europea austria

5th AGRO CHALLENGE

Austria 2022

22 – 26 August 2022

Regulations

Content

Disciplines

STATION 1 | Driving with the Hoftrac

The participant has to transport with a Hoftrac (Weidemann 2070 LP) a EURO-pallet with full milk buckets through a predefined course. The route is marked with traffic hats (with a tennis ball on them). At the turning point of the course, the pallet must be placed down. Then you have to push/touch a bell with the Hoftrac pallet fork. When this is done the pallet must be picked up again and driven back to the starting point.

Each participant has to drive once.

Running time will be judged.
Penalty points will be given if a tennis ball falls off or if a bucket tips over.

STATION 2 | Wood stacking

Here is the task to stack some 30 cm long wooden pieces to build a tower, using a forest crane trailer (STEPA Palfinger).

There is a security area of a radius of 15 m. Only one participant and the referee are allowed to be within this area. If another team member enters the security area during the competition, he*she will be disqualified for this part of the competition. It is not allowed to use leg support and he*she will be disqualified if doing so. It is not allowed to dissemble neither the motor rotation speed, nor the rotational speed of the drive shaft.

2 people per team have to successfully compete at this station.

For this competition you have max. 15 minutes.

STATION 3 | Building fences

The team has to set up a 16 m long electric fence – using 2 wooden and 3 PE-posts. The posts have to be knocked in until a certain mark of depth.

The task is to knock in 2 wooden posts and to stick in the three PE-posts, screw the isolators in and to mount and tighten an electric wire threefold. The fence must not hang down, the isolators must be screwed in firmly. The posts have to be spread equally spaced over the distance.

The team can view an example fence the day before.

Judged will be the time needed and also the accuracy of the work.

The material and tools (gloves, pile driver) needed will be provided.
The whole team is allowed to work together.

STATION 4 | Changing tires

The participants have to change as a team both tractor front tires (Steyr).

The lifting jack has to be positioned below the front axle at a certain point. The tractor will be lifted up and the wheel nuts will be slackened. Then the tires have to be taken off and mounted on the opposite side. The wheel nuts have to be tightened with a torsional moment of 140 Nm. The torque wrench must be adjusted by the participant.
Maximum time limit: 15 minutes

Judged will be the time needed and also the correct performance of the job. Penalty points are given for each wheel nut that isn't tightened enough. Tools and gloves are provided.

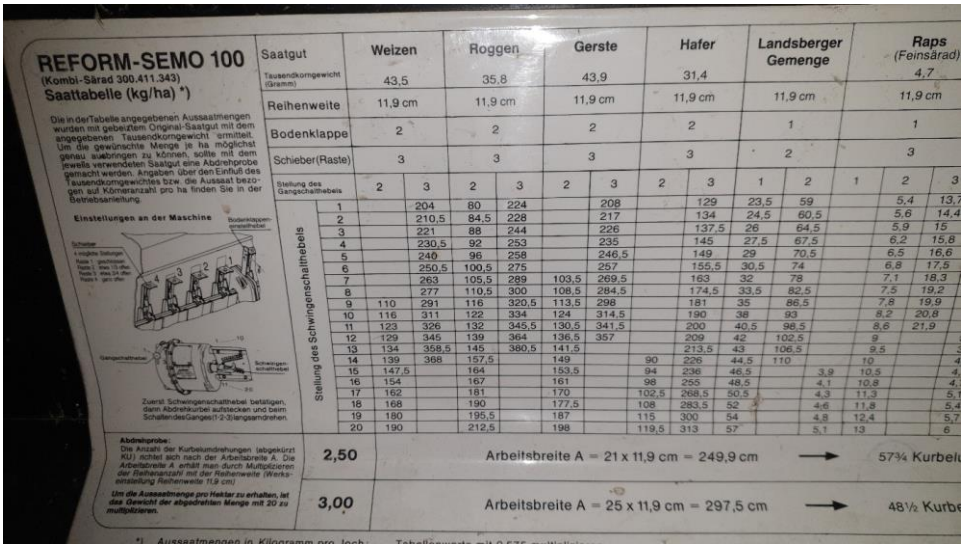
STATION 5 | Adjusting a sowing machine

Each team has to adjust a sowing machine (Reform Semo 100).

50 kg of seeds will be provided per team. The referee announces the seed density (kg/ha) and the distance between the rows.

