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This issue is devoted to the 23rd Conference on Isoprenoids, which takes place in Minsk on September 4-7, 2016. The subject of the Conference is a widespread large group of natural compounds whose molecules consist of C5 isoprene units connected to each other in various ways. A number of vitamins, pheromones, allelopathins, receptor sensors as well as sterols, the key elements of cell structure, and many other physiologically active natural compounds, such as e.g. steroidal hormones of humans and animals, belong to isoprenoids. They are responsible for the reproduction, sexual differentiation, development, adaptation, regulation of mineral and protein metabolism, nervous activity, digestive system, i.e. virtually all the vitally important functions of a living organism. An attractive feature of the Conference is a variety of isoprenoid-related topics: from their search in natural sources, chemical synthesis and structural analysis to molecular biological, genetic engineering, ecological, and medicinal aspects.

All topics are considered by the specialists from different fields during common discussions offering a broad vision of a subject that is especially important for young scientists for imaging the current state and perspectives of natural products chemistry – a basement of efficient medications, ecologically friendly agrochemicals and biotechnologies for modern time and for future.

The current issue contains more than 80 abstracts of papers presented at the Conference (the author's style and spelling retained).

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The synthesized compounds possessed a low toxicity and displayed high anti-inflammatory activity comparable with activity of present-day nonsteroidal inflammatory drugs. It was showed on the immunogenic inflammation models that the investigated compounds suppressed an activation of cytotoxic Th1 lymphocytes and prevented developmental pseudoallergic reactions.

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🕮 THE EFFECT OF BRASSINOSTEROIDS ON ROOTING OF TREES AND SHRUBS

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Reproduction by seeds or classical micropropagation through *in vitro* culture are not effective for most ornamental lines of woody plants, which lose their unique phenotypes when transferred to artificial conditions (*in vitro*). Therefore rooting of green cuttings is still the most widely used method for propagation of ornamental woody plants. This method has low effectiveness but allows to obtain high quality clones of original plants. Biotechnological approaches used for vegetative propagation of ornamental plants require development of new techniques for increasing rate of rooting and survival of green cuttings (shoot cuttings). To induce rhizogenes in green cuttings, ornamental horticulturists mainly use auxins, such as indole-3-butyric acid (IBA) or indole-3-acetic acid (IAA). However other hormones can also potentially be applied for rooting. Recent studies have shown that brassinosteroids (BRs) can act as synergists of auxins. Here we tested the hypothesis that these substances can also stimulate rhizogenes in trees and shrubs. We have examined the effect of epibrassinolide (EB), homobrassinolide (HB) and epicastasterone (EC) on rooting of green cuttings of *Thuja occidentalis* L. (Smaragd), *Picea abies* L. (Nidiformis), *Juniperus scopulorum* Sarg. (Blue Arrow), *Berberis thunbergii* DC (Dart`s Red Lady), *Cotoneaster lucidus* Schlecht., *Acer platanoides* L. (Drummondii) *Crataegus x media* (Paul`s Scarlet) and *Forsythia* × intermedia (*Golden Time*). We also compared effects of BRs with the action of auxins and substances with combined BR/auxin structures, such as tetraindolbrassinolide (TIBR), tetraindolcastasterone (TICS) and indolcastesterone (ICS). Obtained results have demonstrated that, in control group (treated with water), the rate of rooting was very low (10-20%). Treatment with of BRs increased rooting rate by two- to five-fold. Very similar results were obtained for auxins, however, in some cases, auxins were less effective as BRs. Response to BRs varied in different species suggesting significant complexity and evolutionary divergence in BR action on rooting of woody plants. *Picea abies* L., *Juniperus scopulorum* Sarg. and *Berberis thunbergii* DC demonstrated highest rooting rate after treatment by BRs. Intriguingly, EC was the most effective stimulator for some woody plants with much greater effect than other BRs and auxins. TIBR, TICS and ICS demonstrated less pronounced effects on rooting however they also caused some stimulation. Overall, these data demonstrated that BRs act as stimulators of formation of root system in woody plants and can be used commercially for root growth stimulation in plant biotechnology and ornamental horticulture.