ÖBB-Infrastruktur AG
We want to get as many people as possible excited about railway travel!
Weed control within the tracks – status quo and developments

Contents:

• ÖBB Infra Corp. – company profile, key figures and assets
• Regulations and legal framework for weed control
• ÖBB internal guiding principles
• Methods used by ÖBB
• Herbicide reduction and optimization
• Backup – further information
Key figures and assets

- **17,700 employees** (of which 1,500 apprentices)
- **235 million passengers**
- **6,350 trains daily**
- **145 million train kilometres per year**
- **4,865 kilometre rail network**
- **Over 1,100 stations and stops**
- **8 rail freight terminals**
- **Climate protection: Power from 10 hydroelectric power stations**
- **31 railway companies on the network**
- **More than 2 billion Euro investment each year**
- **21 billion Euro balance sheet total**
- **3 billion Euro total earnings**
- **35 million Euro earnings before tax (EBT)**
Railway Infrastructure in Austria
A success-story!

Per capita investments into railway infrastructure 2014.

Per capita travel – kilometers on railway infrastructure 2014.

Quelle: Allianz pro Schiene auf Basis von BMVI (Deutschland), VBV (Schweiz), BMVI (Österreich), SCI Verkehrs GmbH.

Pro-Kopf-Investitionen des Staates in die Schieneninfrastruktur in ausgewählten europäischen Ländern 2014

Durchschnittlich zurückgelegte Bahnkilometer pro Einwohner 2014

classification: ÖBB-Infrastruktur AG/Stab BL (public)
• Herbicides have to be registered and approved by the Federal Office for Food Safety (BAES) on the basis of evaluation reports and surveys from the Austrian Agency for Health and Food Safety (AGES) [http://www.baes.gv.at/baes/](http://www.baes.gv.at/baes/).

• Application on railway infrastructure is regulated by specified issues of the plant-protection product register (listing type of product, active agent, max. application amounts, application periods etc.).

• Railways are obliged to follow that register. Staff has to be trained accordingly and verifiable.

• AGES is entitled to collect data and publish statistics concerning herbicide use in Austria.

• In the past only data about annual herbicide sales were available!

• In the future AGES will also publish data about the actual annual use!
Current 20 different products are available for railway application in Austria (http://pmg.ages.at/pls/psmlfrz/pmgweb2$PMG_WEB_STAMMINFO.ActionQuery)

All of them are different formulations containing only three active agents (Glyphosate, Flazasulfuron and Flumioxazin)

ÖBB is only using products containing Glyphosate

and Flazasulfuron
Usage of Glyphosate in Austria??

Glyphosate sales in tons

Usage of herbicides in horticulture in Lower Austria

ÖBB Glyphosate usage: 8-10 t/a

Acc. to a recently publ. CER paper, the railway sector represents less than 0,5% of the EU - herbicide market!

Source: http://www.ages.at/service/service-presse/pressemeldungen/verbraucherinnen-information-zu-glyphosat/tab/3/

classification: ÖBB-Infrastruktur AG/Stab BL (public)
• New company strategy – FOKUS 2020, states that ÖBB wants to be a leader in corporate social responsibility

• „Herbicide reduction programm“ started in 2015, in cooperation with an external NGO

• Environmental management system (ISO 14001) in place, since 2009
Methods used by ÖBB spraying train – Tersus Multi-Modul Train

classification: ÖBB-Infrastruktur AG/Stab BL (public)
Methods used by ÖBB

Multi Modul Train (Spraying train)

- ÖBB owned MMT in use since 2011
- controlling 6000-7000km/a of railtracks
- green detection system (sensing chlorophyll) for selective application
- Herbicide consumption could be reduced by 70-80%
- Application area is segmented, hence herbicides can be applied to selected segments only, if needed
- Variation of specific pressure and switching between different nozzles can be done, according to velocity
- No application is done if it is raining or under strong winds
- 2015: total area 4865ha controlled by MMT, only 1254 have actually been sprayed

classification: ÖBB-Infrastruktur AG/Stab BL (public)
Methods used by the ÖBB

Spraying on the tracks

Control unit

Crossing a bridge
Methods used by ÖBB

- additionally to the MMT, ÖBB uses trailers with spraying equipment mounted on rail-vehicles and two-lane vehicles (operated by sub-contractors)
- Some trailers are operating automatically and applying constant concentrations of herbicide (depending on the vehicle speed)
- some are operated manually (speed needs to be constant)
- Application comparable to the standard in agriculture
Thank you for your attention!

classification: ÖBB-Infrastruktur AG/Stab BL (public)
Back-up
Current network (2015: 4.846 km; 2009: 5.600 km) and major projects (red lines)
# References to environmental protection in the Austrian Railway law

**Austrian Railway law 1957, BGBl I 125 2006**

<table>
<thead>
<tr>
<th>Text passage</th>
<th>Subject of protection</th>
<th>Article</th>
</tr>
</thead>
<tbody>
<tr>
<td>...the railway company has to take care that construction, stock or operation of the railway lead to <strong>no damages to private and public goods</strong></td>
<td>privat and public goods</td>
<td>§19 (2)</td>
</tr>
<tr>
<td>Obligation to protect neighbours</td>
<td>neighbours</td>
<td>§19 (5), duties of a railway company</td>
</tr>
<tr>
<td><strong>Watercourses</strong> which have been damaged or can’t be used anymore due to construction works, have to be restored on the costs of the railway company. Costs for conservation and restoration have to be accepted by the railway company</td>
<td>water</td>
<td>§20 (1), traffic facilities, water courses</td>
</tr>
<tr>
<td>Restored Watercourses have to be handed over for future conservation and restoration, to the original obliged institution, in an official, formal way</td>
<td>water</td>
<td>§20 (2), traffic facilities, water courses</td>
</tr>
<tr>
<td>Plans have to show the position of <strong>watercourses</strong></td>
<td>Water</td>
<td>§31b (1) 1, construction plan</td>
</tr>
<tr>
<td>Plans have to include entitled <strong>waterusers</strong> (stakeholders)</td>
<td>Water</td>
<td>§31b (1) 4, construction plan</td>
</tr>
<tr>
<td><strong>Entitled waterusers</strong> have to be accepted as a party in the approval process</td>
<td>Water</td>
<td>§31 e, Parties</td>
</tr>
<tr>
<td>Within the surrounding <strong>hazard area</strong> (surroundings of railway infrastructure) all natural hazards which are endangering the railway (e.g.: avalanches, landslides, rockfall) have to be managed by the railway company</td>
<td>Landscape, humans, public and private goods</td>
<td>§45, abatement of prevailing risks</td>
</tr>
</tbody>
</table>

classification: ÖBB-Infrastruktur AG/Stab BL (public)
Vegetation management

Herbizidapplikation auf Gleisanlagen
Zeitungsauschnitt 1934

Ein Giftprengwagen der Reichsbahn.

Ecological, socio-economic and political aspects

- Railway-infrastructure as part of the modern „commons“
- Railway-infrastructure as part of the green zones and recreation areas in urban and semi-urban areas (NIMBY-conflicts)
- Railway-infrastructure as a green-corridor, step-stone or migration route biotope and as a provider of ecosystem services
- Railway-infrastructure as a part of the cultural landscape and cultural heritage (UNESCO world heritage site – Semmering)
- Noise, herbicides, waste dumps as well as lack of funds, transparency and participation are some of the major challenges concerning sustainable land use of railway infrastructure