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() *castaneifolia* C.A.Mey.)

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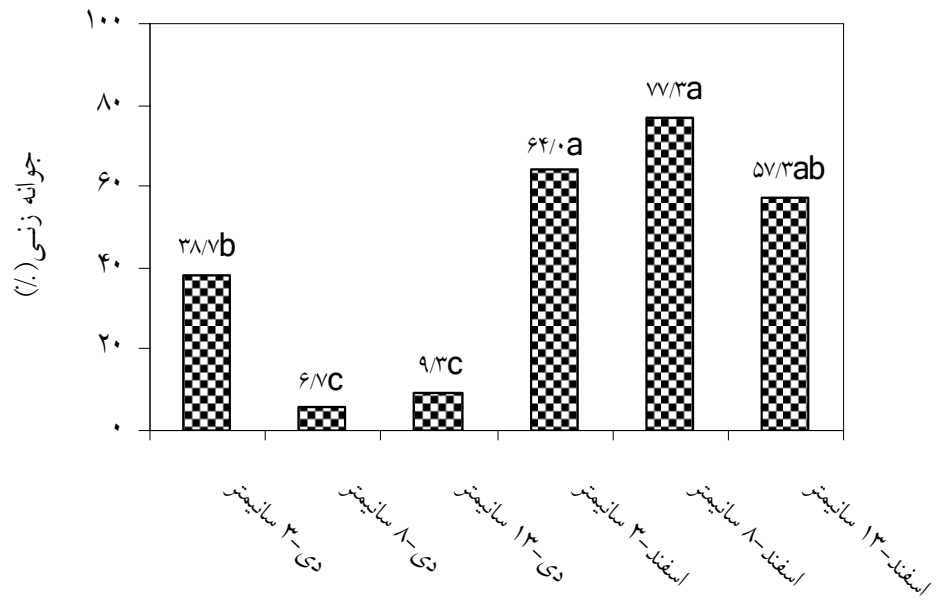
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() () *lobota*
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Q. rotundifolia
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(*Fraxinus excelsior* L.)

(*Quercus castaneifolia*)

- Allen, J. A., B. D. Keeland, A. Stanturf, A. F. Clewell & H. E. Kennedy, 2001. A guide to bottomland hardwood restoration. U.S.D.A. Forest Service, Southern Research Station, General Technical Reports, SSR-40, 132 p.
- Anderson, E. & W., Cobak, 2001. Regenerating *Quercus robur* in two selected planting dates, *New Forest* (Sweden), 23 (4): 127-145.
- Espigares, T. & B. Peco, 1993. Mediterranean pasture dynamics: The role of germination, *Journal of Vegetation Science*, 4 (2): 189-194.
- Gottschalk, U., K. Jourino, & M. Mistolack, 2000. Germinating development of *Quercus velutina* Acorn, (Canada), 12(6): 631-640.
- Jenison, N., L. Demorgi & Bilas, K., 1999. Effect of sowing date on *Quercus velutina* seed germination, *American Society for Forestry Science (USA)*. 97(4): 421-427.
- McArtour, J. & D. Rongdier, 1996. Development of *Q. falcata* and *Q. pagoda* germination using sowing date in West Virginia, Research Paper Northeastern Forest Experiment Station, USDA Forest Service. No. NE-732, i +9 pp.
- McCreary, D., 1989., Regeneration native oaks in California, *California Agriculture*. 43(1): 4-6.
- Nyandiga, C. & G., McPherson, 1992. Germination of two warm-temperate oaks, *Quercus emori* and *Quercus arizonica*, *Canadian Journal of Forest Research*, 22(9): 1395-1401.
- Ugurlu, S. & I. Cevik, 1991. Sowing techniques for some oak species in the southern Anatolia, *Teknik Bultin Serisi Ormancilik Arastirma Enstitusu Yayinlari*, 214, 48.

Effect of Sowing Depth and Sowing Date on Seed Germination of *Quercus castaneifolia* (C.A.Mey.)

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Abstract

Influence of sowing depth (3, 8 and 13 cm) and sowing date (December and February) on germination rate of *Quercus castaneifolia* (C.A.Mey.) acorns was examined. The research was carried out on a sandy-loamy-clay soil in a non-regenerated open area of the plain forest of Noor Natural Resources and Marine Sciences Faculty (north of Iran). The experiment was as factorial trial and completely randomized design at three replications. The data analysis in mid-June revealed that the effect of sowing depth and sowing date and their interaction on germination rate was highly significant ($P = 0.000$). Irrespective of sowing depth, germination rate was greater in sowing date of February (66.2%) than December (18.2%) ($P = 0.000$). Irrespective of sowing date, germination rate was greater in sowing depth of 3 cm (51.3%) than 8 cm (42%) and 13 cm (33.3%). The best treatment combination was "February-8 cm" (77.3%), and "February-3 cm" (64%). Maximum seed germination (at 3 cm and 8 cm depths), sown in December and February occurred mostly in mid-June and late May, respectively. Generally, in each record date, germination rate in all sowing depths was higher in sowing date of February than December.

Key words: *Quercus castaneifolia*, (C.A.Mey.), Germination rate, Sowing date, Sowing depth