The sowing machine is mounted on a tractor and raised. It is not allowed to move the sowing machine.

There are penalty points given if the seed density or the distance between the rows are incorrect.



REFORM-SEMO 100
(Kombi-Sämaschine 300.411.343)
Saattabelle (kg/ha) *)

Saatgut	Weizen	Roggen	Gerste	Hafer	Landsberger Gemenge	Raps (Feinsämaschine)
Tausendkorngewicht (Gramm)	43,5	35,8	43,9	31,4		4,7
Reihenweite	11,9 cm	11,9 cm	11,9 cm	11,9 cm	11,9 cm	11,9 cm
Bodenklappe	2	2	2	2	1	1
Schieber (Raste)	3	3	3	3	2	3

Stellung des Gangschalthebels	2	3	2	3	2	3	2	3	1	2	1	2	3
Stellung des Schwingenschalthebels 1		204	80	224		208		129	23,5	59		5,4	13,7
2		210,5	84,5	228		217		134	24,5	60,5		5,6	14,4
3		221	88	244		226		137,5	26	64,5		5,9	15
4		230,5	92	253		235		145	27,5	67,5		6,2	15,8
5		240	96	258		246,5		149	29	70,5		6,5	16,6
6		250,5	100,5	275		257		155,5	30,5	74		6,8	17,5
7		263	105,5	289	103,5	269,5		163	32	78		7,1	18,3
8		277	110,5	300	108,5	284,5		174,5	33,5	82,5		7,5	19,2
9	110	291	116	320,5	113,5	298		181	35	86,5		7,8	19,9
10	116	311	122	334	124	314,5		190	38	93		8,2	20,8
11	123	326	132	345,5	130,5	341,5		200	40,5	98,5		8,6	21,9
12	129	345	139	364	136,5	357		209	42	102,5		9	
13	134	358,5	145	380,5	141,5			213,5	43	106,5		9,5	
14	139	388	157,5		149		90	226	44,5	110		10	
15	147,5		164		153,5		94	236	46,5		3,9	10,5	
16	154		167		161		98	255	48,5		4,1	10,8	
17	162		181		170		102,5	268,5	50,5		4,3	11,3	
18	168		190		177,5		108	283,5	52		4,6	11,8	
19	180		195,5		187		115	300	54		4,8	12,4	
20	190		212,5		198		119,5	313	57		5,1	13	

Einstellungen an der Maschine

Zuerst Schwingenschalthebel betätigen, dann Abdrehkurbel aufstecken und beim Schaltende des Ganges (1-2-3) langsam drehen.

Abdrehprobe:
Die Anzahl der Kurbelumdrehungen (abgekürzt KU) richtet sich nach der Arbeitsbreite A. Die Arbeitsbreite A erhält man durch Multiplizieren der Reihenanzahl mit der Reihenweite (Werkseinstellung Reihenweite 11,9 cm).

Um die Aussaatmenge pro Hektar zu erhalten, ist das Gewicht der abgedrehten Menge mit 20 zu multiplizieren.

2,50	Arbeitsbreite A = 21 x 11,9 cm = 249,9 cm	→ 57¾ Kurbeln
3,00	Arbeitsbreite A = 25 x 11,9 cm = 297,5 cm	→ 48½ Kurbeln

*) Aussaatmengen in Kilogramm pro Hektar

STATION 6 | Installing a water pipeline

The team has to install a functioning water pipeline. The pipes have to be installed according to a plan.

The pipes, 90° angle brackets, connectors and necessary tools are provided.

Time and correct accomplishments will be judged.

Penalty points will be given for leaky connections and deviation from the plan/markings.

STATION 7 | Hand milking

Milk with your hands as much “milk” as possible from a plastic cow.

2 participants are allowed to milk one cow at the same time. The participants are allowed to swap. The team has to take care itself that the cow is always filled with enough „milk“ (water) that the milking process can go on.

It is not allowed to pull the teats.

Duration: 5 minutes

The team who has milked the most “milk” within this time is the winner.

STATION 8 | Estimating weights

Each team will be shown one cow, one goat, one hay bale and one log. The teams have to estimate the individual weight just by looking at the animals and agricultural items.

The estimation must be precise (it is not allowed to give a from-to estimation).

The animals and the items can be looked at but must not be touched. It's not allowed to use aids.

