

# Var virket bättre förr?

## Was the wood better in the past?

AND ORIENTATION ON TRADITIONAL

SWEDISH ACTIVITIES

THE DATA IS COLLECTED FROM THE NORDIC MUSEUM

QUESTIONNAIRE "TIMBER AND TIMBER TREATMENT"

ALSO FROM OLDER BUILDING TEACHES

This publication has been made in collaboration between the National Antiquities Office and the Nordic Museum.

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Cover image: older pine forest, Boo fideikonstis, Närke

Photo Gschotte 1915, Forest College

Where the designation Forest College has been stated in the report

By photographs is meant the Swedish University of Agriculture, the Faculty of Forest Sciences

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## CONTENT

PREFACE	5
QUESTIONNAIRE	7
DISTRIBUTION OF THE ANSWER TO SWEDEN	11
APPLICATION OF DIFFERENT TREASURES	13
REQUIREMENTS AND FEATURES OF TREES FOR BUILDING PURPOSE	21
JUDGMENT TIMES	35
BARKING ON ROOT	43
TIME BETWEEN FALLING AND BARKING	47
USE OF SURFACE	49
PREPARATION OF HOURS	53
DRYING	57
REFERENCES FROM OLDER BUILDING TEACHES	59
KEY WORDS	71
EXPLANATION OF CONCEPT	73
SUMMARY	74
SUMMARY	75

## PREFACE

This paper gives an orientation on how in Sweden, in the past, wood was used to obtain good quality wood .

The content of the case has mainly been taken from one of the nationwide surveys of an ethnological nature, conducted at the Nordic

the museum through the so-called questionnaires. From the answers to questionnaire # 10:

"" Timber and wood treatment, "which was sent out in the 1930s, has

the data that have been of significance have been developed and compiled

the quality of the work. As a comparison also has some more important

older Swedish building doctrine is referenced.

The purpose of the writing is primarily to provide a technical-cultural-historical knowledge base for renovations of older houses.

The cultural-historical value of a building is closely related to the technical execution and the craftsmanship. In renovations, one should try

apply the technology and craftsmanship that characterize a building. Therefore, knowledge of older technology is generally important. When it comes to woodwork, it is also interesting to

study traditional wood handling considering its importance for wood quality. Today when used others and like us

think more rational methods have proved difficult to get

produced a solid wood for renovation work. Apparently it is

wood quality is also a problem for new construction.

How did you evaluate construction timber in the past? What would the wood look like?

to be strong and resistant to rot and insects?

What characteristics did a good tree have? When would trees be felled? How

the wood would be handled after the felling until it would

used? Knowledge of these issues was important when one

built houses in ancient times. Today it is also important to find out

on these skills. Of course, they are needed when older buildings

will be renovated. They are also needed as a basic science when one

shall use wood as building material, whether it be renovation or building new.

The answers to the Nordic Museum's questionnaire on wood and wood treatment are a rich and comprehensive material. Probably

the answers also provide a representative picture of how one looked in the past  
the quality issues. The answers to the questions are also in good agreement  
with what the older buildings teach.

Roland Pålsson Sune Zaahrisson

National Antiquarian Boardman for Nordic  
museum

5

question list

Questionnaires sent out from the Nordic Museum since 1920-

the end of the century is of an ethnological nature and takes up a large number of topics such  
as eating habits, dressing habits and crafts. The query lists

sent to notifiers distributed across the country. These can then respond to themselves or sometimes  
interview other sages

who are knowledgeable in each area. The responses were then sent to

The Nordic Museum, where they are presented .

The questionnaire on timber management largely concerns the handling of

timber because the most common type of house in the country used to be lumber houses. However,  
the basic features are the same for all wood products.

The answers to the current questionnaire are mainly related to conditions during the  
19th century. The study was done in 1930-

century and people were asked in the first place older people. However, the knowledge on which the  
answers are based probably reflects one

much older tradition.

The questions in the questionnaire are very comprehensive and extensive. MAN

have really wanted to gather as much of the knowledge as possible

about wood handling that people have had and have designed

the questions so that the wizards free from memory would give a full

and accurate accounting. The answers are usually also very detailed. Some questions have in  
themselves received quite a few answers.

Nevertheless, the answers do seem to give both an exhaustion

and a uniform picture of the timber management in older times.

