

عنوان مقاله:

Non-parametric Measures for Yield Stability in Grass Pea (*Lathyrus sativus* L.) Advanced Lines in Semi Warm Regions

محل انتشار:

مجله علوم و فناوری کشاورزی، دوره 17، شماره 7 (سال: 1394)

تعداد صفحات اصل مقاله: 14

نویسندگان:

J. Ahmadi - *Department of Plant Breeding, Faculty of Engineering and Technology, Imam Khomeini International University, P. O. Box. ۳۴۱۴۹-۱۶۸۱۸, Qazvin, Islamic Republic of Iran*

.B. Vaezi - *Gachsaran Agricultural Research Station, Gachsaran, Islamic Republic of Iran*

.A. Shaabani - *Kermanshah Dry-land Agricultural Research Institute, Kermanshah, Islamic Republic of Iran*

.K. Khademi - *Lorestan Dry-land Agricultural Research Institute, Lorestan, Islamic Republic of Iran*

S. Fabriki Ourang - *Department of Plant Breeding, Faculty of Engineering and Technology, Imam Khomeini International University, P. O. Box. ۳۴۱۴۹-۱۶۸۱۸, Qazvin, Islamic Republic of Iran*

A. Pour-Aboughadareh - *Department of Plant Breeding, Faculty of Engineering and Technology, Imam Khomeini International University, P. O. Box. ۳۴۱۴۹-۱۶۸۱۸, Qazvin, Islamic Republic of Iran*

خلاصه مقاله:

Multi-environment trials play a significant role in selecting the best cultivars to be used at different locations. The objective of this study was to identify grain and forage yields stability of grass pea advanced lines across different locations. The ۱۴ advanced lines of grass pea, developed by the International Center for Agricultural Research in Dry Areas (ICARDA), were tested at three different research stations in semi-warm regions of Iran for three consecutive years. Ten non-parametric measures of stability were used to identify stable lines across nine environments. Three non-parametric tests (Bredenkamp, Hildebrand and De Kroon and Van der Laan) for Genotype-Environment (GE) interaction were highly significant, recommending differential responses of the lines to the test environments. Mean yields had a significant positive correlation with $Si(\epsilon)$, NP_2 , NP_3 , NP_4 , Fox-rank and Kang's rank-sum statistics. The results of correlation analysis and principal components analysis indicated that only non-parametric superiority measure could be useful for simultaneous selection of high yielding and stable lines. According to cluster analysis by forage and grain mean yields and non-parametric statistics, the line L_3 with the highest forage and grain yields and Fox-rank as well as the lowest values of other non-parametric statistics could be introduced as high yielding stable cultivar for rain-fed conditions of semi-warm areas.

کلمات کلیدی:

Fox-rank, GE interaction, Rain-fed conditions, Interaction effect, Grass pea

لینک ثابت مقاله در پایگاه سیویلیکا:

