



# Fatal tractor accidents 2019

People killed in Austria in tractor accidents in 2019



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## Imprint

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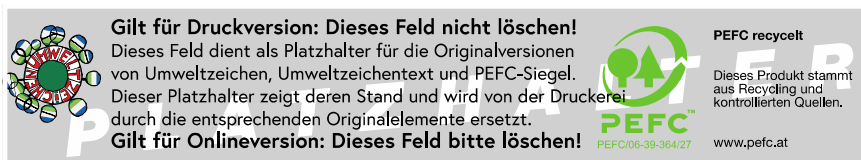
Schloss Weinzierl 1, 3250 Wieselburg

josephinum.at

Female and male authors: Ewald Luger

Realisation: Ewald Luger

Figures and pictures: Ewald Luger



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## Foreword



Ewald Luger  
HBLFA Francisco Josephinum /  
BLT Wieselburg

At HBLFA Francisco Josephinum / BLT Wieselburg, Federal Ministry of Agriculture, Regions and Tourism, safety structures for tractors such as tractor driver cabins or rollover protective frames are tested for about 50 years.

Numerous fatal accidents occur every year with tractors. The question arises whether the applicable international safety standards for tractor driver cabins are sufficient and why and how these many fatal accidents with tractors actually could happen?

Many basic questions are asked after a fatal tractor accident. Questions like "who" and "when" and "in doing what" and above all "how and why"? The accident events were evaluated and analysed according a few fundamental questions. Lessons can be learned from these results to avoid serious or fatal tractor accidents in future.

# 1 Finding of accident data

For data protection reasons, the transfer of accident information and data was rejected from numerous sources because not allowed. In addition, the source BMI (Federal Ministry of the Interior) only records the tractor accidents in road traffic fatalities, i.e. both tractor drivers and passengers. But traffic accidents only make up a part of all tractor accidents. The social insurance institution for self-employed only records those accidents of farmers that are insured by this insurance company. But many part-time farmers or retired people are insured with other insurance companies.

## 1.1 Internet search

The study is based on an internet search on people killed in Austria in tractor accidents in 2019. The research does not claim to be complete. Thanks to the internet and Google, it was possible to get information on tractor accidents published in many online newspaper reports, from ORF.at publications, press releases from the state police directorates, operational reports from voluntary fire brigades, the published images on the tractor accidents and not least, thanks to telephone information, to receive basic information, for example whether the tractor had a cab or whether a seat belt was used.

## 1.2 Accident data collection incomplete

Unpublished fatal accidents or by internet search difficult to find accidents are not recorded. Also not recorded are those tractor drivers who died due to their severe injury caused by the tractor accident long after the accident.

Fatally injured car drivers or motorcycle riders, for example, when overtaking crashing in an oncoming tractor, were not considered and were not counted.



### 1.3 People killed in Austria in tractor accidents in 2019

- 02.03.2019 Tractor accident in Ybbsitz was fatal
- 22.03.2019 St. Georgen am Walde: Fatal accident with tractor
- 27.03.2019 Scheifling: Farmer dies in tractor accident
- 20.04.2019 Neusiedl - Lower Austria: Tractor overturns, driver (24) dead
- 24.04.2019 29-year-old died in tractor accident in Retz
- 27.04.2019 Großpetersdorf: Man dies in an accident at work
- 28.04.2019 Garsten: 40-year-old farmer died in tractor accident
- 01.05.2019 Thalgauberg - Flachgau: Boy (5) killed in tractor rollover
- 09.05.2019 Ernsthofen: Farmer overrun by tractor and killed
- 22.06.2019 Fatal tractor accident in Grünau
- 25.06.2019 32-year-old fell in Stanz with tractor in riverbed and died
- 06.08.2019 Schwoich: Tractor driver died in hospital after accident
- 08.08.2019 Tractor driver (28) fatally injured in accident in Sattledt
- 09.08.2019 Gosau: 18-year-old crashed while working in a forest with a tractor
- 11.08.2019 Tulfes: 72-year-old fell in tractor accident 50 meter
- 17.08.2019 Henndorf - Flachgau: Boy dies in tractor accident
- 22.08.2019 Sankt Georgen ob Judenburg: Fall with tractor – dead
- 16.09.2019 Mitterdorf an der Raab: Harvesting helper crushed to death by tractor
- 21.10.2019 Ebenwald: Driver (71) fatally injured in tractor accident
- 23.10.2019 Bärnbach: Farmer overturned with "Reform Muli" - dead
- 02.11.2019 Poppichl - Klagenfurt: Farmer killed in accident with tractor
- 02.11.2019 Gaflenz: Fatal tractor accident at All Souls' Day
- 09.12.2019 Hengsberg - Leibnitz: 75-year-old run over by his own tractor
- 12.12.2019 Radenthein: 85-year-old overrun by tractor
- xx.xx.2019 not recorded – unknown number?

**24 people were killed in Austria in tractor accidents in 2019.**

## 1.4 Accident death count

At HBLFA Francisco Josephinum / BLT Wieselburg were in Austria for the year 2019 in total 24 fatal tractor accidents recorded and the causes of the accident evaluated.

Two older tractor drivers were not included in the accident deaths because while driving the tractor they have had a heart attack or sudden cardiac death. Also not included are two older farmers that were caught and killed by running machine parts (spreading device of a manure spreader, conveyor or scraper floor of a loader wagon).

As already noted, fatally injured car drivers or motorcycle riders, for example, when overtaking crashing in an oncoming tractor were not counted. These accident fatalities might be counted in other surveys about people killed in tractor accidents in road traffic. So there are different accident figures published.

## 1.5 Tractor accidents with description and pictures

For reasons of data protection and possible copyright infringement, there are no detailed accident descriptions or illustrations at this point. To get more detailed information on one of the tractor accidents recorded with date and location you may use the internet and Google. Search for tractor accident (Traktorunfall), date and location to find a specific tractor accident.

It should be noted that the date of the actual accident is not always in line with the date of the publication. Very often one or more days after the accident it is reported about it. It should also be noted that many images are symbolic images that have nothing to do with the actual accident.

## 2 Fatal tractor accidents - analysis

In the year 2019 in total 24 people died in tractor accidents. The evaluation and analysis of these fatal tractor accidents considers the following points.

### 2.1 Age

According to the study 24 people were killed in tractor accidents in Austria in 2019. For the under-18-years-old people the figure is 2, for the 18 to 60-years-old the amount is 13 and 9 people of the over-60-year-old were killed in tractor accident.

Would the two older tractor drivers who died because they have had a heart attack or sudden cardiac death while driving the tractor and the two older farmers that were caught and killed by running machine parts (spreading device of a manure spreader, conveyor or scraper floor of a loader wagon) be counted among the accident deaths, then almost half of all fatal injured had an age of over 60 years.

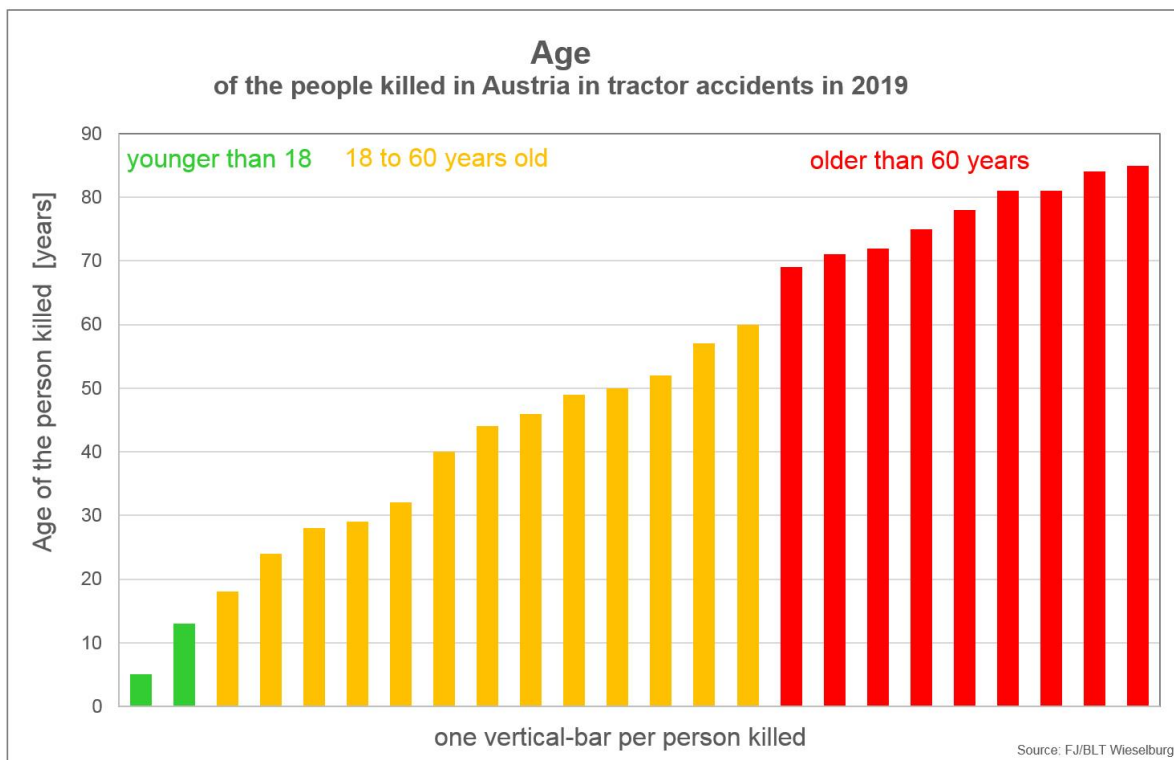


Diagram 1: Age of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.2 Gender

Of all the people killed were 23 male and 1 female.

At this point it is also noted that due to the easier readability of the publication the author did not take care of correct gender wording. German language uses different words for male driver and female driver, male passenger and female passenger, male attendee and female attendee, male helper and female helper and so on. The non-observance of correct gender wording in this publication does not constitute a form of disrespect or discrimination against persons of female sex or also persons of unknown sex.

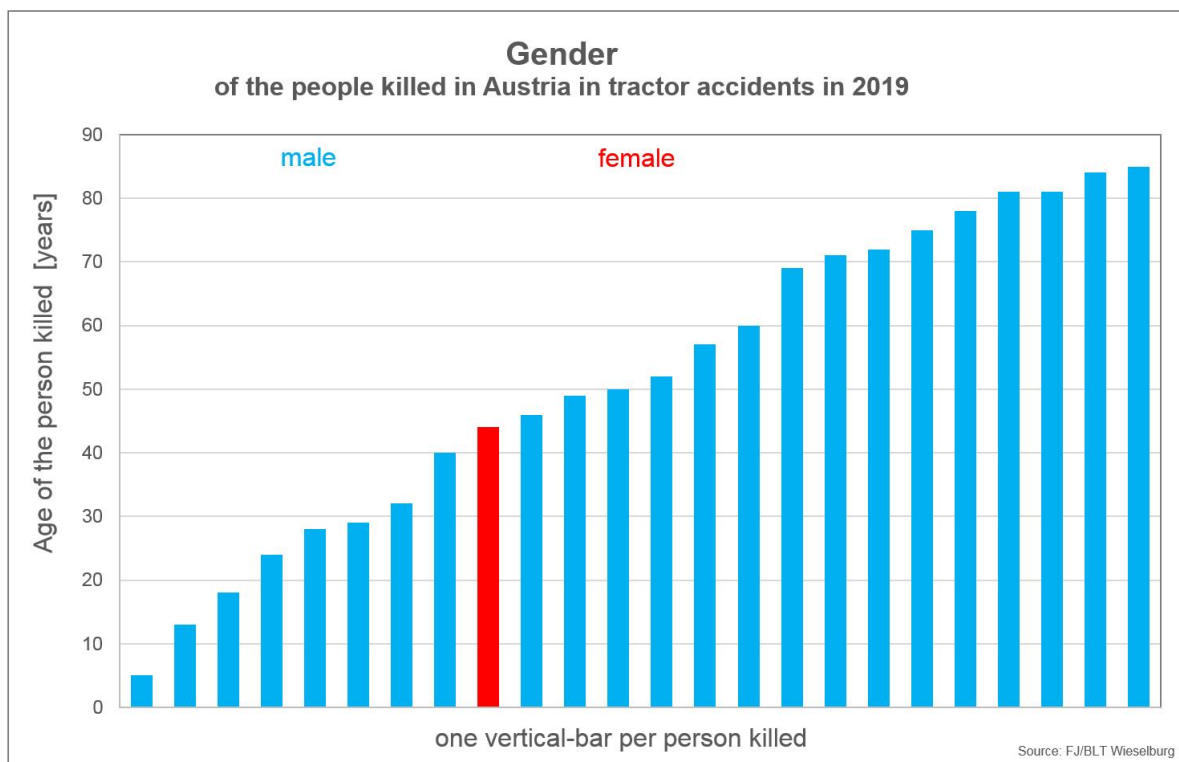


Diagram 2: Gender of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.3 Sector

If we look at the fatal tractor accidents in 2019, then 7 may be counted in sector agriculture, 9 in forestry, 3 on the farm and 5 in sector leisure.

