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*(Ferula assa- foetida L.)*

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(*Ferula assa-foetida* L.)

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- Episamarcandin
  - Umbelliperenin
  - Conferol

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- Apiaceae
  - Monocarpic

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- *Berberis vulgaris*

- *Daphne* sp.

- *Amygdalus auseri*

- *Zygophyllum atripolyoides*

- *Pistacia atlantica* subsp. *Mutica*

- *Acantholimon* sp.

- *Mentha spicata*

- *Acanthophyllum* sp.

- *Astragalus eriostyllus*

- *Alhagi* sp.

- *Teucrium* sp.

- *Gundelia* sp..

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- *Artemisia sieberi*

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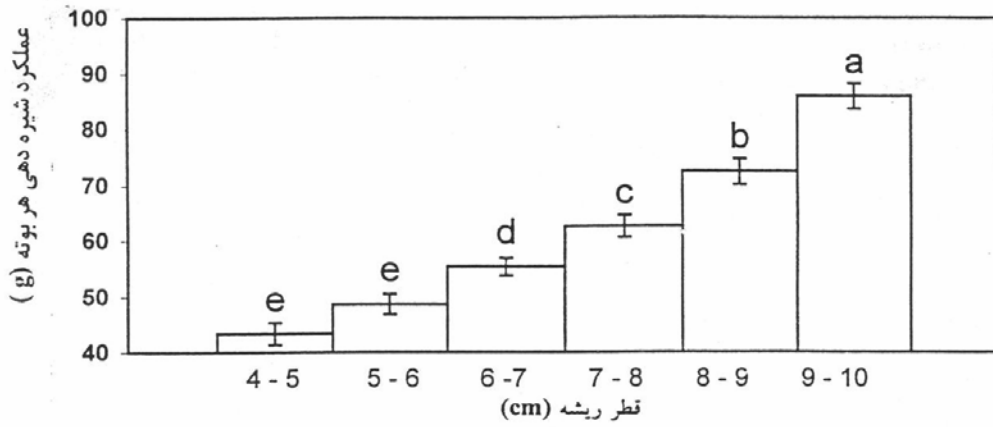
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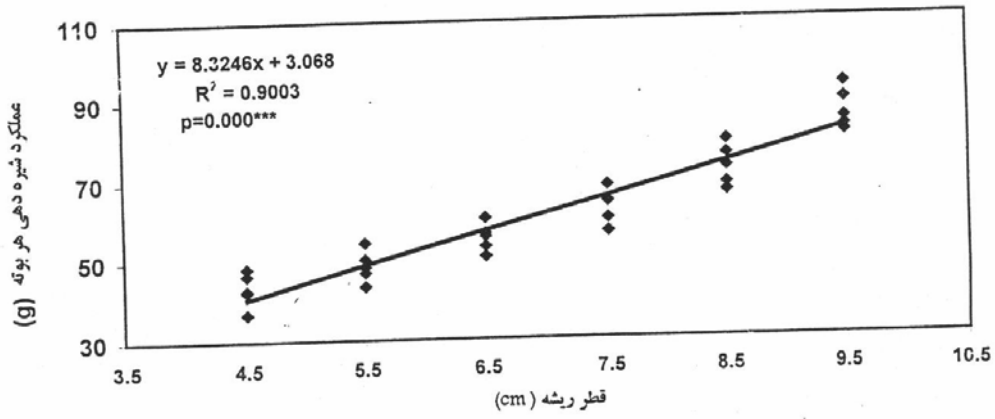
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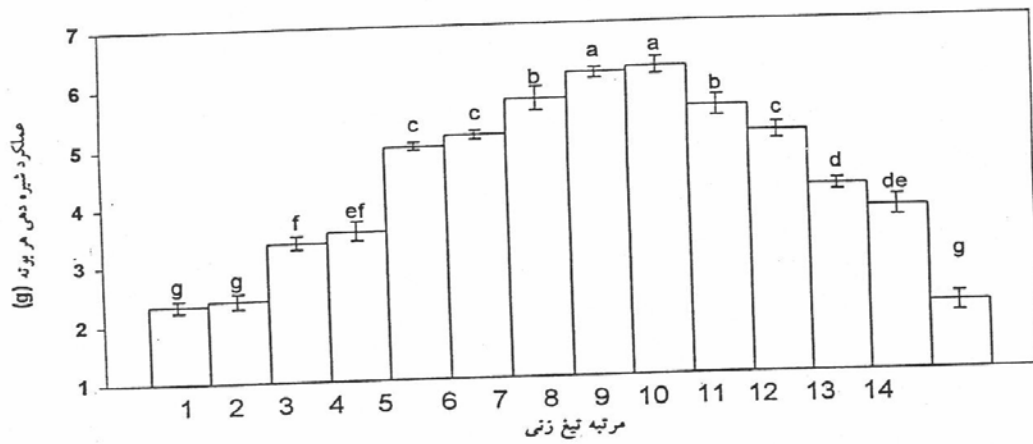
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## A Study of the Effect of Root Diameter and Incision Time on Gum Yield in Medicinal-Rangeland Asafoetida (*Ferula assa-foetida* L.) Plant

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### Abstract

Asafoetida (*Ferula assa-foetida* L.) belongs to cryptogam's phylum, angiosperm sub-phylum, dicotyledons class, dialypetals order and Apiaceae family. It is a herbaceous, perennial and monocarpic plant. The flowers appear only once during the life cycle of the plant. In the root is accumulated the resin. The resin which is through incision secreted of the root has medicinal properties. It is used as vermicide as well as medication in treatment of insomnia. This study was carried out in the rangelands of asafoetida (*Ferula assa-foetida* L.) in Khomrout located in Zarand, Kerman province. The main aim was to find out the correlation between root diameter and resin yield and also the effect of number of root incision on resin yield the statistical design was a complete randomized one with five replications. The results indicated that root diameter significantly affected resin yield Incision methods also affected resin yield significantly. By increase in root diameter resin increased. Mean resin yield per plant was 43.34, 48.62, 55.26, 62.54, 72.38 and 85.90 g from roots of 4-5, 5-6, 6-7, 7-8, 8-9 and 9-10 cm diameter respectively. Incision time also significantly affected the resin yield. There was an increase of resin observed during the first 9 incision operations and then declining up to the 14<sup>th</sup>. Incision of larger diameter roots (6 to 10 cm) and incision for the beginning nine times is more feasible and therefore recommended.

**Keywords:** Asafoetida (*Ferula assa-foetida* L.), Incision, Exploitation, Medicinal plant, Resin, Root diameter

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