The precision of the estimation will be judged.

STATION 9 | Reversing a trailer

All participants of each team have to reverse a trailer with center pivot plate steering mechanism. The tractor is a John Deere.

Start is after a start signal. Time stops when tractor and trailer are parked within the target area.

The route is marked by traffic cones with tennis balls on them.

Time needed will be judged.
Penalty points are given if the tennis balls fall off the traffic cones.

STATION 10 | Tasting and manufacturing milk products

Part A: Tasting and assigning milk products

The participants should taste the milk products and match them to the photos correctly.

Provided products: cheese, yogurt, milk

PART B: Manufacture "Litzlhofer Topfenperlen"

(small balls made of curd marinated in sunflower oil, award winning)

The team must form small balls from the curd mixture and put them in glasses with oil and herbs. Then labels have to be put on the product. Finally, the glasses should be ready for sale. During the competition time team members should make as many glasses as possible.

The prepared "Topfenperlen" can be taken home by the participants.

Available: glasses, oil, curd mixture, herbs, labels

STATION 11 | Identifying neophytes and neozoes

Nutria - Myocastor coypus

Drüsiges Springkraut - Impatiens glandulifera

Fotos: https://www.neobiota-austria.at

The global intensification of trade relations and the brisk exchange of goods, partly in connection with the already existing climatic changes, have led to the immigration of so-called "invasive" animal and plant species to the European continent. From the pool of 30 invasive neozoa and 36 invasive neophytes named in the EU implementing regulation, the team draws nine pictures (four animals or five plants), assigns them to the provided alphabetical list of Latin names and notes, whether this species has already been observed in the home country.

Data base for official pictures: https://europea.org/event/agrochallenge-2022/

Time: max. 15 minutes

The correctness of the assignment and subsequently the time required to carry it out will be judged.

STATION 12 | Interpreting smaxtec data - sensor technology in dairy farming

Picture: https://smaxtec.com

The use of modern sensor technology is also well advanced in agriculture. The "smaXtec" system provides a variety of data (temperature, pH value, movement pattern, ...) via a sensor in the cow's reticulum, which significantly simplifies herd management, improves animal health and reduces production costs.

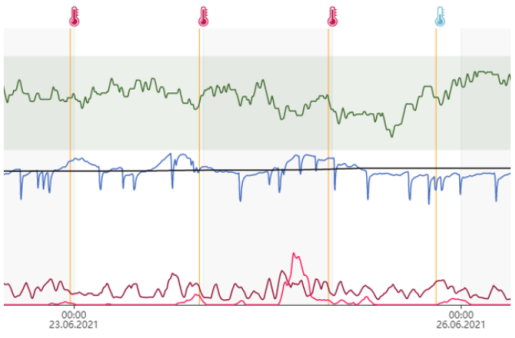
In a workshop before the competition, the technology will be presented and tested on the existing herd of dairy cows.

Detailed information at www.smaxtec.com

In the competition, questions about the status of individual cows (e.g. health, whether a cow is in heat or pregnant) have to be answered.

Examples of charts:

https://smaxtec.com/en/overview-diseases/mastitis/
https://smaxtec.com/en/overview-diseases/disease-pneumonia/



VIDEO: SMAXTEC MESSENGER TYPICAL COURSE OF MASTITIS CASE

Legend:
Green curve: rumination
Blue curve: inner body temperature
Black line: average inner body temperature of the animal
Red curve: activity levels
Pink curve: Heat index
Red thermometer: Increased temperature alarm
Blue thermometer: Decreased temperature alarm

Legend:
Green curve: rumination
Blue curve: inner body temperature
Black line: average inner body temperature of the animal
Red curve: activity levels
Red thermometer: Increased temperature alarm
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STATION 13 | Evaluating fodder quality

The participants get a hay sample and a silage sample. Then they have to judge the quality of the samples with their senses. This means they have to judge the following criteria:

Hay sample:

- ✓ Smell
- ✓ Colour
- ✓ Texture
- ✓ Pollution

Silage sample:

- ✓ Smell
- ✓ Colour
- ✓ Texture

The participants will get a valuation key. So they can give points for the criteria and fill them into a form to determine the quality class of the samples.