Regarding the share in the forestry sector, it should be noted that according their use freight roads and forest roads are often only crushed stone roads, often narrow and in steep terrain. Driving mistakes such as to get off the road often end up with a tractor fall. In addition, often many forest roads are covered with snow and ice, the tractors are equipped with a tractor tipper box and a forestry winch and work continues until dawn.

Regarding leisure, it should be noted that two of the fatal tractor accidents occurred when going out for a ride with antique tractors, two in connection with old tractors on weekends not in context with agricultural or forestry activities and one passenger on the ride with a fifteen year old on a paved farm track. In one of the recorded accidents with a fatal outcome in leisure-time the driver was verifiably drunk.

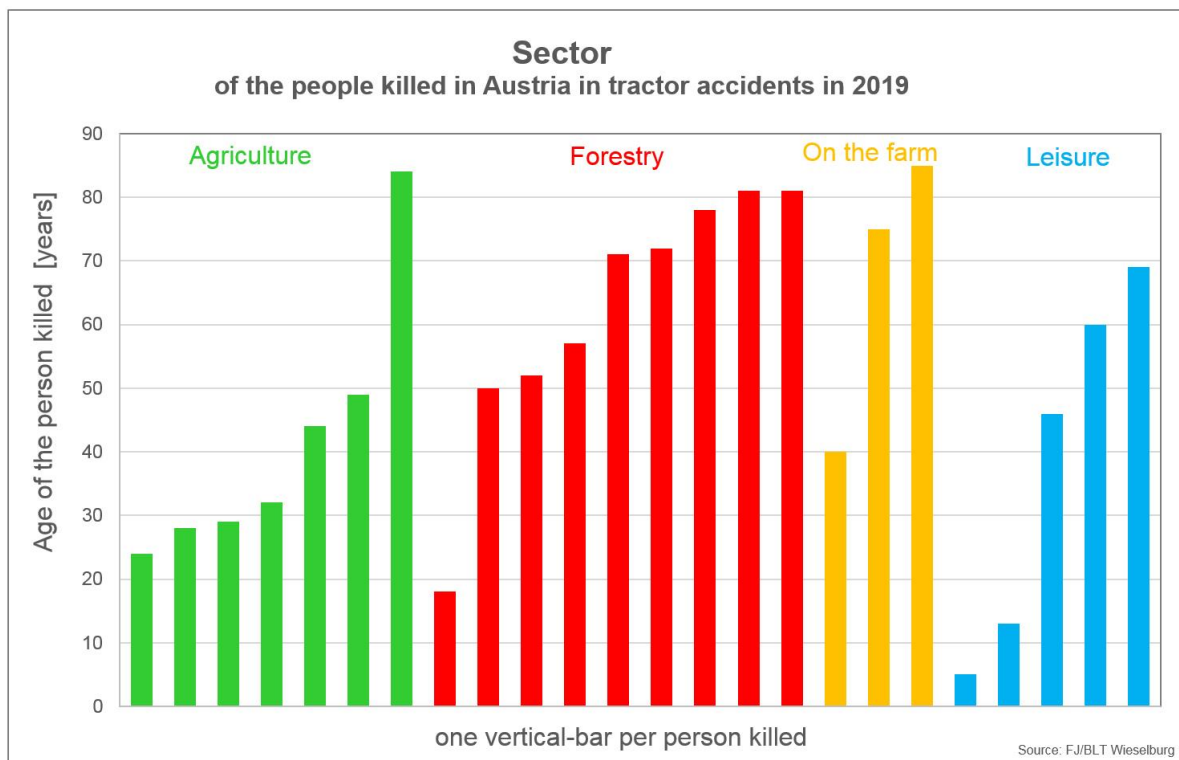


Diagram 3: Sector of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.4 Time

Looking at the time of the accident, it shows that most fatal tractor accidents happened in the afternoon and evening. Since you want to quickly reach the self-imposed target of work for the day, because other work is planned for tomorrow. People start to get tired and begin to drive with less concentration.

People who have an accident in the evening involve many part-time farmers, because after the regular occupation they work as part-time farmers in agriculture or forestry until late in the evening or into the night.

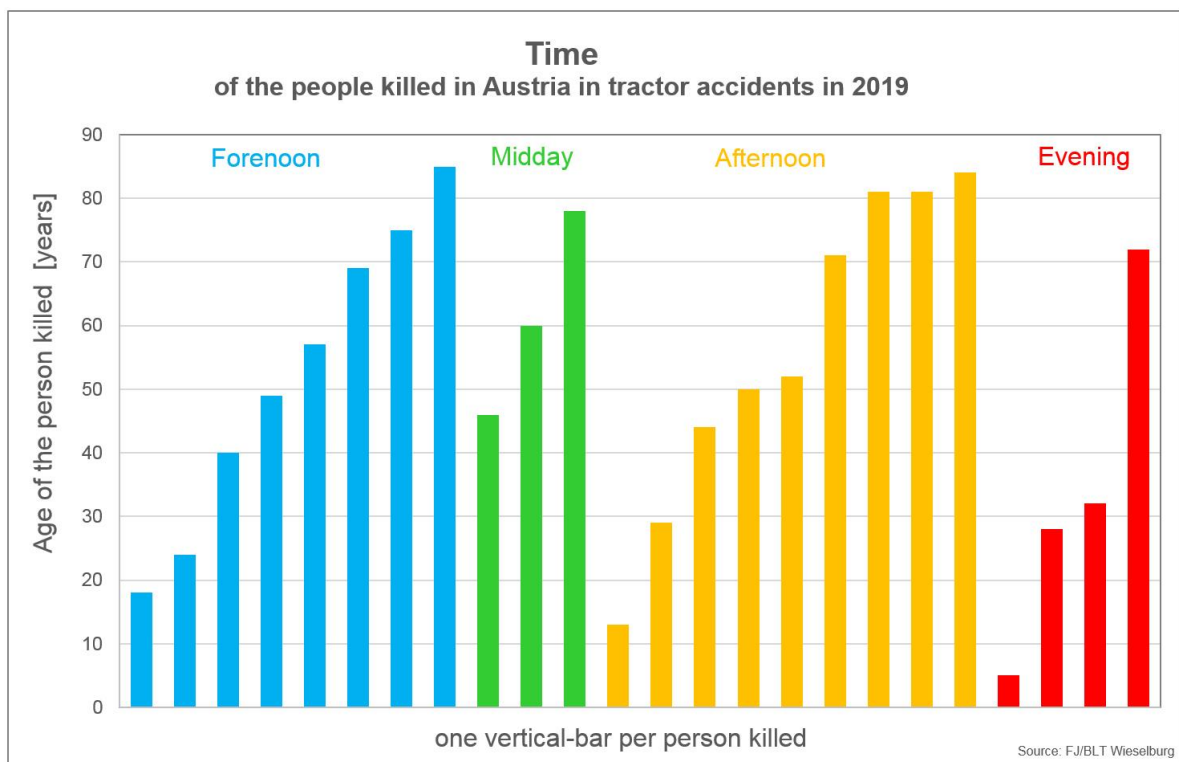


Diagram 4: Time of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.5 Day of the week

What is striking is that we have a lot of people, especially in the age group of up to 60-years old that have fatal accidents on Saturdays, Sundays and public holidays. Many of them are part-time farmers or hobby farmers who work intensely over the weekend or the public holiday. They do the work in agriculture and forestry quickly, because already on Monday morning and during the week the job in regular occupation is done.

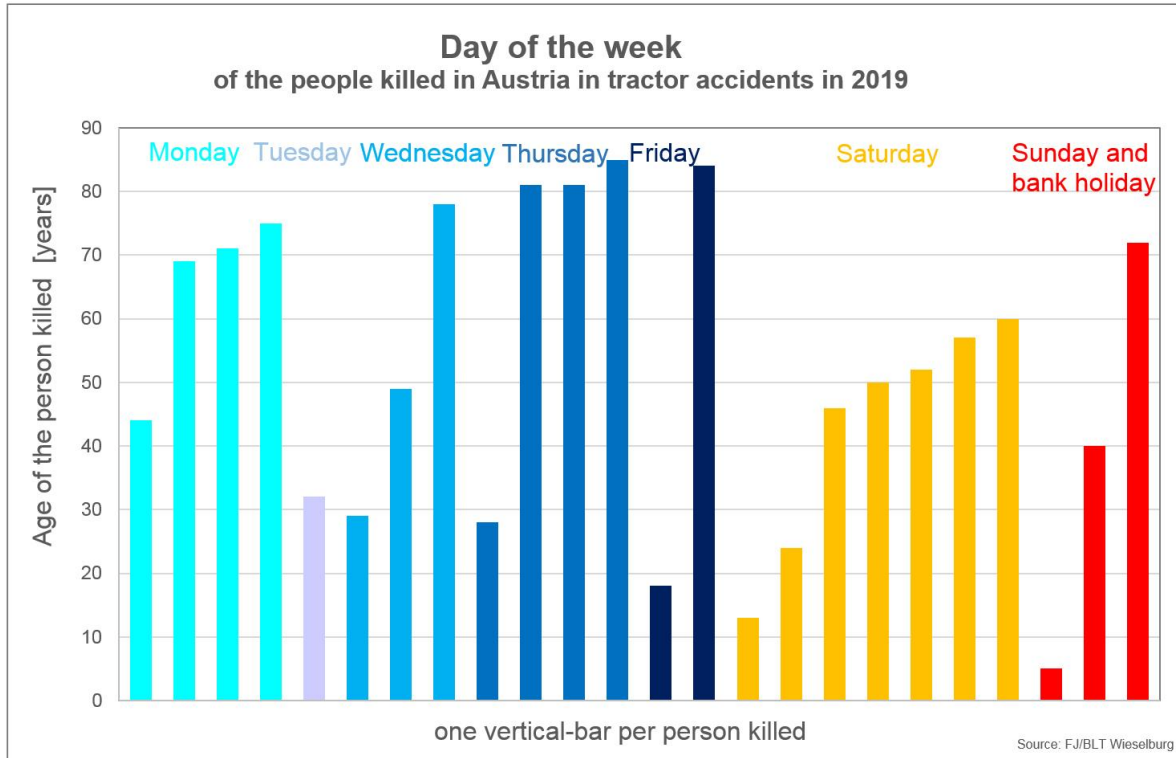


Diagram 5: Day of the week of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.6 Driver – passenger – helper

Of the fatal tractor accidents in 2019 were 21 drivers, 2 passengers and one person was a helper.

A five-year-old passenger sitting on the fender seat of an antique tractor without a protective structure died after the tractor got off the narrow road, fell over a slope and overturned. A thirteen-year-old rode as passenger standing on a running board of a vehicle steered by a fifteen-year-old boy. He fell off, his head crashed on the paved farm track and he died.

Because the tractor started to slip for an unknown reason, a harvest helper became pinched and crushed between the harvesting platform and a hail protection pillar.

