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Illustrated by Martin Sodomka



TRACTORS



Albatros

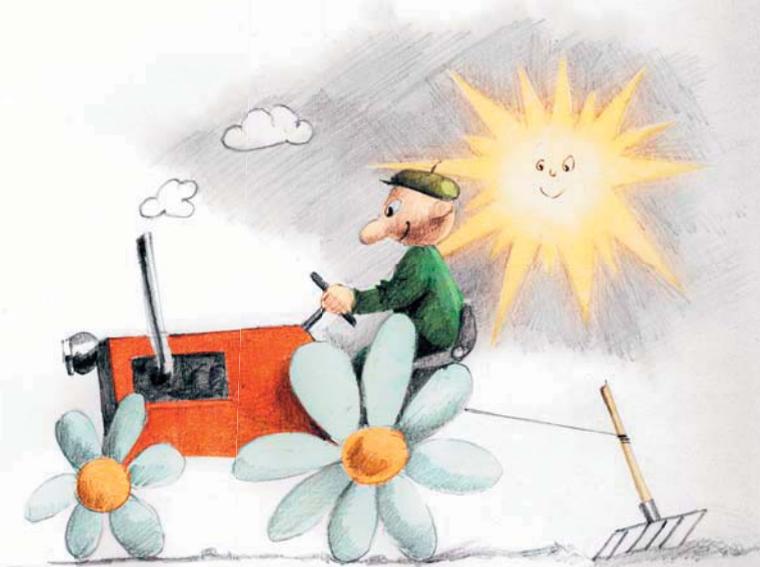
Did you know...

...that when winter is over and one farmer asks another, "Have you sown yet?", he is asking about the setting of seeds?



3 Soil preparation

In autumn, the farmer ploughs his fields to allow them to rest over the winter. In spring, he must prepare them for the coming season. Before he can sow new grain, however, he must break up and loosen the soil. For this, he needs a **harrow**, a **compactor** and a **cultivator**, all of which he attaches to his tractor. The workings of the tines and plates on these tools leave the soil aerated and its surface nice and flat. This is important for the seeds of cereals and other crops to germinate and grow well.



5 Manure and fertilization

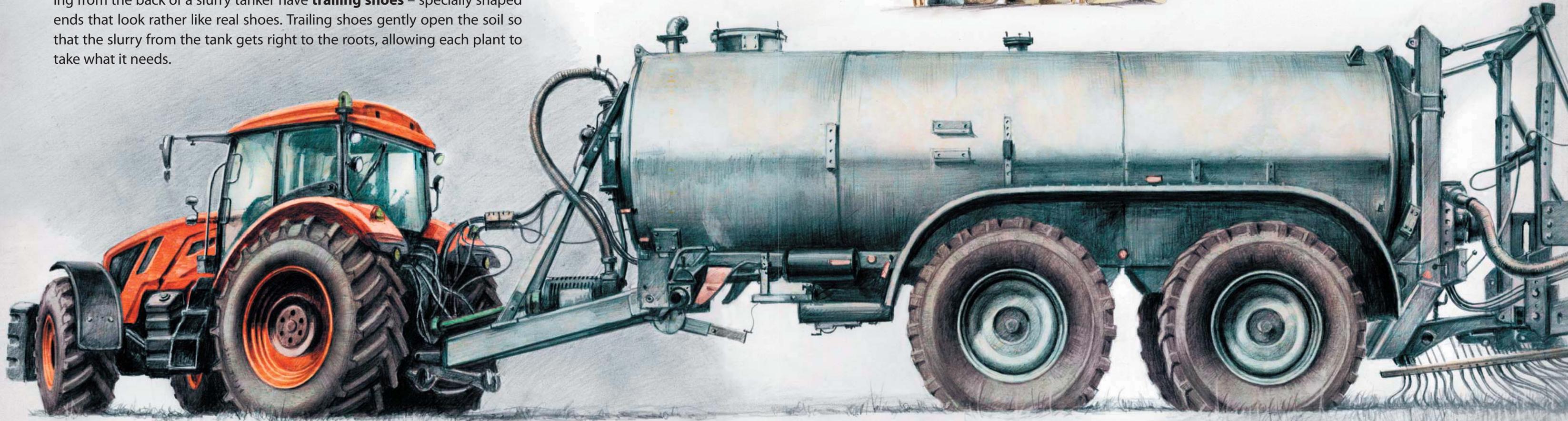
The crops you sow need nourishment to grow and prosper. Plant nourishment has something in common with human nourishment: often, the most nutritious things don't smell too good. Think of cod-liver oil, yeast and boiled cabbage. Many children don't like how these taste, but they know that they contain lots of vitamins. Farmers have used the dung of cows, pigs and horses on their fields since ancient times. It smells bad, but it is good for the plants. These days, farmers often use factory-made fertilizer instead.

