

Computer-operated technology for chemical weed control on railroads



Our partner is a successful medium enterprise specializing in weed-control on railroads. Based upon its several years of experience, the company has developed a computer-operated technology for chemical weed-control on railroads detailed below. The company has successfully tested the technology and it is already in use in Hungary on 6,000 km railroad length annually.

Special Features	Advantages
Area-selective: It sprays only over weed-covered surface.	It does not let chemicals to clear surface.
Species-specific: It recognizes homogenous colonies and treats the surface with class-specific chemicals.	The use of chemicals can be minimized.
Proportional to the growth stage of the weed: The dose sprayed on the weed is according to the growth stage of the weed.	There is no overdose.
The work can be implemented in any light conditions .	Work can be done by night as well.
Dosing can be adjusted to the speed of the train and weather conditions.	Optimal dosing.
The spraying pattern is adapted to the slope relief of the tracks .	Chemical use can be optimized.
Documentation of operation: While in use, it records operational data automatically.	Complex information-processing

The selectivity of the technology

The technology divides the 6.4 meter-wide rail track into 7 lanes perpendicular to the rail-track. It can spray out four different types of agents in optional proportions in each lane. The reaction time of the system allows a longitudinal resolution of only 1 meter.

The main advantage of the sprayer system

The greatest advantage of the system is that it can conform the environmental interests to the economic interests of the for-profit firm implementing the spraying. **The system makes possible the use of technologies developed for the decrease of chemical emission in case of short decay-time post-emergent agents. With this new technology, the short decay-time post-emergent chemical agents that cause less harm to the environment become dominant as opposed to the long decay-time pre-emergent agents. However, this system is also suitable for the traditional *total* spraying with any kind of chemical agents. The saving on the amount of chemical agents is because of using area-selective, species-specific technologies, and because the spraying amount in the technology is proportional to the growth stage of the weed.**

A further advantage of the system is that it can be efficiently used against weed-resistance. Because of resistance, weed colonies often consist of the same resistant species, against which the species-specific, variable agent can be efficiently used.

Technical features, and data of the new technology

Maximum speed (no spraying): 80 km/h

Maximum spraying speed: 40 km/h

Minimum spraying speed: 5 km/h

Maximum quantity to spray out: 500 l/ha

Quantity of chemical agents per hectare: 1.2 – 10 l with differentiated proportions

Longitudinal resolution: 1 m

Hit rate (coverage): 95%

Storage capacity:

Clear water: 90,000 liter

Agent containers: 4 × 300 liter

Operating distance with full-width spraying: 225 ha, or 351 km

Operating distance in case of average quantity of weed (approx. 32%): 1053 km

The system adapts to the slope of the railway bed to a maximum of 60° angles.

Type of collaboration:

- Service: Our client is ready to provide services in weed-control in any countries.
- Joint venture: Our client is ready to form a JV with a local partner. The local partner must be service provider in weed-control for the railway company.
- Licencing: Our client is ready to sell the licence to local partners who provide services in weed-control.

For further information please contact:

Dr. Peter Mogyorósi, director

Laser Consult Ltd.

Address: H-6723 Szeged, József A. sgt. 130.

Post address: H-6701 Szeged, Pf. 1191

Phone: +36-62/562-782, Fax: +36-62/562-783

E-mail: laserconsult@mail.tiszanet.hu