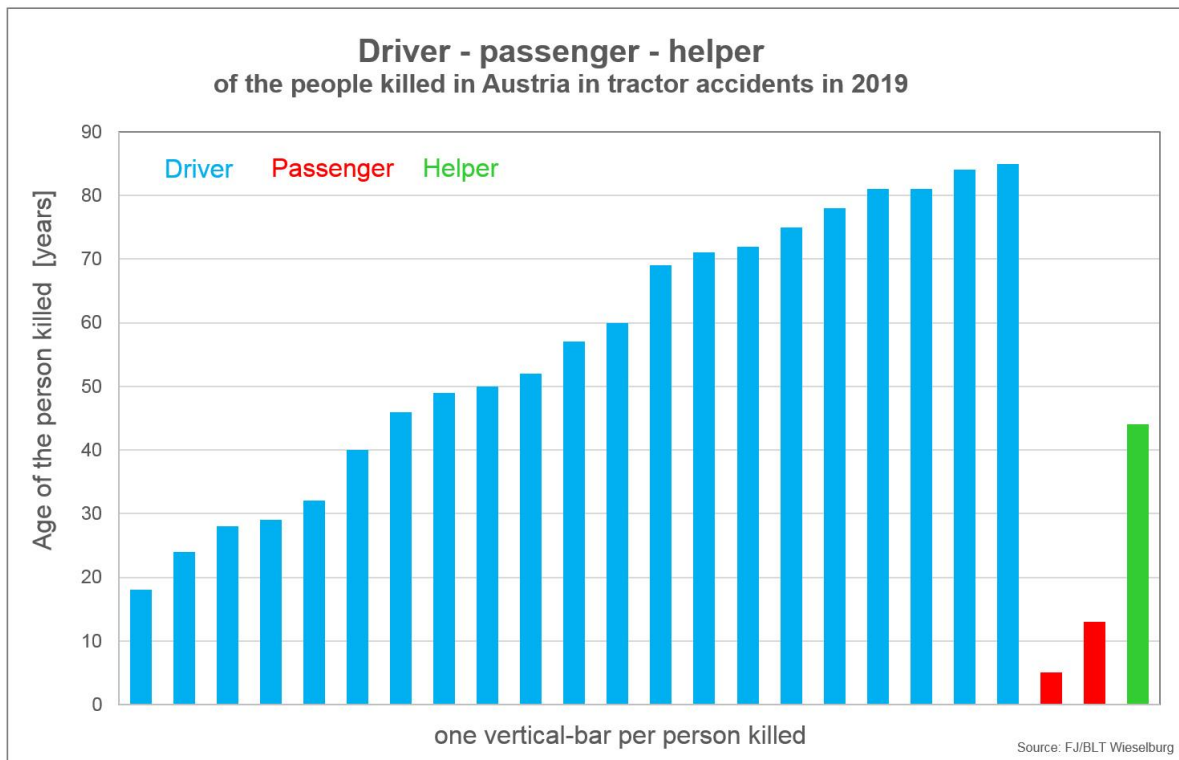


Diagram 6: Driver – passenger – helper of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)



## 2.7 Activity

Of the 24 people killed in tractor accidents in 2019 in Austria, 17 were driving the tractor, 4 were working with the tractor and 3 were killed with the tractor stationary.

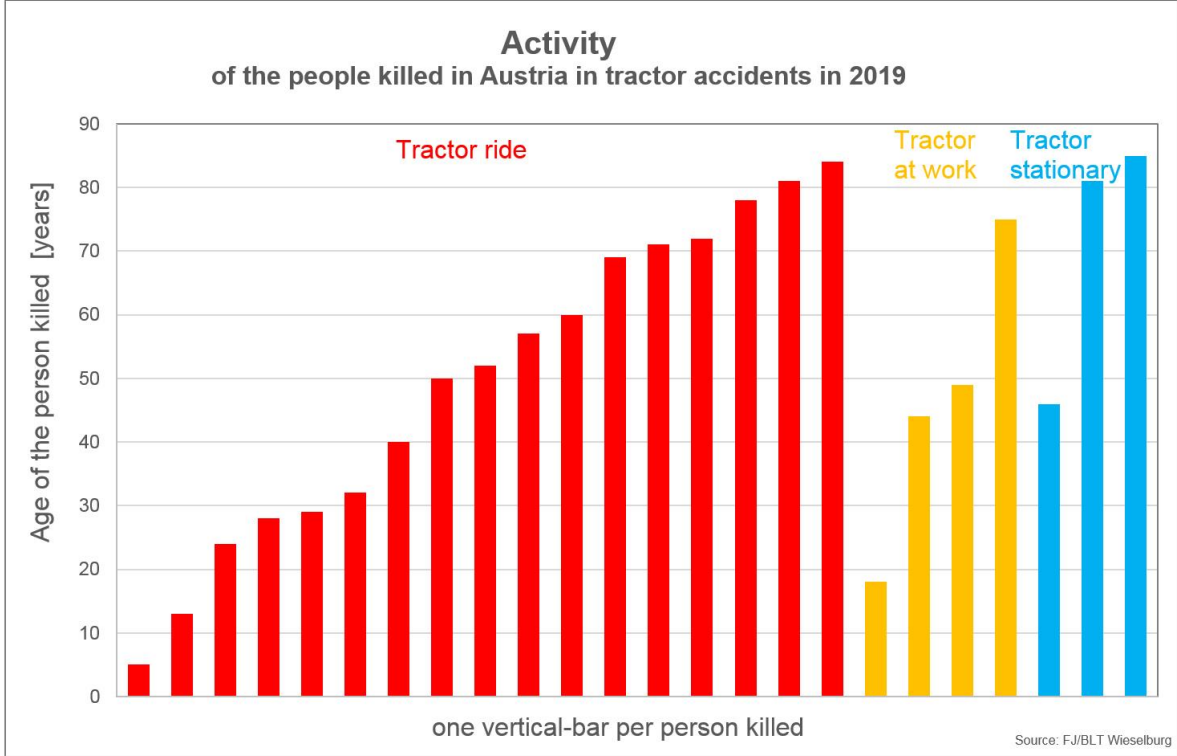


Diagram 7: Activity of the people killed in Austria in tractor accidents in 2019  
 (Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.8 Activity driving the tractor

Of those 17 fatally injured while driving the tractor 3 died in road traffic, 9 on forest roads and farm tracks and 5 when driving with the tractor on sloping meadows or in sloping terrain.

The previously mentioned five-year-old passenger is one of to the dead in road traffic. He was killed when going out for a ride with an antique tractor with a drunk tractor driver. A tractor driver died because the driver of a car wanted to overtake but was not considering an oncoming car and so the overtaking car collided on the side with the tractor, the tractor got off the road and roll-over.

Most deaths occurred while driving the tractor on forest roads and farm tracks. See in this context also comments on the sector forestry on the dangerousness of freight roads and forest roads.

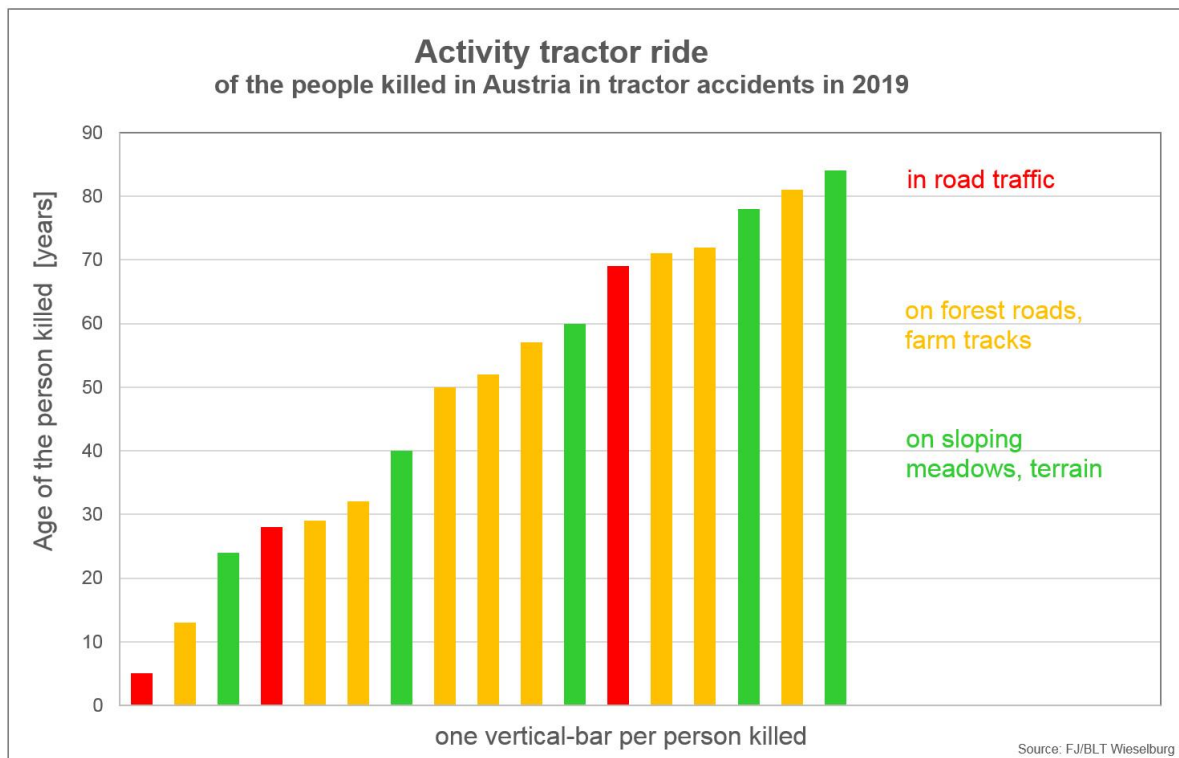


Diagram 8: Activity tractor ride of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.9 Activity work with the tractor

When working with the tractor a young driver was killed when pulling cut tree trunks, one female harvest helper when harvesting in a fruit orchard, a driver when spreading farmyard manure and an older tractor driver was fatally injured during excavation work.

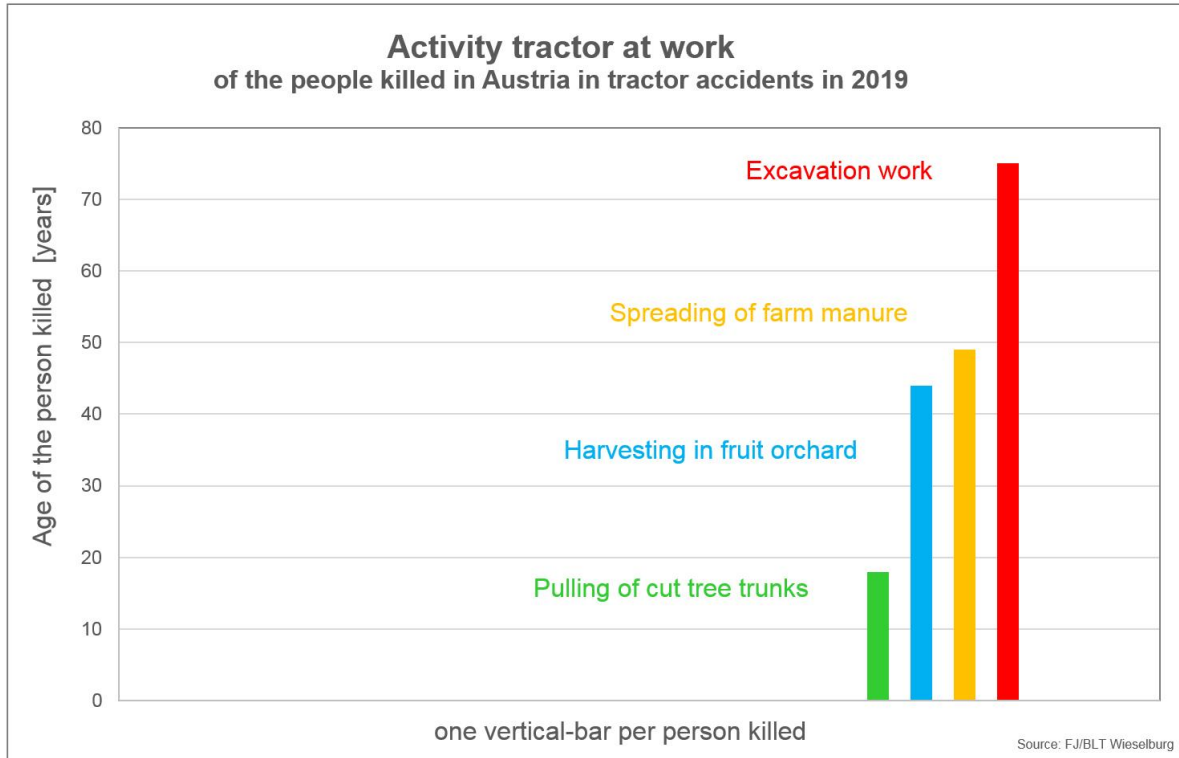


Diagram 9: Activity tractor at work of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.10 Activity tractor stationary

In fatal accidents with the tractor stationary, the tractor started to roll in sloping terrain or on a sloping driveway. In one case when the driver got out of the tractor he accidentally engaged a gear, causing the tractor to start moving.