So, how do we get manure to a field? Well, we attach a **spreader** or a **slurry tanker** to a tractor. (That's a slurry tanker in the picture.) The hoses leading from the back of a slurry tanker have **trailing shoes** – specially shaped ends that look rather like real shoes. Trailing shoes gently open the soil so that the slurry from the tank gets right to the roots, allowing each plant to take what it needs.



So you don't know what slurry is?

Don't worry, few people do. It's not the sort of thing we talk about over lunch or at kindergarten. Slurry is – how should I put it? Well, it's liquid manure. Think of it as a mixture of poo and wee.



14 Feed mixers

Did you know...

...that the feed mixer is used more than any other machine on the farm? That figures, I suppose, as animals must eat every day. The contents of one feed mixer can feed one hundred cows easily.



Do you know all the things that cows, horses and sheep are fed on? We see these animals grazing on the meadow, but fresh grass is only part of their diet. Farmers prepare lots of other goodies for them in a feed mixer. A feed mixer is basically a huge pot, which the farmer fills with fodder in compressed bales. We have talked about bales already.

Feed mixers are either vertical or horizontal. In the **mixing bowl**, the bale is mixed with **minerals** (special healthy substances) by special stirrers, known as **screws**. This ensures that every cow gets something of everything in its trough and so has a varied diet.

Did you know...

...that some mowers are fitted with a conditioner?
But this looks nothing like a liquid in the bottle
in the bathroom next to the shampoo, even though
it has a similar function. A mower-conditioner
is an implement that causes stalks to split,
puffing out plants so that
they dry faster.



6 Mowers and reapers

Harvest-time is here! The wind is caressing the tall grass of the meadows, which the farmer must mow for further use, mostly as fodder. This is where mowers come in. Farmers have many types of mower to choose from. The one most often fixed to a tractor is called a rotary mower. It is composed of drums or discs with sharp knives around the perimeter – dangerous things that mow down everything in their path.

The picture shows a **front-mounted cutter bar**. If the farmer uses a rear mower in combination with this, he will have the grass mown before you can say 'slurry tanker'. The cutter bar has special **discs** at the sides to straighten the mown grass into neat rows.

Watch out!

On the meadow, high-grown grass might conceal defenceless animals. For this reason, farmers must announce when they intend to mow, giving gamekeepers and other volunteers time to scare away any fawns that mowing could put in danger.

Fancy that!

The highways of the mountains of North America, where snowfall is massive every year, are the preserve of four-track snow tractors. They can work long hours, their wheels always hold firm, and they are surprisingly easy to manoeuvre, even on the most challenging terrain. The Quadrac – the first four-track tractor – appeared in 1996.



19 Ploughing snow

In winter, tractors often stand in for snow ploughs. Just as road maintenance services look after main roads, tractors must get busy on **country roads**. We also see tractors at **airports**, where they make sure that Boeings and Airbuses land on nice smooth runways rather than in snowdrifts.

The tractor is fitted with one **snow plough** at the front and another at the back. Mostly it ploughs snow to one side only, although there is also such a thing as an **arrow plough** fitted to the tractor's front, which is used mainly on mountain roads. An arrow plough shifts snow to both sides evenly.

In the picture we see the perfect machine for battling snowdrifts – a powerful **four-track tractor** fitted at the front with a **snow blower** with an engine of its own. Not only does the blower shift snow out of the road, but it also blasts it some distance, so leaving the roadway nice and wide. The driver shifts the snow to where he wishes it to go, using a joystick in the cabin.





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Would you like to look into the cabin and under the bonnet of all kinds of tractors? If so, fire up your curiosity and discover which tractor has which parts, what all these parts do, what we can attach to a tractor, and all the different ways a tractor can help us. Through interesting facts and detailed illustrations, you will soon know all about these amazing vehicles and their many uses in field and forest.

