

Effect of arrangement and density of live windbreak on the Wind speed and Direction it in the Hussein Abad plain, Sarbishe

Abstract:

Two important characteristics of arid and semi arid regions are wind and wind erosion which accelerate desertification process. Farmlands are one of the major sources of soil particles detachment and consequent erosion. Windbreak is an effective tool in reducing wind speed and making microclimates in its windward and leeward. Hussein Abad Sarbisheh plain is located in an arid climate and Sistan 120-days wind has destructive influence on soil and yield of agricultural fields. In this research, live windbreaks (*Zea mays* and *Sorghum bicolor*) were created in different arrangements and densities at three replications. Wind speed was monitored in definite distances from windward and leeward of windbreak. Data of wind speed monitoring was analysed by SAS statistical software and the results revealed that triangular arrangement in three densities (i.e., density of 60 cm in rows) is the most effective arrangement in density of windbreak to reduce wind speed. Since the windbreak was designed in opposite direction of prevailing wind, then its arrangement and density showed no influence on wind direction.

Keywords: Windbreak, Wind speed, Wind direction, Monitoring, Hussein Abad Sarbisheh



University of zabol
Graduate school
College of Natural Resources
Range and Watershed Department
The Thesis for M. Sc Degree of Dedesertification Science

Title:

**Effect of Arrangement and Density of
live Windbreak on the Wind speed and
Direction it the Hussein Abad plain,
Sarbishe**

Supervisor:

Dr. A. R. Shahriyari

Dr. A. Fakhireh

Advisors:

Dr. M. Jafary

Dr. Gh. R. Hadarbady

By:

H. Ghasemi

May 2009