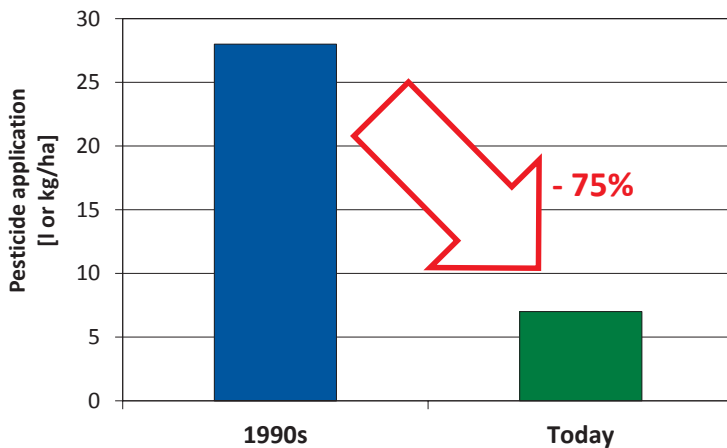


# Sustainable sugar beet cultivation due to...

## Threshold based pesticide application

- Seed protection within pellets
- Targeted control of small weeds
- Control of infested leaves – threshold based fungicide application



Reduction of pesticide application in the last 20 years due to innovation in products and application  
Reference: Stockfisch & Reineke, 2009



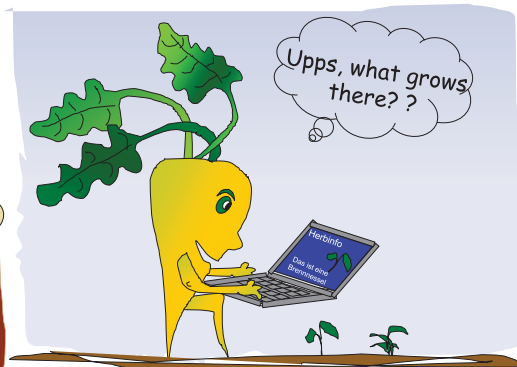
Control of infested leaves  
– application only if necessary

If you have recognized pests, weeds and pathogens early enough, you will need only a small amount of pesticides for their control.

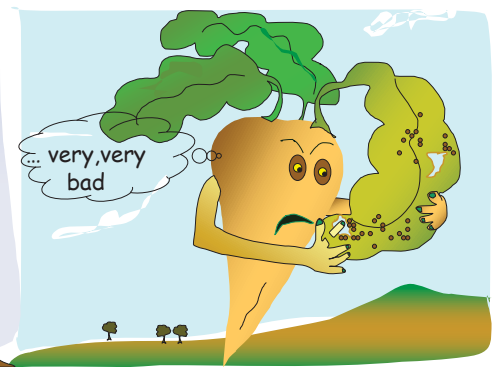
The beet seed is surrounded by a protective coat. Therefore, you have to do nearly nothing to control pests.



You have to detect the weeds, when they are very small.



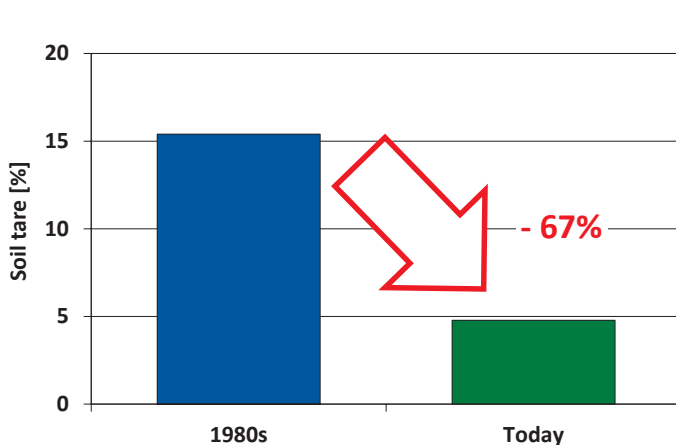
Fungal attack on the leaves are treated, before it damaged the beets.