This paper has compiled the answers to the questionnaire that shows

how to choose wood and assess the quality of the wood. The answers have been compiled according to essentially the same classification grounds as in the questionnaire. In addition, simple statements have been made about the distribution of responses across Sweden; Where maps exist, a ring or star corresponds to a response. To give a picture of the nature of the responses

many answers have also been cited. In conjunction with each quote has

it is stated where in Sweden it comes from and what standards it has

in the Nordic Museum's ethnological surveys. The answers themselves

have historical interest such as the elderly local parlance. In order to

however, for easy reading, the text has, to the extent possible,

supplemented with some explanations, italics in parentheses.

The questionnaire is reproduced here in its entirety. The compilation is valid in

first and foremost, the answers to questions 1-4, 6, 8- 12, 18 and 21.

1 / Which type of timber was used at the building / timber or

other construction /? Pine? Fir? Used spruce wood only

some kind of buildings? Were there houses built of " dry pine "? Hava

also other types of trees come into use in house construction? So you

cases which and in what way? Has oak been used for example for shelves and

poles in parcels? Birch? Aspen?

7

2 / What characteristics did you have on growing trees, which you considered

suitable for house building? What names were found on those trees,

and how did they state their characteristics? How rough should the trees be?

What were the characteristics and requirements of the wood itself in house construction

timber? What were the different layers, trunks and cracks called, which are discerned in the bark and wood of a tree? Was the surface wood considered inferior and would be removed, or was it left behind? Why so?

3 / When would house timber be felled? In new or below? Before or after Cutting Thursday? Was the time of year different for different types of wood? Should, for example, pine be cut before the end of February, but spruce late on

spring? Fell spruce may be later, because the bark would be taken

to roofing material?

4 / It also happened that pine fell in late spring, to man could use the bark / for livestock feed /? Fell oak with the same calculation? It seemed that house building timber was taken from such timber, which has been felled in connection with ring barking / acid precipitation / of forest for the preparation of meadow and pasture?

5 / What tools were used for logging? Saw, or only Axe? What is the place called in the forest, where the timber is felled ? / Preferably also picture ! /.

6 / Was the timber barked immediately or completely after chopping? Or did it happen that the wood had to lie in the bark for some time, and why so? Was it different for timber to different kinds of houses? Post-barking at construction?

7 / Describe the tools used in barking and describe, how they were used! Enter their name! / Ideally even image ! / .

8 / Was it customary for recessed house timbers to remain 1 the forest some time or until the end of summer?

9 / Did you timber with raw, semi-dry or dry wood? How long drying time required? Was the timber used the same year it was felled? Or did you wait for certain months? How, where and when was the wood dried? How was it allowed for drying? In bars or in piles? Fick worked dry in pristine condition or in barked condition or was it dried before being allowed to dry / if so how much? /? Why built with raw wood? Or, otherwise, why with dry? When does seemed dry in a house? Is it then called "dead"? What is meant by that seemed alive? How long was a house considered new, and when could you move in?

10 / How to crack cracks, rot, moisture, fungus and weathering in wood and walls? Did the wood crack with an ax to get the shrinkage cracks in places that were not exposed to moisture? So where were the logs? Report observations and characteristics regarding the timber durability / how long used timber lasts? / and strength as well about its disintegration / under what conditions it was consumed

faster ? /!

8

11 / Huruledes f, was the carved house timber framed? There was a drag run of the timber in such a way that logs were coupled to logs

towards the end by means of a winding blind or that some logs were entered

up on a chain like on a key chain and so was dragged? How was such a method of sealing / "chopping" the timber, "chopping" / and how

were the logs treated for this purpose? The log is cut through at the ends, "eyed", with a special narrow ax / "gluggy ax", "eye ax",

etc /? Or were holes drilled with hubs?

12 / Did floats of house-building thins ever occur ?

13 / Bistodo village team, "village neighbors" or some part of the village or even some people at the timber's progress without being special

hired?

14 / Occurrence of traction / "driving cold" etc / after the end of the run.

15 / When was the log cut and sealed? How did it go? occurred

it on a special basis? How was this accomplished? Capricorns?

How was the log / with retaining hooks /

The following questions refer to the processing of the timber, before the logs

was erected on the building and worked there.

16 / A. Is the tinner stock split with an ax in two halves? How it went

this? For which buildings does this approach have no connection ?

On which wood / dry pine ? /? Have you split some types of wood from

top, others from the root? What would you gain with the cleavage?

17 / The ax-split timber has sometimes been coveted by the saw-split:

when did this come into use? They also used a thin chin saw

round half of the log? Did this happen before or after that time, then

wall timber more generally began to be carved? How was the sawing done

wall timber? By hand? What is it called, and how did it go? Or

by water-powered saw? What kind of thing was it? Who owned the saw? Where

the village common property? How did it get used ? How was the use checked ? Where were saws made? Who Said?

