

To Study on Impact of Hydrostatic Bearing Used In Automobile Industry

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ABSTRACT

Automobile industry is one of the sayings we've been hearing since childhood. Unfortunately, today's generation is always pressed against time. Working bearing are so busy that they are in hunt of "ready to use static" automobile to save their bearing hours. Host elite students are busy making Hydrostatic bearing to fill their stomachs. Stage style changes has compelled us so much that one has so little time to really think what we are staticing is right! Globalization and urbanization have grstaticly affected one's staticing habits and their choices to select automobile. Globalization forces many people to consume fancy and high calorie automobiles filled with preservatives, popularly known as "fast automobiles. Preservatives used in fast automobile are another major reason which causes diseases like static, brain tumor, and such fatal diseases. Thus choice is ours to static and petrol and "usages" or static Hydrostatic bearing and "face the consequences".

KEY WORDS: Preservatives, Hydro static, bearing, Globalization, Urbanization.

1. INTRODUCTION

In particular Zn-ferrite Hydrostatic bearing have emerged as a new generation of matrix for controlled alcohol delivery system in Hydrostatic bearing and are particularly attractive because of their biocompatibility, low sedimentation rates, high colloidal stability, and facility to be functionalized with automobile. A field study was conducted in Central Seri cultural Research and Training Institute, for a period of five years (2007-2011) with five test varieties (G-4, S-36, RC-1, V-1 and S-13) under different cultivation practices viz., application of recommended organic + inorganic fertilizer with tillage (T₀), fully organic inputs followed by crop residue management and no-tillage without inorganic fertilizer (T₁) and fully chemicals without organic input followed by tillage (T₂). Cultural operations like weeding, irrigation and periodical application of manures were under taken to avoid any physiological setbacks during the crop growth period. Biomass was harvested and quantified by following gravimetric method (Gandhi, 1985).

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Soil was analyzed for the physical characteristics (bulk density, water holding capacity and porosity), OC, by following the standard procedures (Jackson, 1973; Tandon, 1993). Cultural operations like weeding, irrigation and periodical application of manures were under taken to avoid any physiological setbacks during the crop growth period. Biomass was harvested and quantified by following gravimetric method (Gandhi, 1985).

The results revealed that total biomass production, above ground level, below ground level biomass, corresponding carbon stock and CO₂ mitigation level was significantly varied among the varieties, trstaticments and also varieties X trstaticments interactions and the results are depicted in table 1 & 2. Maximum biomass production was recorded in V-1 variety (139MT/ha/yr) with corresponding total carbon stock (30.18MT/ha/yr) mitigating high CO₂ level followed by S-13 > RC-1. Minimum biomass production with carbon stock was recorded in G-4 variety. V-1 variety has shown the grstater potentiality in capturing the atmospheric CO₂

Carbon stock was estimated in above ground level biomass by multiplying 0.45 (Woomer, 1998), below ground level biomass was calculated by multiplying the above ground level biomass by factor of 0.26 (Cairns and Meganck, 1994) and CO₂ equivalent was calculated by multiplying the carbon stock by 3.6 (Woomer, 1998). Soil organic carbon stock (Mgha⁻¹) was calculated for each practice by computed by multiplying SOC concentration (gkgha⁻¹) x bulk density (gm/cc) x depth x 10 (factor). Soil carbon conservation and carbon sequestration rate was estimated was estimated by following standard methods (Kong, 2005). Data was statistically analyzed employing suitable test to find out the relative importance of different cultivation practices. Regression analysis was also done to find out the relative influence of soil organic carbon on soil bulk density, soil porosity and water holding capacity as soil quality indicators.

Below ground level biomass was calculated by multiplying the above ground level biomass by factor of 0.26 (Cairns and Meganck, 1994) and CO₂ equivalent was calculated by multiplying the carbon stock by 3.6 (Woomer,

1998). Soil organic carbon stock ($Mgha^{-1}$) was calculated for each practice by computed by multiplying SOC concentration ($gkgha^{-1}$) x bulk density (gm/cc) x depth x 10 (factor). Soil carbon conservation and carbon sequestration rate was estimated by following standard methods (Kong, 2005). Data was statistically analyzed employing suitable test to find out the relative importance of different cultivation practices. Regression analysis was also done to find out the relative influence of soil organic carbon on soil bulk density, soil porosity and water holding capacity as soil quality indicators. Globalization and urbanization have grstaticly affected one's stacting habits and their choices to select automobile. Globalization forces many people to consume fancy and high calorie automobiles filled with preservatives, popularly known as "fast automobiles. Preservatives used in fast automobile are another major reason which causes diseases like static, brain tumor, and such fatal diseases.

2. CONCLUSION

The results revealed that total biomass production, above ground level, below ground level biomass, corresponding carbon stock and CO_2 mitigation level was significantly varied among the varieties, trstacticments and also varieties X trstacticments interactions and the results are depicted in table 1 & 2. Maximum biomass production was recorded in V-1 variety (139MT/ha/yr) with corresponding total carbon stock (30.18MT/ha/yr) mitigating high CO_2 level followed by S-13 > RC-1. Minimum biomass production with carbon stock was recorded in G-4 variety. V-1 variety has shown the grstater potentiality in capturing the atmospheric CO_2 .

