

Abstract:

Management of using different kinds of chemical and biological fertilizers according to their environmental effects in dry and semiarid regions is so important. In order to determine biological and chemical effects in dry situation, a research has done in agriculture and natural source of Sistan in Zahak area in 2014. This experiment has done in plots which split one time and in complete blocks by three times, in this experiment the main factor in dry region includes in three levels; 1. No tension (irrigation base on growing phases and sweat of region, 2. tension in growing phase (deprivation of water from planting to entering to generative phase), 3. tension in generative phase (deprivation of water from flowering to end of growing). Sub-factor: ration of fertilization in 4 levels which includes 100% consumption of azotobacter by 2 kg in each hectare, 2. 100% consumption of urea by 80 kg in each hectare, 3. 50% consumption of azotobacter+ 50% urea fertilizer, 4. without using fertilizer.

The effect of dry tension and fertilizer on all properties was meaningful and the most assumption in phonological properties of starting flowering from no tension level and 50% pod in tension after flowering achieved. In morphological and functional properties the most amounts got from no tension conditions except infertile pod which made from next tension of flowering phase. In addition in fertilizer treatment the most components are 50% pod, shrub height, the number of hubs, stem diameter, the number of branches in shrub, seed performance, one thousand seeds weight, and the number of seeds in each pod. Biomass consists of 50% azeto bacteria + urea and properties of starting flowering. Pod length, the most amount of urea fertilizer and the number of infertile pods recognized in this case. For example the average of seed performance in case was 639/ 83 kg in each hectare and after that tension until flowering and tension from flowering to next phases decreased to 14% and 30% respectively. In treatment with fertilizer the most performance of seed achieved from 50% urea and azeto bacteria fertilizer by 608/77 kg in each hectare. And treatment with urea, azeto bacteria and control fertilizers were 5%, 8% and 20% respectively less than 50% of compound fertilizer urea + 50% of azotobacter.

Key words: deprivation of irrigation, azotobacter, phonological properties



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