

## عنوان مقاله:

مطالعه روابط عملکرد دانه با صفات فیزیولوژیکی سویا تحت تاثیر عصاره جلبک قهوه ای (*Ascophyllum nodosum*) و پیری تسريع شده

## محل انتشار:

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## نویسندگان:

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## خلاصه مقاله:

**Background and objectives** Soybean is considered one of the most important oil and protein plants in Iran and the world. Considering the importance of soybean yield and identifying traits effective in increasing it, this research was conducted with the aim of investigating the relationship between seed yield and agronomic and physiological traits of soybean and determining the traits that have a greater effect on seed yield under normal and accelerated aging conditions. **Materials and methods** The present experiment was conducted in the research farm of the Faculty of Agriculture of Shahrood University of Technology during ۲۰۱۷-۲۰۱۸ and ۲۰۱۹-۲۰۲۰, in a factorial experiment in the form of randomized complete blocks in three replications on Katol variety. The treatments included accelerated aging in two levels (normal seeds and aged seeds) and seaweed extract in three levels (control, pre-treatment and foliar spraying). The seeds used were obtained from the research center for agriculture and natural resources of Mazandaran and the seeds were harvested in the same year and until the time of testing, they were kept in a controlled warehouse with a cooling system at a temperature range of ۱۴ to ۱۷ °C and a relative humidity of ۳۰ to ۴۰%. In order to apply aging, the seeds were placed for ۷۲ hours at a temperature of ۴۱ °C and a relative humidity of ۹۵%. **Results** The results showed that in plants obtained from normal seeds, ۸۴.۸۱% of the changes in seed yield are justified by the number of pod per plant, the number of seed per pod and the ۱۰۰ seed weight. In these plants, the ۱۰۰ seed weight and then the number of pods per plant had the most direct and positive effect. The most direct and positive effect was attributed to the ۱۰۰ seed weight, followed by the number of pods per plant. The trait of the number of seed per pod affected the seed yield both directly and indirectly through the effect on the ۱۰۰ seed weight. Causality analysis in the plants obtained from aged seeds showed that the characteristics of final emergence percentage, membrane stability index, leaf area index, anthocyanin, hydrogen peroxide, superoxide radical, number of pods per plant and ۱۰۰ seed weight were entered into the model as main variables and ۹۱.۳۳% of the changes are explained by these eight traits. Seed pre-treatment with seaweed extract increased seed yield by increasing the percentage of final emergence of the field, the ۱۰۰ seed weight and ... the amount of glutathione in the leaves of the plant. Foliar spraying of seaweed extract caused a significant increase in seed yield through

## کلمات کلیدی:

تجزیه همبستگی، تجزیه علیت، پیری تسريع شده

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