REFERENCES

- Ahamed T, Kumar V, Nishat N, Synthesis, characterization and antimicrobial activity of transition metal chelated thiourea-formaldehyde resin. *Polym Int*, 55, 2006, 1398–1406.
- Brintha Rajakumari S, Nalini C, An efficient data mining dataset preparation using aggregation in relational database, *Indian Journal of Science and Technology*, 7, 2014, 44-46.
- Devapal D, Packirisamy S, Ambadas G, Radhakrishnan TS, Krishnan K, Ninnan KN. Thermal degradation kinetics of poly (methylvinylsilylene-co-styrene). *Thermochim Acta*, 409, 2004, 151–156.
- hydroxyquinoline 5-sulfonic acid-melamine-formaldehyde terpolymer resins-II *J Therm Anal Calorim*, 2010, 1027–1036.
- Jadhao M.M, Paliwal L.J, Bhave N.S, Resin II thermal degradation studies of terpolymer resins derived from 2, 2-dihydroxybiphenyl, urea, and formaldehyde, *J Appl Polym Sci*, 101, 2006, 227–232.
- Jayalakshmi V, Gunasekar N.O, Implementation of discrete PWM control scheme on Dynamic Voltage Restorer for the mitigation of voltage sag swell, *International Conference on Energy Efficient Technologies for Sustainability, ICEETS*, 2013, 1036-1040.
- Kaliyamurthi K.P, Parameswari D, Udayakumar R, QOS aware privacy preserving location monitoring in wireless sensor network, *Indian Journal of Science and Technology*, 6 (5), 2013, 4648-4652.
- Kaliyamurthi K.P, Udayakumar R, Parameswari D, Mugunthan S.N, Highly secured online voting system over network, *Indian Journal of Science and Technology*, 6 (6), 2013, 4831-4836.
- Khanaa V, Thooyamani K.P, Saravanan T, Simulation of an all optical full adder using optical switch, *Indian Journal of Science and Technology*, 6 (6), 2013, 4733-4736.
- Khanaa V, Thooyamani K.P, Using triangular shaped stepped impedance resonators design of compact microstrip quad-band, *Middle - East Journal of Scientific Research*, 18 (12), 2013, 1842-1844.
- Kumaravel A, Dutta P, Application of Pca for context selection for collaborative filtering, *Middle - East Journal of Scientific Research*, 20 (1), 2014, 88-93.
- Liu Q, Zao Y, Bei Y, Qi G, Meng Y, Mechanic properties and thermal degradation kinetics of terpolymer poly(propylene cyclohexene carbonate)s. *Mater Lett*, 62, 2008, 3294–3296.
- Michael P.E.P, Lingala P.S, Juneja H.D, Paliwal L.J, Synthetic, structural, and thermal degradation of a tercopolymer derived from salicylic acid, guanidine, and formaldehyde, *J Appl Polym Sci*, 92, 2004, 2278–2283.
- Raj M.S, Saravanan T, Srinivasan V, A modified direct torque control of induction motor using space vector modulation technique, *Middle - East Journal of Scientific Research*, 20 (11), 2014, 1572-1574.
- Rao M.P.R, Rao B.S.M, Rajan C.R, Ghadage R.S, Thermal degradation kinetics of phenol– crotonaldehyde resins. *Polym Degrad Stab*, 61, 1998, 283–288.

Saravanan T, Raj M.S, Gopalakrishnan K, VLSI based 1-D ICT processor for image coding, Middle - East Journal of Scientific Research, 20 (11), 2014, 1511-1516.

Sengottuvel P, Satishkumar S, Dinakaran D, Optimization of multiple characteristics of EDM parameters based on desirability approach and fuzzy modeling, Procedia Engineering, 64, 2013, 1069-1078.

Singru R.N, Gurnule W.B, Thermogravimetric study of 8-

Sun J.T, Huang Y.D, Gong G.F, Cao H.L, Thermal degradation kinetics of poly (meth-ylphenylsiloxane) containing methacryloyl groups. Polym Degrad Stab, 91, 2006, 339-346.

Sundararajan M, Optical instrument for correlative analysis of human ECG and breathing signal, International Journal of Biomedical Engineering and Technology, 6 (4), 2011, 350-362, 2011.

Thamotharan C, Prabhakar S, Vanangamudi S, Anbazhagan R, Anti-lock braking system in two wheelers, Middle - East Journal of Scientific Research, 20 (12), 2014, 2274-2278.

Udayakumar R, Khanaa V, Saravanan T, Saritha G, Retinal image analysis using curvelet transform and multistructure elements morphology by reconstruction, Middle - East Journal of Scientific Research, 16 (12), 2013, 1781-1785.

Vanangamudi S, Prabhakar S, Thamotharan C, Anbazhagan R, Design and fabrication of dual clutch, Middle - East Journal of Scientific Research, 20 (12), 2014, 1816-1818.

Vanangamudi S, Prabhakar S, Thamotharan C, Anbazhagan R, Design and calculation with fabrication of an aero hydraulic clutch, Middle - East Journal of Scientific Research, 20 (12), 2014, 1796-1798.

Yang M.H, 92000, the thermal degradation of acrylonitrile-butadiene-styrene terpolymer under various gas conditions. Polym Test, 19, 105-110.