunlong*, Chen Ziwen, Ma Zenghong, Sun Zhe, Yuan Ting, Li Wei, Zhang Junxiong, Crop positioning for robotic intra-row weeding based on machine vision, 20 December, 2015 Int J Agric & Biol Eng Open Access at <http://www.ijabe.org> Vol. 8 No.6, pp.20-29.
- [2] Mazin N. Saber, Won Suk Lee, Thomas F. Burks, Gregory E. MacDonald, Gezan A. Salvador, An Automated Mechanical Weed Control System for Organic Row Crop Production, An ASABE Meeting Presentation, Conference Paper · July 2013, pp.1-7.
- [3] Olawale John Olukunle, Philip Oguntunde, Design of a Row Crop Weeder, Conference on International Agricultural Research for Development, October 11-13, 2006, pp.1-5.
- [4] C. Cordill, T.E. Grift, Design and testing of an intra-row mechanical weeding machine for corn, bio system engineering 110 (2011) pp.247-252.
- [5] Olaoye, J. O. and T. A. Adekanye, Development and Evaluation of a rotary power weeder, Department of Agricultural and Biosystems Engineering, University of Ilorin, Ilorin, Pullen & Cowell, 1997; Fogelberg & Kritz, 1999; Kurstjens & Perdok, 2000, pp.129-141.
- [6] Dr. Puspavalli M, Chandraleka R, Automatic Weed Removal System using Machine vision, International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE) Volume 5, Issue 3, March 2016, pp.503-506.
- [7] Satish Kumar, Ashok Kumar and Sanoj Kumar, Performance Evaluation of Developed Manually Operated Rotary Weeder for Vegetable Crops International Journal of Current Microbiology and Applied Sciences ISSN: 2319-7706 Volume 6 Number 11 (2017) pp. 4012-4019.
- [8] Prof. Wakchaure Prakash.N, Wakchaure Shamli.S, Wani Priyanka.S., Parhad Kalpana.R, Arote Dnyaneshwar.B., Design and Development Of Automated Farm Weeding Machine, IJAR III-ISSN (O)-2395-4396, Vol-3 Issue-2 201. pp. 5664-5671.

[9] Sridhar.H .S,Development of Single wheel multi use manually operated weed remover, International Journal of Modern Engineering Research (IJMER) www.ijmer.com Vol. 3, Issue. 6, Nov - Dec. 2013 pp.3836-3840.

[10] Mane Deshmukh Vijay, Bhoir Nilesh,,Ghade Tushar,Patange Anand, design and fabrication of agriculture weeder, International Journal Of Innovations In Engineering Research And Technology [IJIERT],ISSN: 2394-3696,Volume 3, ISSUE3, MAR.-2016,pp.1-6.