Trying to jump on a moving tractor ends for older people mostly fatal. It is common for the left rear wheel of the tractor to catch, roll over and kill these people.

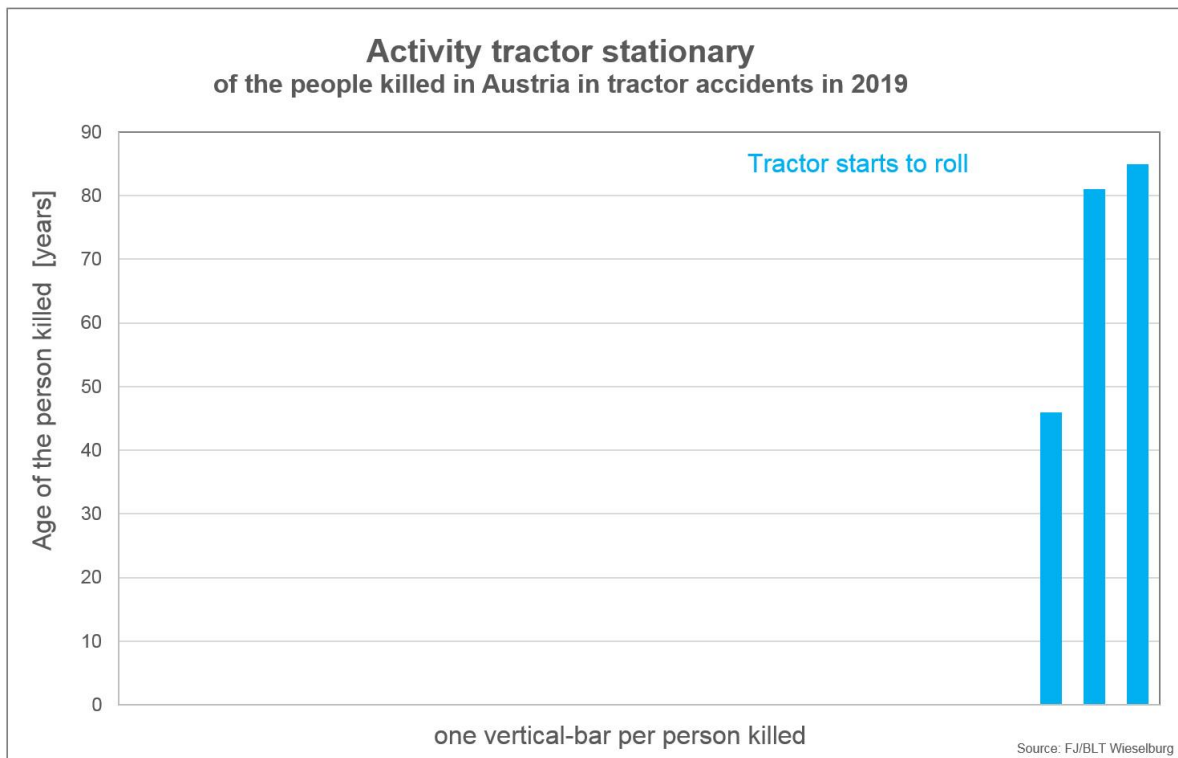


Diagram 10: Activity tractor stationary of the people killed in Austria in tractor accidents in 2019  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.11 Protective structure for tractor roll-over

In 2019 in Austria in the event of accidents while driving the tractor and working with a tractor in total 21 people were deadly injured.

For two of them, the presence of a protective structure is not relevant to the accident. A thirteen-year-old rode as passenger standing on a running board, fell off, his head crashed on the paved track and he died. Because the tractor started to slip in a fruit orchard a harvest helper became pinched between the harvesting platform and a hail protection pillar and was crushed to dead.

Of the remaining 19 fatal accident tractors 8 had no protective structure mounted, however 11 were equipped with a driver's cab. This means that fatal tractor accidents happened in more than two-fifths (42 %) with tractors that had no protective structure mounted.

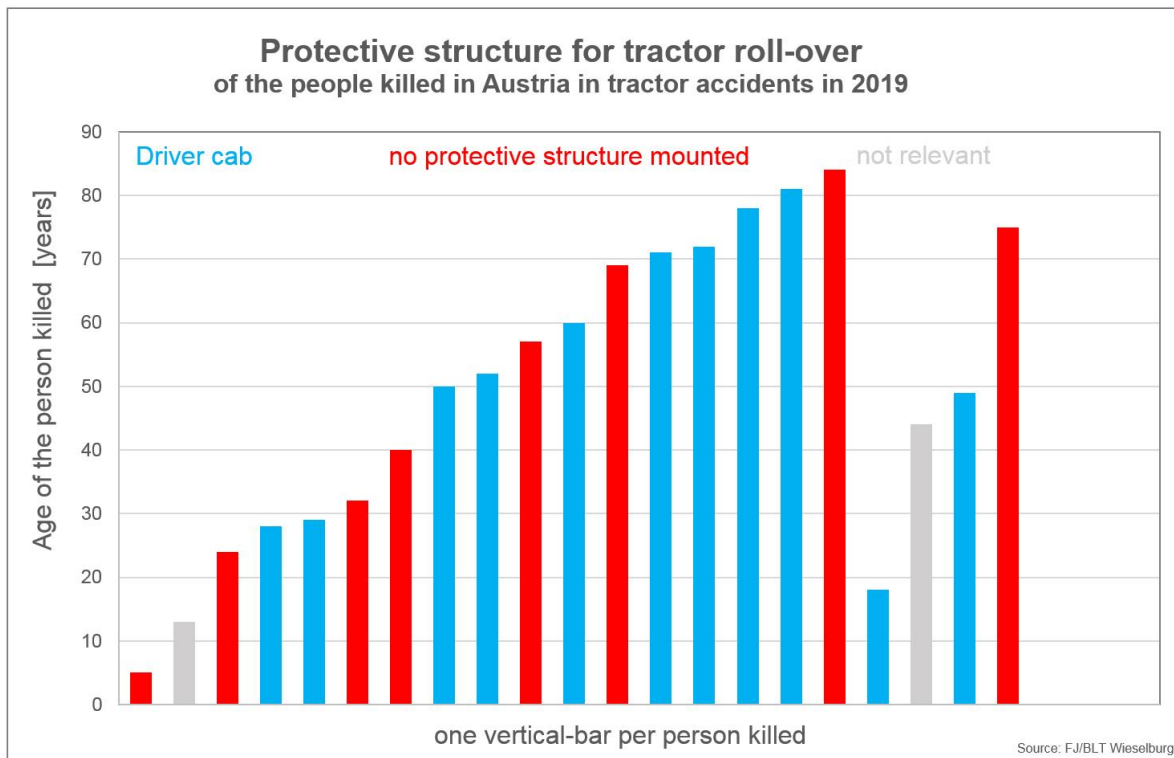


Diagram 11: Safety structure for tractor roll-over of the people killed in Austria in tractor accidents in 2019 (Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

## 2.12 Safety belt and protective structure

Due to the course of the accident, tractor only tipped to the side, tractor roll-over, tractor roll-over for several times, tractor fall, etc., the photos and illustration of the accident tractors and many years of experience at FJ / BLT Wieselburg with the testing of tractor driver's cabs and the analysis of tractor accidents we tried to estimate how far a protective structure and using a safety belt could have saved lives.

In the case of the accident victims in 2019 a protective structure and safety belt would have saved the life in around 85 % of the accidents, in 5 % using the safety belt would likely have saved the life and in around 10 % a tractor fall of 30 m and more occurred, sometimes in stony terrain, which would be probably deadly even with protective structure and safety belt.

With a lot of luck, the drivers could have survived a tractor fall of 30 m and more, like very serious tractor accidents with tractor with driver's cab and driver using the safety belt show. A tractor fall of 80 m and tractor roll-over for several times that reasonably turned out all right.

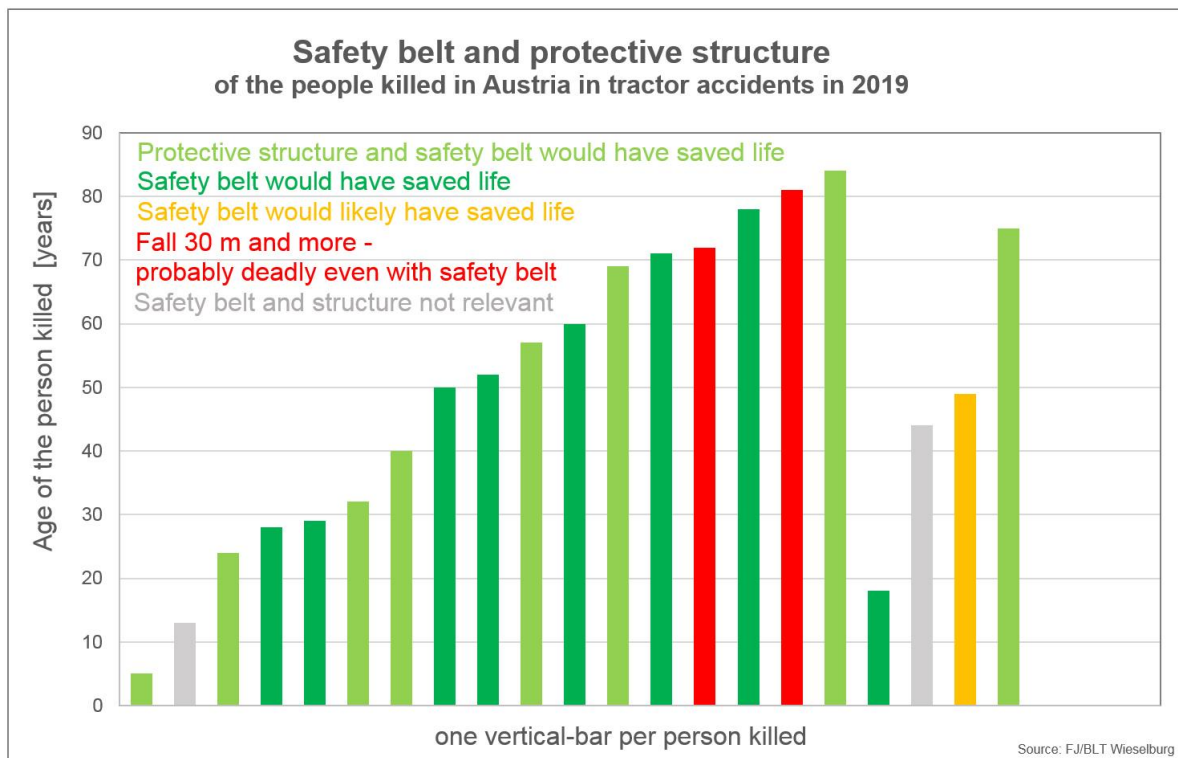


Diagram 12: Safety belt and protective structure of the people killed in Austria in tractor accidents in 2019 (Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

# 3 Fatal tractor accidents – lessons learned

In 2019 fatal tractor accidents while driving the tractor and working with a tractor with a tractor a protective structure for tractor roll-over and the use of a safety belt would have saved the life in around 85 % of the accidents.

According to the Austrian Motor Vehicle Act - Implementing Regulation 1967, 6<sup>th</sup> Amendment of 29 September 1972, agricultural tractors and motor carts must have a protective structure in the form of a safety frame or a driver's cab to protect the driver in the event of a roll-over of the vehicle. At these protective structures the inscription "Hold on when tipping - do not jump off!" has to be placed in a completely visible position for the driver being seated. The inscription has to be legible and indelible and durable marked.

