THE EFFECT OF GROWTH ACCELERATE HORMONE ON SEED DORMANCY AND QUALITATIVE AND QUANTITATIVE CHARACTERISTICS OF THE HERBAL BALNGO *LALLEMANTIA ROYLEANA* (WALL.) BTH

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One of the most important species of medicinal plants is *Balngo (Lallemantia royleana*) with Labiates families that with multiple properties, such as a heart tonic, analgesic, sedative, pain, bloating, constipation, cramps, abdominal approac h, dry cough, diarrhea demo, fainting and madness, cooling, and asthma, because of mucilage has an important role in controlling reflux disease. The factorial experiment with two factors Masses (species, Shiraz, Mashhad and Isfahan) and acetylsalicylic acid (ASA) (zero, ۰.۳, ۰.۶ and ۰.۹ mM) in a completely randomized design (CRD) with ۳ replications was conducted at the laboratory control of seed technology in Shahed University. The results showed that levels of acetylsalicyli c acid (ASA) and Balngo masses had significantly ($P \leq 0.01$) effects on normal and abnormal seedling, seeds germination percent, germination coefficients', root to shoot ratio (R/S), mean germination time (MGT) ($P \leq 0.05$), weight indicators Vigor ($P \leq 0.05$), fresh weight of seedlings, allometry coefficient, sensitivity indices, dry weight and proline and soluble sugar content. Masses of Shiraz and Mashhad with ۸۲ and ۵۸ germination percent had the highest germination response to treatment acetylsalicylic (ASA) acid respectively. Hormone concentrations with increasing negative effects of sleep on the germination index, but the rate of seed germination and seedling fresh weight increased. Based on test results, the local population of Isfahan and Shiraz in response to hormones was better other than superior ($P \leq 0.01$). Acetylsalicylic acid level of ۰.۳ mM on population of Isfahan had the highest germination rate, proline and soluble sugar content. The study also showed the sensitivity of the dormant reaction components of balngo was broken by optimum Acetyls alicylic acid level and seedling growth.

DETERMINATION OF ARTEMISININ IN SOME OF IRANIAN *ARTEMISIA* SPECIES

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Artemisinin is a sesquiterpene lactone, which is the biologically active constituent that for the first time has been isolated from the aerial parts of *Artemisia annua* L. (Compositae). Depend on growing and ecological conditions, the amount of this secondary metabolite could be ranged ۰.۱–۰.۸۹% based on dried material in *A. annua* [۱, ۲]. Artemisinin mainly is the base of drugs which are used in malaria and cancer therapy. This compound also has anti-fungus, anti-parasite and antimicrobial activities [۳]. Thirty-four species of *Artemisia* are known to be represent in Iran which two of them (*A. melanolepis and A. khorassanica)* are indigenous [۴]. These species are found in different regions of Iran, with desert and semi- desert climates. Based on our knowledge, so far a few of Iranian *Artemisia* species have been studied for the presence of artemisinin. In this work, we focused on the determination of artemisinin in the leaves of ۹ Iranian species of *Artemisia*. Leaf samples were collected from wild plants in their natural habitates in different seasons. Leaves were dried in room temperature and artemisinin extraction was prepared by refluxing of samples with ethanol. Ethanolic extracts were used for analysis by HPLC technique with UV detection. Based on our results, species of *A. vulgaris* (0.24± ۰.۰۰۲ g/۱۰۰g dry weight) had the highest content of artemisinin, followed by *A. dracunculus* (0.14 ± 0.004 g/100g dry weight) and *A. absinthium* (0.1± ۰.۰۰۴ g/۱۰۰g dry weight), while *A. biennis* with 0.01 ± 0.001 g/100g dry weight artemisinin showed the lowest content. In conclusion, among the *Artemisia* plants studied in the present work, *A. vulgaris*, *A. dracunculus* and *A. absinthium* with considerable contents of artemisinin, appear to be potential new sources of this valuable sesquiterpene compound.

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