



Dear readers,

the FP7 project DRIVE4EU – Dandelion Rubber and Inulin Valorization and Exploitation for Europe was initiated in February 2014 with a project duration of 48 months. The aim of this demonstration project is to develop a production chain of natural rubber and inulin from *Taraxacum koksaghyz* (TKS, Russian or Rubber dandelion) and to set up a new European chain for the production and processing of natural rubber. More information at: <http://www.drive4eu.eu>.

This newsletter will provide you with information on the project DRIVE4EU and the ongoing work, and as well on some past and upcoming events.

With best regards,
The DRIVE4EU dissemination team

DRIVE4EU overview



At the moment natural rubber is exclusively harvested from the rubber tree (*Hevea brasiliensis*) of which about 90% is grown in South East Asia. In an earlier research project coordinated by the same organisation, EU-PEARLS, the potential of two new natural rubber crops was investigated. This project showed the good quality of rubber from Russian dandelion (*Taraxacum koksaghyz*, TKS), the opportunities for breeding to improve the yield and the use of the rubber in car tires pointing to the viability of a new natural rubber production from Russian dandelion.

DRIVE4EU will demonstrate the technical and economic feasibility of the use of Rubber dandelion as a production platform for both natural rubber and inulin. The inulin can be used as the raw material for interesting green chemicals, such as furan-based polymers. The common name Russian dandelion for *Taraxacum koksaghyz* is actually not fitting very well since TKS originates from Kazakhstan and can also be found in specific areas of China and Kirghizstan. We therefore use the name 'Rubber dandelion' in this project. The combination of

rubber and inulin makes Rubber dandelion very interesting as a production platform.

Coordinator Ingrid van der Meer (Wageningen UR): *"Our DRIVE4EU project comprises all steps and partners of the process pipeline from breeding, agronomy, extraction, different product use and economic analysis, which enables us to demonstrate the viability of natural rubber production from Rubber dandelion on large scale. We are already ahead on our predicted demonstration plan and are making big steps on the level of breeding, seed production, agronomy and extraction. We are now talking about upscaling the cultivation area in order to have more material for the end-users in product development. So, more progress than anticipated with a very good and enthusiastic consortium!"*

Overview of our ongoing work

Breeding for better rubber dandelions

Within DRIVE4EU we aim to produce Rubber dandelions with a higher rubber and inulin (a polyfructane) yield. According to literature the maximum yield of wild *Taraxacum koksaghyz* (TKS) is 200 kg per hectare. A higher production can be achieved by improved agronomy and by breeding bigger plants with more rubber and inulin.

[Read more about breeding for better rubber dandelions](#)

Field trials in different locations

In spring 2014 enough seed was available to start small field trials for testing. Based on this amount of seed in Holland at AIKC Rusthoeve and in Belgium at the ILVO institute a field trial was planted in order to make a start in making a best practices protocol for the growing of TKS. In 2015 all three members of WP3 received seeds to start their trials in further testing for the best possible production of TKS.

[Read more about the field trials](#)

Natural rubber extraction

Currently the main focus is developing a process for release of the natural rubber (NR) from the dandelion roots. The goal is to get a natural rubber which fulfils the requirements of a TSR10 NR specification.

[Read more about the natural rubber extraction](#)

Sustainability assessment

A first step within the sustainability assessment is to make a general economic analysis of rubber and inulin production from Rubber dandelion to identify putative bottlenecks for the future commercialization of rubber and inulin from Rubber dandelion. The general economic analysis was based on the consideration of different possible future business cases.

[Read more about the sustainability assessment](#)

DRIVE4EU meeting in Prague, 8th – 10th June 2015



The 2nd progress meeting was held in the nice surroundings of the Pruhonice Park near to Prague on 8th till 10th of June 2015. During the meeting the Mitas production site in Prague was visited, which gave the project team a great impression on tyre production.

Published paper

A paper was published in the journal of Plant Systematics and Evolution, in its early electronic version:

Jan Kirschner, Lenka Závěská Drábková, Jan Štěpánek & Ingo Uhlemann (2014), Towards a better understanding of the Taraxacum evolution (Compositae-Cichorieae) on the basis of nrDNA of sexually reproducing species. The paper also includes TKS and shows that TKS belongs to a very distinct and phylogenetically isolated clade.

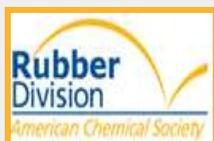
Some selected examples of presentations

Mitas presented information about rubber from TKS on the "[6th International Conference Polymeric Materials in Automotive PMA 2015 & 22nd Slovak Rubber Conference](#)", 26th – 28th May 2015, Bratislava, Slovak Republic.

Wageningen UR presented information about DRIVE4EU at "[2nd World Elastomer Summit](#)", 11th – 12th March 2015, Lyon, France.

Wageningen UR has given a presentation entitled 'DRIVE4EU: demonstration project for Rubber dandelion as new natural rubber source' at the "[Future Tire Conference](#)", 28th – 29th October 2014, Brussels, Belgium.

Upcoming events



International Elastomer Conference
12th – 15th October 2015, Cleveland, OH, USA

www.rubberiec.org



Global Rubber Conference 2015
3rd – 5th December 2015, Ho Chi Minh City, Vietnam www.globalrubberconference.com



IRC RubberCon 2015
3rd – 5th December 2015, Chennai, India

www.rubbercon2015.com



Tire technology EXPO 2016
16th – 18th February 2016, Hanover, Germany

www.tiretechnology-expo.com

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