Subsequently roll-over protective structures for tractors back to the year 1965 of registration were directed. In a retrofitting campaign old tractors were re-equipped with an appropriate roll-over protective structure,

Of the fatal tractor accidents in 2019, 8 of 19 tractors that are around 40 % had no roll-over protective structure mounted although, back to the year 1965 of registration it has been mandatory and that is for more than 50 years. Going out for a ride with antique tractors without protective structure is one point, but it's another one when using antique tractors for work in agriculture and forestry or in the farm area.

In 5 % using the safety belt would likely have saved the life and in around 10 % a tractor fall of 30 m and more occurred, sometimes in stony terrain, which would be probably deadly even with protective structure and safety belt. Looking at these 15 % of fatal accidents, then in general time pressure going along with excessive speed, unsuitable tractor-trailer and tractor-implement combination, doing work at inappropriate weather conditions, non-attention and tiredness may be named.

Since a few years at HBLFA Francisco Josephinum / BLT Wieselburg fatal tractor accidents are recorded and the causes of the accidents are evaluated. From these results lessons for avoiding in future heavy or fatal tractor accidents may be learned. A serious accident with a tractor is usually easy to avoid. It doesn't have to happen.

### 3.1 The safety standards are sufficient

The question of whether the applicable international safety standards for tractor protective structures are sufficient, according to the evaluation of the accidents mentioned, yes get answered.

The stronger protective structures requested by some are nonsense. Only tractors should be used that are equipped with a protective structure for a tractor roll-over. Older tractors with a driver's cab and driver seat without a safety belt should be retrofitted with a seat lap belt, or a new modern driver seat with a safety belt already mounted. Newer tractors are equipped with safety belts.

However, safety belts are only effective if they are used and not only when driving on public roads, where they have to be used when seat belts are mounted, but especially where most fatal accidents happen: while riding on farm tracks, freight roads and forest roads and when riding and working on sloping meadows or in sloping terrain. Awareness raising is required here.

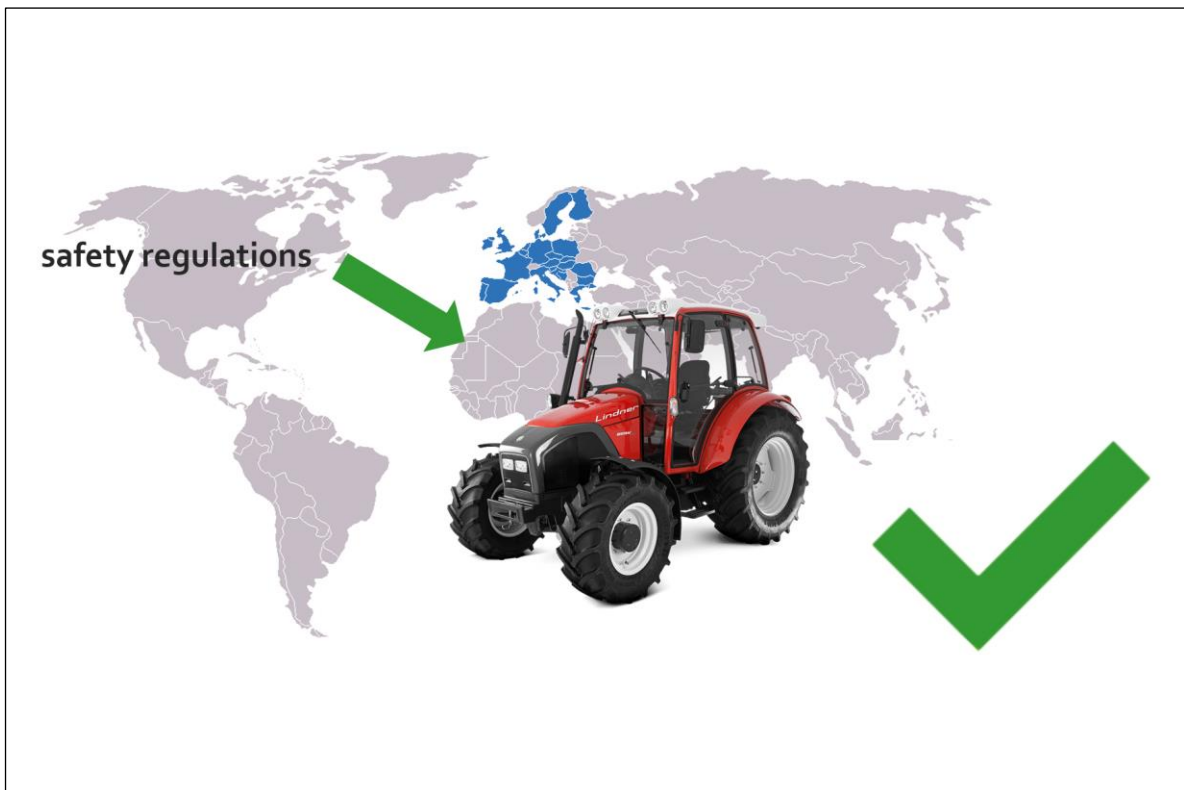


Figure 1: The international applicable safety standards for protective structures are sufficient  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)



## 3.2 Age does not protect against accidents

Especially old and actually experienced tractor drivers have most frequently an accident. As well as in the past few years, the share of fatal accidents with people older than 60 years is between one third and half of all fatally injured tractor drivers. If one would count also the two older tractor drivers in the accident deaths of 2019 that had a heart attack or sudden cardiac death while driving the tractor and the two older farmers that were caught and killed by running machine parts (spreading device of a manure spreader, conveyor or scraper floor of a loader wagon) than people older than 60 years count almost half of all fatal accidents in 2019.

It is a problem of age and structure. In the structure of family farms everyone works, even if you are old. You want to help the young generation and take off work, because you know that the young generation has by leasing land and a multiplication of livestock much more workload today. The old are proud that farming continues and help at work. They are proud that they can still help at work and demonstrate the others and themselves that they can still do something and that they be worth something.

On the other hand, there are also many farms that are part-time farms, where the old still actively help. It has to be, otherwise the young won't make it. The young are thankful if the old quickly do hay tedding during the day, help at some wood and forestry work, do work in house and farm or give support by cleaning and maintenance of machines. In the evenings and on weekends the young still have plenty of work to do, but the regular occupation or main job and the part-time job as a farmer are not to handle without the help of the old.

But there are also farms where there is no successor. The young live in the city and during the school holidays the grandchildren stay in the countryside with their grandparents like in a summer-resort. The old run the farm as long as they stay reasonably healthy. Back when the farm was handed over, they promised to continue running the farm and that they do to the end. They haven't really invested much in a long time, also what for, only for the most necessary. Old tractors are often still roadworthy and therefore still in use, but thirty or forty years ago the safety standards were different. No safety belt, sometimes no protective structure or tractor cab, poor serviced brakes, tractor tires with little tread, defective power take-off safety guards etc. With such tractors, death is your permanent companion, the grim reaper who rides unsecured on the fender seat and does his job as soon as possible the time has come.

In old age, the body often no longer plays along. The work pressure you put on yourself, the high summer heat, the stress to handle the tractor of new type of construction with doing nothing wrong, also doing nothing wrong with the electronics and new-age handling and

operation of mounted farm machinery etc. Or should old farmers better prefer the old tractor they have been using for decades and know exactly how it is going to do the upcoming work?

Dying from a heart attack or a sudden cardiac death while driving the tractor happened twice to older drivers in 2019. Possible triggers may be already known cardiovascular problems or heart problems, the time pressure at work, high heat or the stressful situation when during ride on a sloping meadow the tractor-trailer combination suddenly jack-knifes and becomes uncontrollable.

If you look at the direction of travel of the tractor in a fatal tractor accident, statistics show that almost all tractor drivers who had an accident in reversing are of the age group older than 60-years. Older people are no longer as flexible. It is more difficult for them to turn the head sufficiently backwards to see well when reversing. Rear-view mirror might be mounted, but they are not set correctly, damaged or soiled. The ability to see of older people wears off. Not only the acuity of vision decreases, also the amount of light that reaches the retina decreases. With it older people need a better illumination and an increased contrast to be able to see sufficiently.

As a grandfather, you are no longer as strong and agile as you used to be. Yes, aged 20 or 30 years, what you have done at that time and also a lot by hand. Each Year, some farmers have a fatal accident when attaching implements to the three-point hitch. So also recently, mid-January 2020, when a 70 year old farmer wanted to attached a log splitter to the three-point hitch of his tractor. The splitter should have tipped over, the farmer got his upper part of the body between machine and the tractor and was crushed to death. If he had been younger, then when driving with the tractor rearwards for attaching the implement he would have seen better, he would have estimated the position of the tractor for attaching the implement better, would probably also have had the muscular strength applied to prevent the log splitter from tipping over or would have been also agile enough to get out of the danger area of the tipping implement.

If you are older than 60 years, then accept that you are no longer like that strong, attentive, focused and productive. Let the young go create, because they are familiar to and also know a lot about modern technology. Do your work with caution and prudence. You don't need to work under time pressure.

### 3.3 Take your time and not life

For many of the very serious and fatal tractor accidents, the time pressure in context with the work to be done is the cause of the accident. Often you get stressed because you have to finish work today or before the weather changes, but it is not a must, you believe to have to do so. Tomorrow is also a good day that you can only use and experience if you survive today.

Do not carry out work under time pressure that should be better done under more favourable weather conditions. When spring finally comes and farmyard manure and slurry have to be spread, then many accidents occur on the first fine days on steeply sloping meadows, on still too wet and soft ground - slipped, rolled over and hopefully be lucky again. The old farmers had the experience and knew that on this sloping meadow can only be worked safely after it has dried really well. But who has the experience with the new land lease areas, their nature and peculiarity that are not really know, who has the experience of how the new large slurry tanker actually behaves when working on sloping meadows or how good and safely the new tractor, which you might first get to know yourself properly, operates in sloping terrain.

Or in summer, because the contractor for the baler and wrapping machine is available only today in the late afternoon and early evening, the mowing of the pasture must already be done early in the morning, must be done when the sloping meadow is still wet by dew. It was the same in the previous year, but you might have had the smaller one and with it lighter rotary mower, also had a better profile on the tires, which has suffered a lot because forestry work had be done in between. And then it happens. Not everything has to be done today, but death will be someday.

An underestimated risk of accidents are also the meadows increasingly infested with white grubs in the mountain area. Lawn grubs and larvae have damaged the turf of many forage meadows. They eat that root system of the forage grasses. When overrunning affected turf on slopes, whole areas of turf slide from the solid ground and thus lead to an invisible risk of an accident that is difficult to assess and is an incalculable risk. The dry weather of the past years has favoured the grub infestation. Pay attention and carry out a professional treatment against grubs in time. This not only increases your driving safety, but also ensures a good feed yield in grassland.

Looking at the time of the accident shows that most fatal tractor accidents happen in the afternoon and in the evening. Since you want to quickly reach the self-imposed target of work for the day, because other work is planned for tomorrow. You start to get tired too and begin to drive with less concentration. So take enough time for your work planned and make breaks too.

In the age group of up to 60-years old there is an accumulation of fatal accidents on Saturdays, Sundays and public holidays. Many of them are part-time farmers or hobby farmers who make intensive use of the weekend or the public holiday. They do the work in agriculture and forestry quickly before the weather changes, do the work quickly before the stressful working week in the regular occupation starts on Monday morning again.

For some part-time farmers the real work begins in the late afternoon when the work in regular occupation is finished. Don't work long after sunset or in the night. Work peaks can also be managed by the services of farm machinery co-operatives or farm contractors. Think about whether to continue farming in this form makes sense in the long run, or whether you want through specialization, automation or also by offering your land for lease for a restructure, that make your life and the life of your family more liveable. Often, what the generations previously painstakingly have built up and shuffled together, is turned by a following generation topsy-turvy in a short time.

You can also take the time for a front end loader to dismount, when the front end loader is not required for the work to be done with the tractor. This not only saves fuel, it also increases traffic safety and your own safety. About half of the fatal tractor accidents in road traffic in Austria in 2018 happened with a mounted a front end loader on the tractor.

Have you attached on the three-point hitch a big forestry winch or a heavy log splitter at the rear and a front end loader with the bucket raised accordingly and when driving on the road, then it may happen quickly. In total the centre of gravity in relation to the ground is high and with it the risk to tip over. If you work under time pressure and therefore driving at a high driving speed and you have to turn from the downhill main road to a side road, then the tractor may tip over faster than you think, the driver falls out of the tractor cab, gets trapped under the tractor and fatally injured.