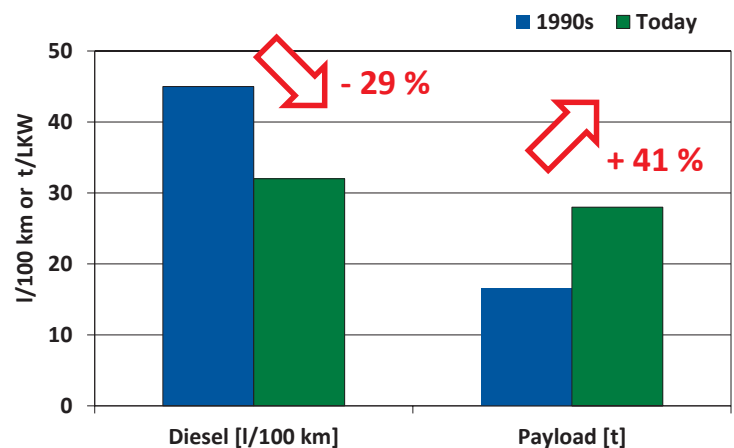
# Sustainable sugar beet cultivation due to...

## Optimization of harvest, cleaning, and transport

- Reduction of harvest losses
- Covering beet clamps is a protection against sugar losses
- Cleaning beets reduce the transport of soil
- Higher payload of the trucks with a lower diesel consumption
- Fewer trucks, low noise level, less traffic



Reduction of soil tare in sugar beet deliveries  
Reference: Südzucker AG, since 1990 without tops/leaves, mean 1978-1980 and 2010-2012

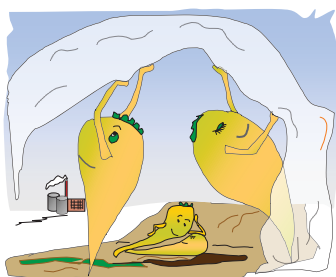


Diesel consumption and payload of trucks in the 1990s and today  
(expert estimation)

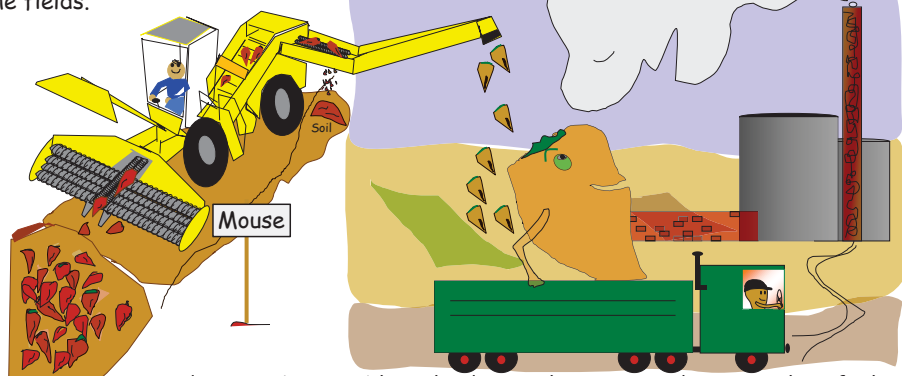


During the harvest the beets should not be damaged as much as possible. The soil which adhere on the beets is shaken off.

In winter the beets are covered while they are waiting in the field clamp for their ride to the sugar factory. So they are protected against rain and frost.



The beets are loaded with the „mouse“ on trucks. In that process the beets are cleaned again and the soil remains on the fields.



Modern trucks are able to load more, low noise and consume less fuel.

# Sustainable sugar beet cultivation due to...

## Strengthening rural areas

- Maintain the income of farmers
- Life quality and local recreation
- Enhance biodiversity

The different crops rotate on the fields.

That is good for the soil and the landscape becomes typical for a region.

Farmers and their families earn money with the sale of their crops.

Near the sugar beet grow several other field crops, like grain, potato or corn.

Birds, insects, earthworms and other creatures live in the fields, where they find food and needed protection, so they can raise their children.