Quelle: 1
https://www.google.de/url?sa=i&url=https%3A%2F%2Fwww.biomin.net%2Fde%2Fspezies%2Fwiederkaeuer%2Fsilage%2F&psig=AOvVaw2N8DGoCe7mF1zBzwjr7UKc&ust=1651075139488000&source=images&cd=vfe&ved=2ahUKEwji0OGqjLL3AhXmwgIHHQw6AM4Qr4kDegUIARDNAQ

1. GERUCH: Punkte
- ☐ außerordentlich guter, aromatischer Heugeruch 5
- ☐ guter, aromatischer Heugeruch 3
- ☐ fad bis geruchlos 1
- ☐ schwach muffig, brandig 0
- ☐ stark muffig (schimmelig) oder faulig ..... -3

2. FARBE:
- ☐ einwandfrei, wenig verfärbt 5
- ☐ verfärbt, ausgebleichen 3
- ☐ stark ausgebleichen 1
- ☐ gebräunt bis schwärzlich oder schwach schimmelig 0

3. GEFÜGE:
- ☐ blattreich (Klee-, Kräuter- und Grasblätter erhalten, ebenso Knospen u. Blütenstände), weich und zart im Griff 7
- ☐ blattarmer, wenig harte Stängel, etwas hart im Griff 5
- ☐ sehr blattarm, viele harte Stängel, rau und steif im Griff 2
- ☐ fast blattlos, viele verholzte Stängel grob und überständig 0

4. VERUNREINIGUNG:
- ☐ keine (keine Staubentwicklung) 3
- ☐ mittlere (geringe Staubentwicklung) 1
- ☐ starke (Erde-, bzw. Mistreste) 0

Die unter 1., 2., 3. und 4. erreichten Punkte werden addiert

Punkte: ☐☐	Güteklasse: ☐	Wertminderung durch Heuberieselung
20 - 16	1 sehr gut bis gut	gering
15 - 10	2 befriedigend	mittel
9 - 5	3 mäßig	hoch
4 - -3	4 verdorben	sehr hoch

Abgeleitet nach dem DLG-Schlüssel

Quelle: 2
https://www.google.de/url?sa=i&url=https%3A%2F%2Fwww.st-georg.de%2Fwissen%2Fheu-das-a-und-o-in-der-pferdefuetterung%2F&psig=AOvVaw0J9NCgrph0-1saJ9U-vuvL&ust=1651075326244000&source=images&cd=vfe&ved=2ahUKEwiEreiDjbL3AhWOD-wKHXozAvYQr4kDegUIARDEAQ

Quelle: 3
https://www.google.de/url?sa=i&url=https%3A%2F%2Fraumberg-gumpenstein.at%2Fcomponent%2Frsfiles%2Fdownload-file%2Fdateien.html%3Fpath%3DTagungen%252FOEGT_Tagung%252FOEGT_Tagung_2009%252F30_2009_Resch.pdf&psig=AOvVaw2uCYe3_I0tEIGyXjopBYaJ&ust=1651075464274000&source=images&cd=vfe&ved=2ahUKEwjlqNHFjbL3AhUILOwKHY1KAz0Qr4kDegQIARAq

STATION 14 | Recognizing agricultural plants, grassland plants and seeds

The participants have to recognize agricultural plants (grain, corn, potato, etc.), grassland plants (grass, herbs, legume family, etc.) and seeds from pictures, real plats and seeds which have to be filled into a provided form.

STATION 15 | Changing a cultivator share

All participants have to dissemble the share from a cultivator and mount it (with a torque wrench). The share has different colours.

Time and the correct performance of the task will be judged.

Total time: 15 min.

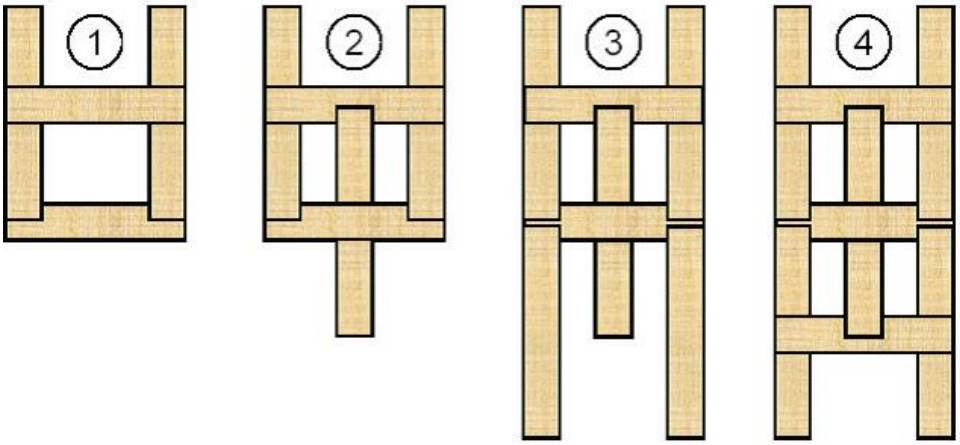
STATION 16 | Building a wooden construction – Leonardo bridge