The use of a safety belt, usually a lap belt is mounted at the tractor seat, would have easily prevented these fatal accidents. An adapted driving speed, for example not faster than 25 km/h and when driving with the front loader bucket raised on paths with tight curves and when turning suitable slower speeds should be driven. Doing so prevents at all such accidents and also the life of oncoming road users is not endanger.

If not already fitted, then retrofit a seat belt and don't get stressed out at work. Working at the weekend and late into the night is not necessary. Tomorrow is also a good day to do the work ahead. Think about whether restructuring is possible and thereby gain more life quality.

### 3.4 Never alone in the forest

If we look at the fatal tractor accidents in 2019 according to their sector, then seven may be counted in sector agriculture, nine in forestry, three in on the farm and five in sector leisure. There are many reason why so many fatal accidents with tractors happen in forestry.

The workload in forestry is still due to the bark beetle infestation, extreme severe weather events such as storm damage and snow break etc. clearly higher than a few years ago. The additional forest work required as a result should and also have to be done, even if you don't really have time anyway.

According their use freight and forest roads are often only crushed stone roads and are often narrow and in steep terrain. In addition, many of the forest roads in high altitudes are frequently and long covered by snow and ice. Therefore, driving mistakes such as to get off the road, often end up with a tractor tip over, tractor roll-over or even a tractor fall.

When driving backwards and with attached implements, for example a forestry winch with support shield, then reversing is often associated with a line-of-sight obstruction or visual impairment and thus leads to an increased risk of to get off the track. Especially for the driving backwards in the evening, after sunset, when it is dark it is a problem because of the impaired view and can be named as the cause of accidents.

Forestry work is also physically stressful and demanding. As so often the self-imposed target of work for the day may have been too big and could also not be reached by working even in the dark. Then when at the end of a long working day, due to fatigue, visual impairment due to attached implements - tipper box at the front and a forestry winch at the rear, dusk, the time pressure to be in time at the farm in the stable to do the work and at the farmyard, you and the tractor deviate from the narrow track and fall and roll-over for several times the steep slope, then any help is often too late.

You may have also bought a forest, inherited it or just helped out relatives. Then you may realize for the first time why at the time so few people were interested in buying this forest, you may notice how steep the terrain is and how difficult the forest work in this terrain. Do you have also the routine and experience to carry out work in difficult terrain? Do your tractor and equipment actually meet the requirements? It is no coincidence, no there is a good reason that for tractors special forestry safety structures are available that have to meet the specified safety standards and that the forest professional have it too.

It may not be worth it because of a forest in difficult terrain to invest in a suitable tractor and forestry equipment. Especially in times like these, when the wood price is too low and damaged lumber is not lucrative. But it does not stand for it to do the work with less suitable equipment,

too little experience and routine and to make the work with a queasy feeling in the stomach. The grim reaper is already laughing, because the risk of a serious or fatal accident is already significant. Remember: your contractors for forest work are just a phone call away from you. You should never work alone in the forest. Forest work is teamwork. Too fast you get slipped, injure yourself when handling the chainsaw, get stuck or get pinched. The cell phone, it fell out of the pocket when falling and is now no longer accessible, the decrepit battery had stopped to work in the cold a cell phone reception is hardly to get in this ditch, and certainly not in bad weather anyway.

It may be tight in the tractor driver's cab for two, but roll-over protection is provide and when the seat belts are used, in the event of an accident driver and passenger will not fall out of the tractor cabin, will not be seriously injured or crushed to death. The transport of passengers and for example the transport of passengers in a three-point hitch mounted tractor tipper box is in fact not prohibited on public roads with adapted travel speeds, but should not be done. So the transport of two passengers in a three-point hitch mounted tractor tipper box ended deadly in 2018 as the tractor got off the track and fell over the edge of the road.

Most fatal tractor accidents happen on forest roads and freight roads and in difficult and sloping terrain. Forestry work is physically stressful and demanding. You don't have to reach the self-imposed target of work for the day for any price, you can once also end the forestry work earlier. Always drive and work carefully and with concentration. In the absence of routine and experience or having only inadequate equipment the best is to do let the work done by professionals for forestry work. Note: Never alone in the forest.

### 3.5 Where is your child?

It happens almost every year that toddlers and children are run over in the courtyard area. Early on you have to make children aware of the dangers that bring tractors, their machines and equipment and that they have to keep their distance, because you can't have a good view to all area of the tractor, especially if you have to drive backwards. A sticker in the driver's cabin – Where is your child? - should always remind the male and female tractor drivers to look and check twice whether there is no child in the danger zone.

The two-year-old whirlwind could no longer be stopped when Papa on the tractor was heard outside, somehow slipped through the small door and ran to follow the tractor to get a ride. Grandma ran after and shouted, but the driver couldn't hear the shouts on the tractor. The left rear wheel of the full slurry tank rolled over the toddler, who was dead on the spot.

He was busy clearing snow in the yard of his property and so he overlooked toddler. The two-year-old was run over by the tractor and died of the accident site.

The slightly larger children already know that they have to keep their distance, because tractors and their machines and equipment can be dangerous. These children would like to be taken along with the tractor and watch what is done, or even see and learn how to operate and use a tractor and the farm machines. That comes sometimes not so inconvenient, because sometimes nobody is be able to look after the children on the yard and in the house for a short time, and who knows what the children when they are alone at the farm for a short time will do, which prohibited things they will be going to do. It is probably better to take them with you on the tractor - or not?

Children who have been taken along on the tractor once want to ride again and again. They may do so in Austria, if they have reached the age of five and if the seats for passengers are inside a closed cab.

He had often let his children ride in the three-point hitch mounted tractor tipper box. This time, it should be her last time. The two-year-old girl fell from the tipper box when driving backwards, was rolled over by the rear tractor wheel and fatally injured.

When he slipped off the clutch pedal, he had already done the job. By the jerk the three-year-old girl skids from the auxiliary seat to ground. The girl got under that rear wheel of the tractor was rolled over and died on the spot of the accident.

The five-year-old boy was taken along in the tractor cab. During the ride the boy suddenly fall out of the right door of the driver's cab onto the road and is rolled over by the front wheel of the towed trailer. He died of severe internal injuries.

A six-year-old boy was taken along by the grandfather in the loading shovel of the front end loader of the tractor. On the bumpy farm track the boy fell off the loading shovel and was rolled over by the rear wheel of the tractor. There was no rescue for the grandson.

According to the motto, if you want to become a master, practice early, grandfather or father allow that the little one, the boy who will probably be the farm successor in the future, to drive the tractor or the farm loader by himself. Thanks to modern technology, driving a tractor has become like a child's play, it is very easy, and next to the steering wheel there is also the drive stick and a few other colourful buttons. Yes, back then grandfather had learned to drive tractors early. For some it was the so called 15er Steyr, a Steyr tractor, as strong as 15 horses, but grandfather was taller, because the feet had to be powerful to press the pedals for clutch and brake and the steering also required strength. Grandfather was older and more adult.

An eight-year old boy helped his grandfather at the farmyard. The boy accidentally engaged the reverse gear of the farm loader with automatic transmission. The farm loader drove over the grandfather of the eight-year-old boy and grandfather died at the accident site.

The grandfather allowed his grandson to drive the farm loader. The boy brought the vehicle on the sloping driveway to tip over. Both doors of the yard loader cab were open whereby the ten-year-old fell out of the cabin and was crushed by the vehicle. The emergency doctor could only determine death.

A fourteen-year-old boy started to operate a tractor with a farm manure spreader without authorisation. On the way home from the field he came off the banquet of the sloping road with the wheels on the right side of the tractor, then he steered the tractor sharply to the left and then to the right. Then the tractor tipped over. The boy fell out of the cabin and fatally injured. One assumes that the tractor driver had too little experience.

A fifteen-year-old drove a tractor and had a thirteen-year-old passenger on board. The thirteen-year-old was standing on a running board and holding to a handrail. During the ride on a paved farm track he slipped off, his head crashed on the paved track and he died.

In Austria, 16-year-olds can get a tractor driver's license and are then allowed to drive for example on the farm of their parents with a 40-ton tractor-trailer combination on public roads. But do these young drivers already have the necessary experience to do that, do they have the necessary sense of responsibility and are they really aware what that ultimately means? Anyone in Austria who wants to drive a loaded semi-trailer with the same weight has to be at least 21 years-old and not without reason. In neighbouring countries of Austria 40-ton tractor-trailer combinations on public roads driven by 16-years-old are seen differently. It is not allowed at this age.



As a farmer, you should also know about the Child Employment and Youth Employment Act of Austria. According to the law, child are underage persons who have not reached the age of fifteen and youth are underage persons who have not reached the age of eighteen. Youth are prohibited doing dangerous work by the Youth Protection Act of Austria.

Dangerous work includes working with vehicles with articulated steering or forklift vehicles, but also working with cutting machines with manual feeding like a meat chopper or meat cutter. From the legal point of view, a 16-year-old may hold a driver's license for tractors do drive tractors, but is not allowed to operate the farm loader on the parents' farm, if this has an articulated steering. As part of school education, for example at an agricultural school or agricultural technical school, the 16-year-old may make the training drives with a make of such a loader with articulated steering.

Always drive with caution and care. Take care of your children or grandchildren. Before you start driving, especially when reversing, better to look and check twice whether there is no child in the danger zone and assure yourself where the little ones are. Better look a second time than only look once that may not be enough. No children under five years on the tractor. Children are not tractor drivers. Youth and new driver licence holders lack the experience to drive heavy tractor-trailer combinations safely. They are also not allowed to drive farm loaders with articulated steering.

### 3.6 May it a little bit more?

It may be a typical Austrian peculiarity that there is often a little more than it should be. A little overloaded, a little too wide, a little too fast. Serious accidents are often predictable when you look at the agricultural tractor-implement combination or tractor-trailer combination.

If a slurry tanker that is much too large, with an allowed speed limited to 10 km/h, non-braked, towed in combination with a tractor that is too small, and rides at 40 km/h or faster on public roads then the driver endangers not only himself, but also all other road users. Sure, the version with an allowed speed limited to the 10 km/h and non-braked is clearly cheaper in costs and when spreading slurry on the meadow or field you cannot really drive faster anyway.

At the latest when the slurry tanker, which is still too heavy, towed with a tractor that is too small and rides on a slope, pushes on the tractor hitch with full weight, with-it decreasing the tractor front wheels contact to the ground, and thereby the steering ability affected, the situation becomes critical. Good luck have those drivers, that when their tractor-trailer combination starts slipping uncontrollably that can get back control of the tractor somehow.

But if there is a tractor roll-over, the situation will quickly become really expensive. It is common, because tractor drivers usually are not wearing a seat belt that the driver falls out of the tractor cab and remains laying under the tractor or the slurry tanker. Some pay for this carelessness with their lives, and in turn others will never forget the permanent disability or the impairment as a result of the accident.

In this context it is also noted that in mountain agricultural technology for motor carts or transporter the mounted changeable attachments are perfectly matched to the respective motor carts. With it also a suitable combination of attachments and devices to the motor cart, including a mounted changeable slurry tanker is given. The traffic and operational safety of the vehicle is checked periodically. For this reason for working on a slope also a safe braking is ensured.

The fact is that special vehicles and machines and equipment for use in the mountain agricultural technology have their higher purchase price, but because of the low centre of gravity, tires and track width adapted to the terrain, well suitable changeable attachments, etc., offer a significantly higher driving safety in mountainous areas than tractor-trailer combinations. In the event of accidents of motor carts on a slope, in most cases only the front end with the driver's cab or the rear end of the vehicle with the mounted changeable attachments tip to the side and only in a few cases the vehicles roll-over.

The new front mower, the replacement for the old double knife mower, is a rotary mower, with a little wider working width. Heavier type of construction and larger working width lead to a significantly higher weight and thus a significantly higher front axle load. Due to the design, the position of centre of gravity of the new rotary mower can also move forward significantly in front of the front axle.

