

## Investigation of potential and performance of 5 Chemical and mineral mulch in stabilizing sand dunes

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### Abstract

Wind erosion and dust resulting from it today to be an environmental problem, not just desert areas but also the entire country under its influence and put many costs. The combat against wind erosion in many desert areas by using oil mulches and the cultivation of compatible plants started in the 40s. But use of petroleum in addition to mulch the environmental problems, due to the high costs of purchase, displacement and dispersion, not economical. Therefore, investigate the performance of non-oil and chemical mulch on sand dunes in Kashan. The research on fertilizer application of mulch under a completely randomized design includes: control (no mulch), a polymer mulch, potas, Fars, Paya and Akrilik at 3 reps (3 sand hills) and the amount of erosion (with the help of the embedded indices in the hills), the survival of plants cultivated in the form of cuttings and seedlings, the percentage of humidity and temperature of each iteration is a measure of the variance analysis and the case. Field surveys and the results of the statistical analysis showed that the mulch to Fars, Paya and Akrilik strength of resistance is almost the same as. In terms of flexibility and strength, the Akrilik and the appropriate conditions end mulch than mulch has webcams. Fars mulch after 8 months of spraying in small fractures and is loss flexible and elastic properties. Check soil temperature statistics showed that significant differences under the mulch, treatment temperature control is not a ratio of patients. The advantage that the mulch used to show most moisture was measured in the potash fertilizer application of mulch. Check the number of green seedlings in different treatment suggests a high percentage survival of seedlings and cuttings at the end was Akrilik and mulch. According to the results is recommended Akrilik, Paya, and Fars mulches for sand fixation. One of the limitations of research in desert areas is the uncontrollability of environmental and human conditions, which can enclose the entire field of mulching and is suggested the use of a mobile wind tunnel device at the place of implementation and determining the amount of wind at different speeds.

**Key words:** Rehabilitation of desert, survival, wind erosion, dust, mulch