The basic idea is to transfer the braiding principle to rigid components.
The components support each other through clever interlocking.

The friction between the timbers plays an important role, making other fixations superfluous and giving the bridge stability.

A bridge must be built over an obstacle with the existing wood (1 meter wide) and each participant must cross the bridge once.

Total time: 15 min.



STATION 17 | Recognizing diseases, pests, beneficial insects and weeds from grassland, cereal, maize and potato cultivation

The participants have to recognize the applied diseases, pests, beneficial insects and weeds from the grassland, grain, maize and potato cultivation by means of pictures or real specimens and enter them in a prepared form.

STATION 18 | Apple juice production

The team has to produce naturally cloudy and ready for sale apple juice.

The quantity of apples, the sequence of work steps, the handling of the machines and equipment provided are evaluated by means of a point system. 50 points can be achieved.

The following work steps must be planned and carried out

- Sorting and cleaning
- Shredding
- Pressing
- Pasteurising
- Bottling
- Labelling

The apple juice of the previous group is tasted and evaluated organoleptically (with your senses).

A self-evaluation is also used for the assessment.

<u>Materials provided:</u>
7 kg apples per team
5 bottles, bottle caps and labels per team

Apple juice production - self evaluation

The team has to produce 5 bottles of apple juice and make them ready for sale.

Assessment:

1. How many apples were used? / 4 points

5 kg	5,5 kg	6 kg	6,5 kg	7 kg	7,5 kg	8 kg
1	2	3	4	3	2	1

2. Define the order of the production steps / 6 points

Sorting, Cleaning	Shredding	Pressing	Pasteurising	Bottling	Labelling
1	2	3	4	5	6

3. Using machines and equipment correctly /25 points

Rätzmühle	Obstpresse	Pasteur	Flaschenbürstmaschine	Kronkorker
0 – 5	0 – 5	0 – 5	0 – 5	0 – 5



4. Sensory evaluation of the apple juice /10 points

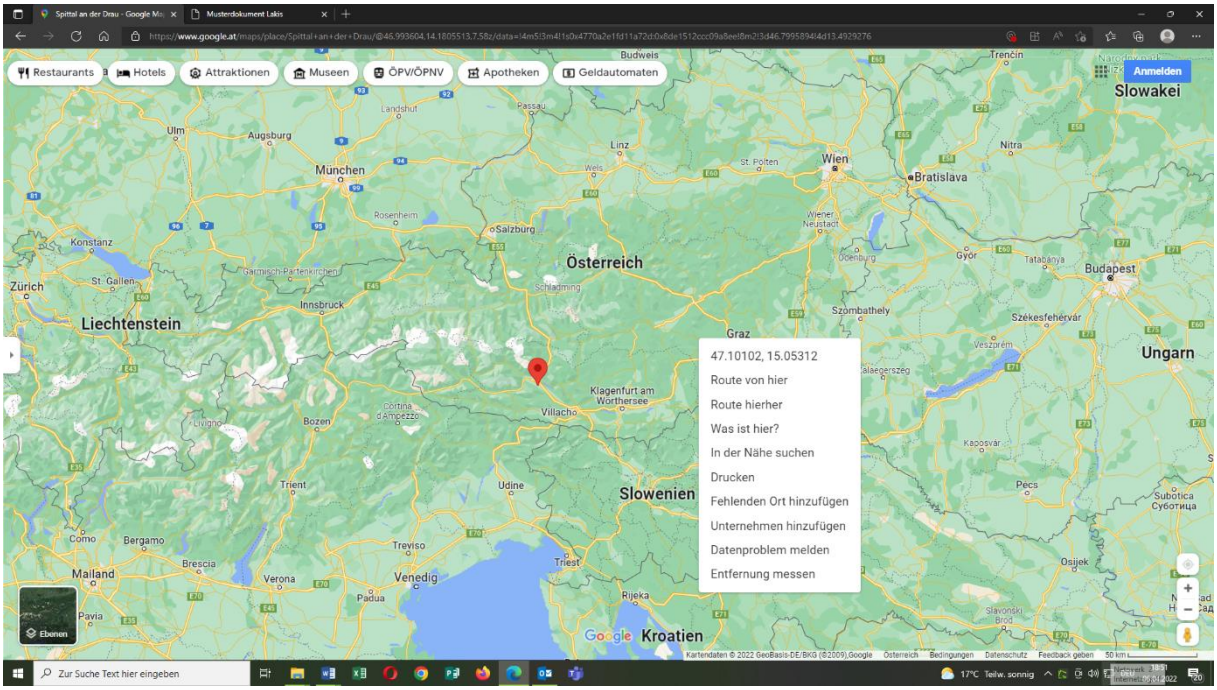
Look	Smell	Taste	Mouthfeel
0 – 2	0 – 2	0 – 2	0 – 2