One should think at the right time about the suitability of a new implement one is going to buy for an existing tractor. Then when you realize that the maximum permissible front axle load is already clearly exceeded and a proper ballast weight as a counterweight on the rear three-point hitch attachment cannot be attached without exceeding the maximum permissible total weight of the tractor, a good advice is expensive. But the purchase of a larger tractor that would be optimal for this mower combination is planned not before a year or two.

Apart from driving on the public road or the farm track where the tractor with the exceeded permissible front axle load and the for this load too low tire pressure, has an impaired driving safety and steering ability it will become really dangerous if one has to ride downhill. The rear axle is may be unloaded by the weight of the too large front mower so much that only a part of the braking power and braking efficiency is the result. Then the front axle has to take over the bigger part of braking power. But the front axle brakes are not designed to do so. In the event of an overload the couplings in the drive train can begin to slide, the braking devices at the

front axle can overheat and fail. For the exceeding of the maximum permissible total weight of the tractor the braking systems are not designed for.

The maximum permissible total weight is often exceeded when farm machinery and equipment is attached on the three-point hitch, for example in the field of tillage and sowing. A short disc cultivator in combination with a rotary harrow and to keep the number of field work runs as low as possible, an additionally attached to the combination a seed drill with roller at the rear and a correspondingly large front additional weight on the tractor front end. If you have a suitable tractor, then such a combination can make sense.

Too often, however, such machinery and equipment combinations become far too heavy in weight. Not only maximum permissible axle loads are quickly exceeded, also the maximum permissible total weight. When driving on the road, such a combination of tractor and implement quickly lurches especially in combination with wide low-pressure tires and when driving quickly.

One moment of carelessness while driving, an abrupt steering movement, an abrupt pressing of the brake pedal and then the tractor with attachments lands in the ditch or breaks through the guard rails and falls into the abyss.

For a safe ride the tractor-implement combinations or tractor-trailer combinations have to be well suitable and well balanced. Anyone who compromises here, risks not just his own life, but also that of other road users. When farming slopes then special vehicles and machines and equipment for use in the mountain agricultural technology offer safety related advantages.

It should be noted that in previous time a well-known Austrian trailer manufacturer differed between export quality trailers and trailers for the Austrian market. Export quality trailers were lighter in weight and met the requirements corresponding to the maximum permissible total weight. The mentality of Austrian farmers was and might be here and there still there somewhere that a proper trailer only is a proper trailer if it can withstand a reasonable overload in weight.

To overload a trailer a little and then having 15 t instead of a maximum permissible total weight of 12 t and then on the move is not a trivial offense. It's not just that endangers own safety, but also that of other road users on the public road. The executive and farmers in our neighbouring countries have known this for a long time.

In Germany, for example, the fine for an overload over 25 % above the maximum permissible total weight is 425 Euro and costs in addition 1 point of the traffic offender card index in Flensburg. Maybe that will happen also with increased speed with a trailer, for example 10 km/h trailer and 42 km/h driving speed, then a fine has to be paid in addition for increased speed with a trailer. In the assumed case the additional fine is 160 Euro, 2 points in Flensburg and 1 month driving ban. It may be easy to get other fines too, such as trailers without wheel chocks, trailer coupling or lighting are not according to the regulations etc. Flensburg points can become add up quickly, after all you don't just drive a tractor. The upper limit are eight points. If additional points are added, the driver's license is gone.

Exceeding the maximum permissible total mass or the maximum permissible axle loads, for example due to overloading by weight, is not a trivial offense. The brake systems are not designed for exceeding the maximum permissible vehicle masses. Who makes that, takes the risk of a serious tractor accident.

Wider, heavier, faster - the trend that applied to tractors, farm machinery, interchangeable towed equipment, trailers and self-propelled farm machinery in the past decades, is increasingly reaching its limits. What in other countries, sometimes in EU countries, is licensed for road traffic, is not always allowed in Austria. The national legislation takes into account the national circumstances that are given due to the often small-scale structures, the large number of freight roads and small roads connecting villages and farms to the main roads, country with mountains and hills, narrow and winding roads etc.

The use of wide-base tires to reduce the ground pressure makes sense. In Austria for wide-base tires the legal maximum width is 3.00 m. If a width of 2.55 m by wide-base tires is exceeded, then in the urban area and village area, in the dark and when poor visibility and in narrow and winding roads, marked as winding roads, driving faster than 25 km/h is not allowed. For a three-point hitch attached agricultural implement with a transport width up to a maximum of 3.00 m also driving faster than 25 km/h is not allowed also. Agricultural implements with a working width of 3.00 m usually have a transport width up to 3.30 m. A ride with an agricultural implement between 3.00 and 3.30 m of transport width is only allowed at daylight and good visibility. For narrow and winding roads, marked as winding roads, in addition a support vehicle similar to the support vehicles for special transports must be sent ahead of the road.

Accidents with tractors happen for example because of driving too high speed for the wide transport width of the agricultural implements, because after all you have not bought a tractor of an according performance class to use agricultural implements only with a transport width lower than 3.00 m to do the field work. You may also not have bought a 50 km/h tractor with wide-base tires to drive in urban area and village area and when poor visibility only with 25 km/h.

At the latest when suddenly a car or even a truck comes towards you in the rural road network then the over width lets roads quickly become too narrow. Then, to give way for the vehicles to pass, the road side verge, the lane banquet or even the bordering grassland has to be run on. Softened lane banquets easily lead to slipping and suddenly the tractor lands in the roadside ditch, tips to the side, a driver who is not wearing a seat belt sometimes falls out of the driver's cabin and is crushed to death by the tractor, the agricultural implement or by the interchangeable towed equipment.

Freight roads, farm tracks and forest roads are often built too narrow for large tractors with wide-base tires. Sometimes a little inattention is enough, for example distraction by talking on the mobile phone to get off the narrow road. Accidents caused in this way can end fatally, can cause a vehicle roll-over into the bordering deep ditch or a fall and crash landing in the creek bed.

In Austria for tractors with wide-base tires over 2.55 m of width in the urban area and village area driving faster than 25 km/h not allowed. For a three-point hitch attached agricultural implement with a transport width up to a maximum of 3.00 m also driving faster than 25 km/h is not allowed, even if the type approved speed of the tractor is significantly higher. Always drive with a well-adapted speed and take care of yourself when ride on narrow freight roads, farm tracks and forest roads.

### 3.7 Old but good

Antique tractors, tractors without a protective structure are always popular in the leisure sector to go out for a ride. To take along passengers on the fender seats is not only popular for children. We have some deaths each year on such antique tractors tours. Children as passengers slide off the seat, for example, while driving, when braking, because they do not have the endurance to stay seated and to hold on with their hands for longer tours etc. They slide off the seat and are run over. If the tractor comes off the road or driveway and falls into the road ditch, then the passengers and the driver are seriously or fatally injured sometimes. The causes of death are: crushed to death by the tractor, impact of the head on the road or on a stone on the roadside, broken neck.

The reasons why antique tractors or smaller tractors when driving come off the road are many. Several times a year such accidents happen because the tractor is touched and knock them off the road because the vehicles of other road users drive onto them etc. These accidents may be caused for example by a car overtaking in oncoming traffic or by an oncoming and overtaking motorcycle. Some road users overtake when they have no sufficient sight. They recognize small and slow-moving tractors without driver's cab too late.

Serious and fatal tractor accidents with antique tractors happen often in combination with the consumption of alcohol, going out for a sociable ride accompanied with less attention when driving, with a lack of driving experience - for example changing gears with unsynchronized transmissions with intermediate gas, with gear tuning to achieve a higher driving speed and sometimes also dismantling of retrofitted protective structures to have the antique tractors original version without any protective devices.

When driving with antique tractors and taking along passengers, then special caution is advised. Use less frequented traffic routes and traffic times for such tours and give the subsequent traffic at suitable places the chance to overtake and despite being sociable, focus on a safe journey, that's a good thing. As a responsible driver, you neither drink alcohol yourself nor take along drunk people as passengers on the tractor, in a tractor tipper box or on a trailer.

### 3.8 Braking well is half the battle

In transport work trailers without braking devices are often the cause of accidents. If the tractor slows down by the brakes applied, then a non-braked trailer pushes on the tractor, the tractor turns sideways and tips to the side. Another problem is that often too large and with load also too heavy non-braked trailers are towed with too small and therefore too light tractors. When driving downhill on a long, winding road the applied brakes of the tractor can get hot quickly and then fail.

In new tractors with continuously variable transmission technology, the drive stick or joystick makes it possible to reduce the driving speed rapidly. This works by the effect of engine braking only and without applying of the braking device a very strong braking deceleration is the effect already. If you don't apply the brake of the tractor, then full loaded trailers with braking system will not be actively braked. These trailers push onto the towing tractor and cause the tractor to tip over in a roundabout, for example. Correct driving and braking can and must be learned and practiced. The driver safety trainings offered for tractors with trailers not only make sense for beginners of tractor driving, they also convey the older drivers the necessary knowledge to use new technology to drive safely in road traffic.

New tractors come with a pneumatic or hydraulic dual-line type brake system fitted. Older trailers with pneumatic or hydraulic braking systems with a single-line type brake systems are not compatible with the new ones and have to be retrofitted to or converted to the dual-line type brake standard. Also older dual-line brake systems, such as pneumatic braking systems of older trailers are not compatible with new tractors. Whether a full brake application or a braking of the trailer should be correspondingly lower is transmitted via control signals. These control signals are for new tractors and for trailers with old pneumatic dual-line type braking system not compatible. A full brake application for the trailer is the control signal, but the trailer interprets the control signal as to make a slight brake application. Retrofitting of existing trailer brake systems to the new brake standard is usually possible. The pneumatic brake systems from new trailers meet the new standard.

Non-braked trailers with an allowed top speed of 10 km/h, actually driven at .. km/h - let's be honest – let's leave them better and divorce them in our fleet. To drive tractors and trailers with new technology safely shouldn't fail due to the time and costs for a driver safety training and also shouldn't fail in terms of retrofitting brake systems, the correspond to the state of the art. Those who do not brake or brake only a little may likely win a race, but may lose his life.

### 3.9 Don't let yourself get distracted

The tractor accident study shows that the distraction caused by the use of mobile phones while driving with tractors may also cause very serious and fatal accidents. It is verifiable that in the past few years, there was always one dead tractor driver per year, which is about 5 % of all fatal tractor injuries in Austria that used a mobile phone while driving. The number of unknown cases is probably significantly higher. Modern tractors can be driven smartly and easily with the drive stick. The important phone conversation while driving, the incoming SMS - maybe one of the many incoming SMS is one with an important message and in between the thoughtless selfie - me when riding the tractor.

In rural areas, seasonal changes can occur. For example due to the height of growing up maize, visibility restrictions on bends result together with narrow width of roadway, large and heavy tractors, extra-wide implements forcing to make manoeuvres beyond the roadside when oncoming traffic. When you are driving distracted, already thinking about the next work to be done, being tired, then you may react too late or react too violently, steer to sharply, cause the tractor tip over or cause a tractor roll-over. If no seat belt is fastened, then in most cases the drivers usually fall out of the tractor cab and are seriously or fatally injured.

Distraction by using mobile phones while driving tractors has already led to very serious and fatal accidents. When driving let yourself not get distract and always drive carefully and with concentration.



# 4 Tractor accidents in Austria in 2019

The following compilation of people killed or injured in tractor accidents in Austria in 2019 is incomplete. From many tractor accidents that happened no corresponding news messages in daily newspapers, magazines or online publications are reported. Thereby they cannot be found and are not included in this compilation.

In addition, the data protection law makes it difficult to compile and hand data, respectively it is not permitted for personal data. An ongoing and more intensive internet search on tractor accidents in 2019 would lead to numerous more tractor accidents, which are not included in this compilation.

