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Agrobacterium rhizogenes-mediated Hairy root Formation in Some Rubia tinctorum L. Populations Grown in Turkey

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Abstract: *Rubia tinctorum*L. seeds were collected from 4 different regions of Turkey. Plants were grown in greenhouse and cotyledons were inoculated with *Agrobacterium rhizogenes* strains 15834, 2628, R1000 and 9365. *Rubia tinctorum* plants were also grown in the field for comparative analysis of root anthraquinone content. *Agrobacterium rhizogenes* strain 2628 induced only callus formation on the cut surface of cotyledon explants while strains 15834, R1000 and 9365 produced hairy roots on the same explants. Anthraquinone content was identified in the extracts of the plant roots grown in the field and in the extracts of the *Agrobacterium rhizogenes*-induced hairy roots. The percentage of anthraquinone present in the plant roots was found to be different from that in the hairy roots.

Key Words: *Rubia tinctorum* L., *Agrobacterium rhizogenes*, hairy roots, anthraquinone

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