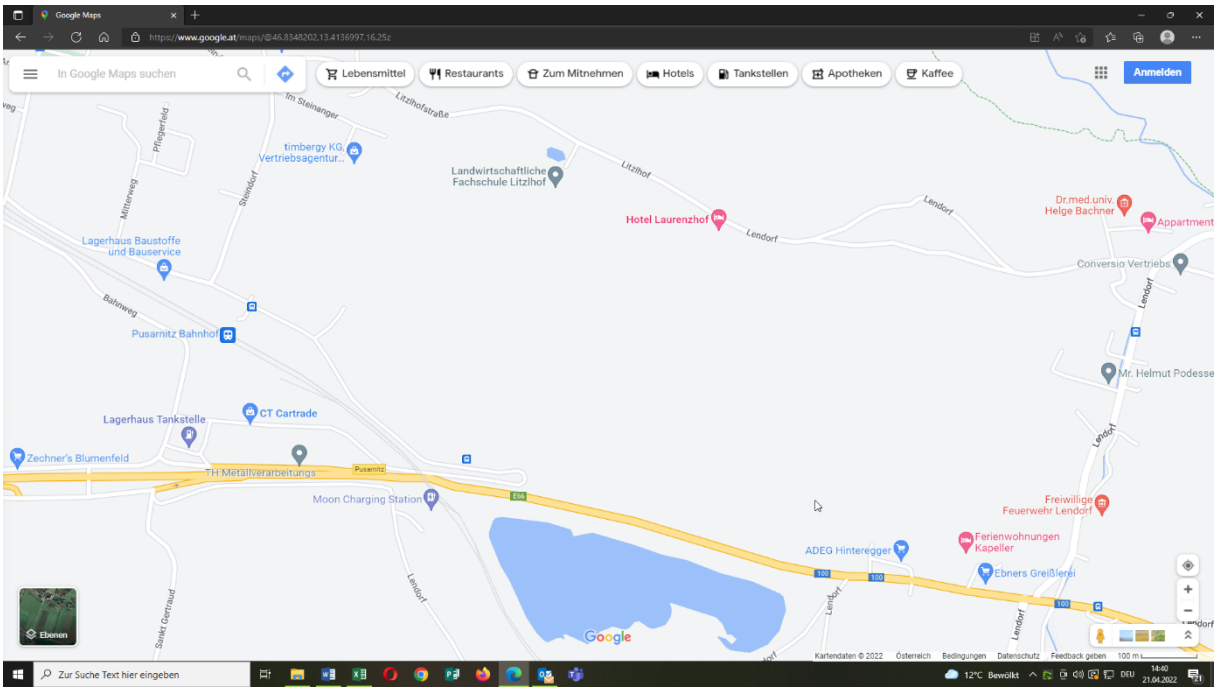
Very good unsuitable

Total time: 15 min.

SITE PLAN | Bildungszentrum Litzlhof

Address: Litzlhof 1, A-9811 Lendorf, Carinthia, Austria
website: litzlhof.at





https://goo.gl/maps/nBWDtD6MHPW6ppLr5

46.838376301789935, 13.414167054268898