## 4.1 Overview on tractor accidents 2019

### Calendar 2019

	JAN.	FEB.	MARZ	APRIL	MAI	JUNI	JULI	AUGUST	SEPT.	OKT.	NOV.	DEZ.
1	Di	1 Fr	1 Fr	1 Mo	1 Mi	1 Sa	1 Mo	1 Do	1 So	1 Di	1 Fr	1 So
2	Mi	2 Sa	2 Sa	2 Di	2 Do	2 So	2 Di	2 Fr	2 Mo	2 Mi	2 Sa	2 Mo
3	Do	3 So	3 So	3 Mi	3 Fr	3 Mo	3 Mi	3 Sa	3 Di	3 Do	3 So	3 Di
4	Fr	4 Mo	4 Mo	4 Do	4 Sa	4 Di	4 Do	4 So	4 Mi	4 Fr	4 Mo	4 Mi
5	Sa	5 Di	5 Di	5 Fr	5 So	5 Mi	5 Fr	5 Mo	5 Do	5 Sa	5 Di	5 Do
6	So	6 Mi	6 Mi	6 Sa	6 Mo	6 Do	6 Sa	6 Di	6 Fr	6 So	6 Mi	6 Fr
7	Mo	7 Do	7 Do	7 So	7 Di	7 Fr	7 So	7 Mi	7 Sa	7 Mo	7 Do	7 Sa
8	Di	8 Fr	8 Fr	8 Mo	8 Mi	8 Sa	8 Mo	8 Do	8 So	8 Di	8 Fr	8 So
9	Mi	9 Sa	9 Sa	9 Di	9 Do	9 So	9 Di	9 Fr	9 Mo	9 Mi	9 Sa	9 Mo
10	Do	10 So	10 So	10 Mi	10 Fr	10 Mo	10 Mi	10 Sa	10 Di	10 Do	10 So	10 Di
11	Fr	11 Mo	11 Mo	11 Do	11 Sa	11 Di	11 Do	11 So	11 Mi	11 Fr	11 Mo	11 Mi
12	Sa	12 Di	12 Di	12 Fr	12 So	12 Mi	12 Fr	12 Mo	12 Do	12 Sa	12 Di	12 Do
13	So	13 Mi	13 Mi	13 Sa	13 Mo	13 Do	13 Sa	13 Di	13 Fr	13 So	13 Mi	13 Fr
14	Mo	14 Do	14 Do	14 So	14 Di	14 Fr	14 So	14 Mi	14 Sa	14 Mo	14 Do	14 Sa
15	Di	15 Fr	15 Fr	15 Mo	15 Mi	15 Sa	15 Mo	15 Do	15 So	15 Di	15 Fr	15 So
16	Mi	16 Sa	16 Sa	16 Di	16 Do	16 So	16 Di	16 Fr	16 Mo	16 Mi	16 Sa	16 Mo
17	Do	17 So	17 So	17 Mi	17 Fr	17 Mo	17 Mi	17 Sa	17 Di	17 Do	17 So	17 Di
18	Fr	18 Mo	18 Mo	18 Do	18 Sa	18 Di	18 Do	18 So	18 Mi	18 Fr	18 Mo	18 Mi
19	Sa	19 Di	19 Di	19 Fr	19 So	19 Mi	19 Fr	19 Mo	19 Do	19 Sa	19 Di	19 Do
20	So	20 Mi	20 Mi	20 Sa	20 Mo	20 Do	20 Sa	20 Di	20 Fr	20 So	20 Mi	20 Fr
21	Mo	21 Do	21 Do	21 So	21 Di	21 Fr	21 So	21 Mi	21 Sa	21 Mo	21 Do	21 Sa
22	Di	22 Fr	22 Fr	22 Mo	22 Mi	22 Sa	22 Mo	22 Do	22 So	22 Di	22 Fr	22 So
23	Mi	23 Sa	23 Sa	23 Di	23 Do	23 So	23 Di	23 Fr	23 Mo	23 Mi	23 Sa	23 Mo
24	Do	24 So	24 So	24 Mi	24 Fr	24 Mo	24 Mi	24 Sa	24 Di	24 Do	24 So	24 Di
25	Fr	25 Mo	25 Mo	25 Do	25 Sa	25 Di	25 Do	25 So	25 Mi	25 Fr	25 Mo	25 Mi
26	Sa	26 Di	26 Di	26 Fr	26 So	26 Mi	26 Fr	26 Mo	26 Do	26 Sa	26 Di	26 Do
27	So	27 Mi	27 Mi	27 Sa	27 Mo	27 Do	27 Sa	27 Di	27 Fr	27 So	27 Mi	27 Fr
28	Mo	28 Do	28 Do	28 So	28 Di	28 Fr	28 So	28 Mi	28 Sa	28 Mo	28 Do	28 Sa
29	Di		29 Fr	29 Mo	29 Mi	29 Sa	29 Mo	29 Do	29 So	29 Di	29 Fr	29 So
30	Mi		30 Sa	30 Di	30 Do	30 So	30 Di	30 Fr	30 Mo	30 Mi	30 Sa	30 Mo
31	Do		31 So		31 Fr		31 Mi	31 Sa		31 Do		31 Di

Figure 2: Calendar 2019

(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

# Calendar 2019

	JAN.	FEB.	MÄRZ	APRIL	MAI	JUNI	JULI	AUGUST	SEPT.	OKT.	NOV.	DEZ.
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Figure 3: Calendar 2019 – marked in black are days with fatal tractor accidents  
 (Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

In figure 3 all days on the calendar 2019 marked in black are days with tractor accidents with fatal consequences for tractor drivers, passengers, helpers or persons present. This overview also includes two older people who had a heart attack or a sudden cardiac death and died while driving the tractor and also those two older farmers that were caught and killed by running machine parts (spreading device of a manure spreader, conveyor or scraper floor of a loader wagon). If there were several such accidents in one day, then the number is given.

In figure 4 all days on the calendar 2019 marked in black are days with tractor accidents with fatal consequences for tractor drivers, passengers, helpers or a person present and marked in red are the days with tractor accidents without fatal consequences. If there were several such accidents in one day, then the number is given. On some days happened a tractor accident with fatal consequences and one without fatal consequences. In that case the non-fatal tractor accident was marked on the following day.

## Calendar 2019

	JAN.	FEB.	MÄRZ	APRIL	MAI	JUNI	JULI	AUGUST	SEPT.	OKT.	NOV.	DEZ.
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2												
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Figure 4: Calendar 2019 – marked in red are days with non-fatal tractor accidents  
 (Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

### 4.2 Tractor accidents 2019 – detailed evaluation

A detailed evaluation of all recorded tractor accidents 2019 has not yet been carried out and will also probably not be done due to time and capacity constraints. What we can see is, that many people were very lucky and did not get fatally injured in their accidents because the analysis of fatal tractor accidents showed that others simply had less luck and died in comparable accidents.

An evaluation of the accidents also shows that very serious tractor accidents, the outcome of which could be classified as fatal, may end well.

For example, a tractor with a filled slurry tanker was sliding on a meadow, fell about 300 meters down a slope, the tractor rolled-over for several times and the farmer freed himself out of the badly damaged tractor cab.

### 4.3 Seat belts and protective structures save lives

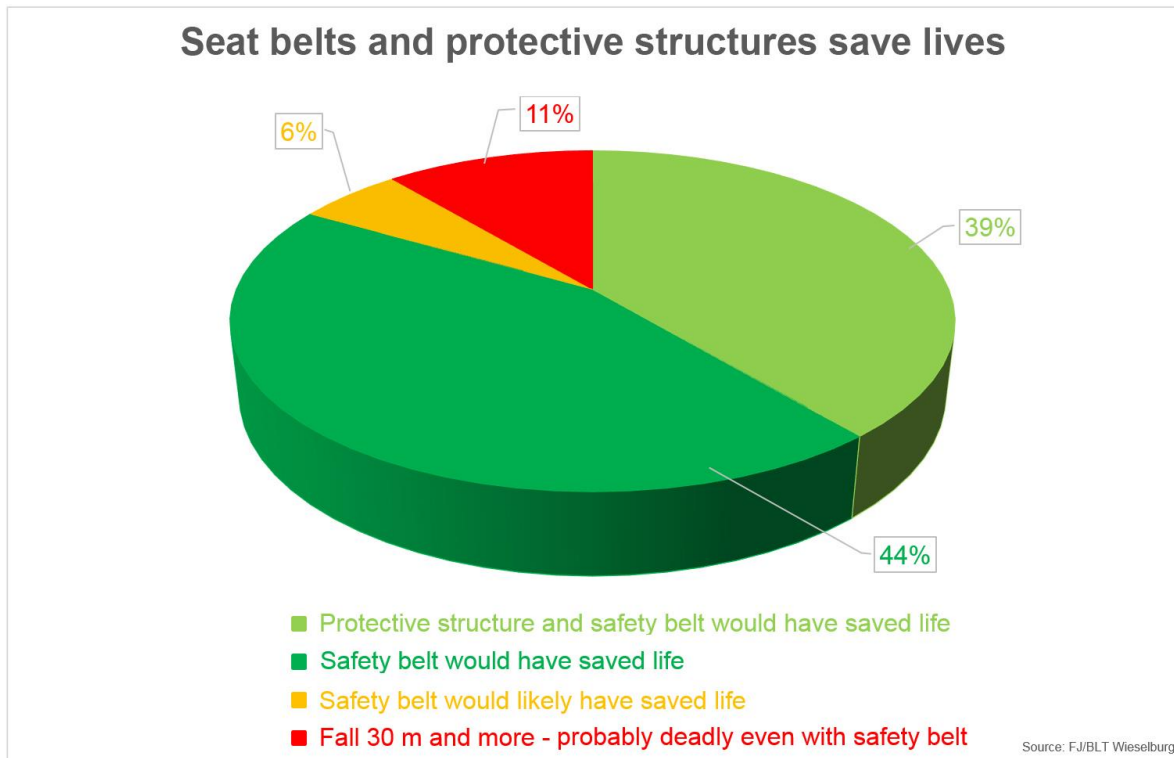


Diagram 13: Seat belts and protective structures save lives  
(Source: HBLFA Francisco Josephinum / BLT Wieselburg, Department Testing)

Of people who were fatally injured in tractor accidents in 2019 a protective structure and safety belt would have saved the life in around 85 % and in around 5 % a safety belt would likely have saved the life. Around 10 % were tractor falls with 30 m and more, sometimes in steep and stony terrain, that, with good luck, could have ended up without fatal injuries too.

### 4.4 Three more comments at the end

Seat belts that are not mounted can often be retrofitted relatively easily.

On my own property, I do not have to wear seat belts, but reason says that it makes sense.

Seat belts only bring safety, if they are also used.

## Author profile and notes from the author

Ewald Luger studied mechanical engineering at the University of Technology in Vienna, Austria. Since more than 30 years, he is a research and test engineer at FJ-BLT Wieselburg. Today he is the head of the department testing of the Federal Institute of Education and Research Francisco Josephinum BLT Wieselburg. He works on standardisation on national and international level for example as Austrian expert in the Working group on Agricultural Tractors of EC and as Austrian delegate to the OECD tractor CODES. From 2017 to 2018 he was chair of the OECD Bureau for Tractors.

HBLFA Francisco Josephinum / BLT Wieselburg has the accreditation on ROPS testing according ISO 17025 confirmed by the national accreditation and is the OECD approved testing station in Austria.



**Note:** The present report "Fatal tractor accidents 2019 - People killed in Austria in tractor accidents in 2019" was completed on short notice because of COVID-19 and is not proofread for formatting and spelling errors. Therefore I ask to apologize for any errors.

The idea is for the COVID-19 time, a time for reflection and consciousness, for male and female students of relevant agricultural and forestry schools, for interested male and female farmers, male and female agricultural advisors and all those who are interested in this topic to have something available for reading and for self-study.

For a good and healthy time after COVID-19 yours

*Ewald Luger*

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The study is based on an internet search on people killed in Austria in tractor accidents in 2019. The research does not claim to be complete. Thanks to the internet and Google, it was possible to get information on tractor accidents published in many online newspaper reports, from ORF.at publications, press releases from the state police directorates, operational reports from voluntary fire brigades, the published images on the tractor accidents and not least, thanks to telephone information, to receive basic information, for example whether the tractor had a cab or whether a seat belt was used.

For reasons of data protection and possible copyright infringement, there are no detailed source information at this point. To get more detailed information on one of the tractor accidents recorded with date and location you may use the internet and Google. Search for tractor accident (Traktorunfall), date and location to find a specific tractor accident. It should be noted that the date of the actual accident is not always in line with the date of the publication. Very often one or more days after the accident it is reported about it.



**HBLFA Francisco Josephinum Wieselburg**

Schloss Weinzierl 1, 3250 Wieselburg

[josephinum.at](http://josephinum.at)