18 / B. Pre-treatment of roundwood / timber which was allowed to maintain its

natural form /: Twisted and barked the wood more carefully, if

it would not be cared for? Have you planed, counted or scraped the logs

with chisel / "chisel", "shell hook" etc / or knife? How kind

the tool for that, and what was it called? How was it kept during work? Why was the timber treated in this way? It was good

remove the surface wood? Did you strive to get the logs evenly thick?

19 / Have you used an iron or widening ring as a measure to count

after? What is called such a ring / "rake", "trellis" etc /? How named method / tex to "harkdraga" timber /? Is it just a saying,

or has anyone seen this work for themselves? There is such a thing

utensils preserved? Mention in detail, how to proceed, when

used? The wood was surface treated in the above-mentioned manner at one time and

9

in one context, before the actual construction began, or it happened

that in different stages of the timber work itself?

20 / C. Pre-treatment of timber, which is attached: What is called in the resort that

car wood / "flange", "solder", "blanket", "rubbish" etc /? Do you have different

words for coarse and full car, for car on

2 sides and for carriage of 4? Is this behind in ng of the timber a

old use? Where did it connect ?

21 / Was the timber before the log was placed on the building or after the log was inserted? In the former case: the log was completely emptied

or only towards the ends? When did this crash happen in advance? Already

in the woods and before drying? If the wood was only partially cut

/ tex on 2 sides /, so that when laying on the building it was imitated or trimmed it / tex by smoothing, "qualify", the

on the top and bottom?

22 / Used square or thin, plank-like

logs - is the latter a young practice? Where did it come from?

23 / How did the car fare? Used a stand, like the log



was placed on / "counting goats" etc /, since the log was oriented with attention to any bends and flattened slightly at one end

to get a lying surface / "chop · stand", "interpret" etc /? How held

log? Describe how to get a guideline / "percussion " etc /

by "striking " with "barbed wire"! How are the points marked?

log, where I Injen should go / lodbråde or otherwise /? The log is then rough-cut with the chopping ax / "tensioned up" etc / or done

first carve at some distance from each other / "chop shavings" etc- /,

so that the wood between them can easily be split off? How to work

hereby ? Do you then sell a sledgehammer? How is this work done?

Of a person or two, working on real stock? Or rough-billed

the log only because, after it has been fitted into the wall, the thread lock on

new and plain ?

24 / Found in the resort buildings, where the timber is chamfered so that one

mid-ax formed along each log? So you were given the unclothed wood

a different shape in cross section than the circular one? Hexagonal, oval, etc?

25 / D. Was treated seemed like under C., but with saw? How it went

sawing? Describe the saw, the way to hold it, etc.? How old is

that method?

26 / How were boards or sawed boards and boards in the past

for house building? Which SAT , for they had at such regular plank ·? With the ax?

Have you used a cross ax / shaving ax / for such purpose? Skaviron?

Plane? Describe the tools, terms and way of using them

them?

27 / How were tongues ? With an ax? What were the different old types of voltage called? Explain them?

10

DISTRIBUTION OF THE ANSWER

SWEDEN

The messages to which the Nordic Museum's questionnaire was sent were selected out among a through personal contacts and advertising in newspapers.

In this way, some landscapes have become over- and others under-represented. Nevertheless, the answers appear to be representative and show on typical regional variations.

Distribution of responses across Sweden:

Skåne ... ..... 6

Blekinge. . . . . 5

Öland. . . . . 5

Gotland .. . . . 3

Halland .. . . . 8

Bohuslän. .... 6

Småland. . . . . 23

Östergötland. .... .. 25

Västergötland ..... 25

Södermanland .. ..... 2

Dalarna. .... .. 5

Dalsland ..... .. 5

Uppland. . . . . 16

Värmland .....	22
Gastrikland .....	2
Västmanland .....	12
Hälsingland .....	10
Medelpad .....	2
Ångermanland .....	7
Lappland .....	9
Dalarna .....	21
Härjedalen .....	3
Jämtland .....	12
Västerbotten .....	1
Norrbotten .....	4
TOTAL .....	239

## USE OF DIFFERENT WOODS

The types of wood that are mainly included in the questionnaire are pine, spruce and oak. The timber has mainly been used for house building in general, columns and posts, roof chairs and rafters, floors and furnishings and joinery.

### HOUSE BUILDING IN GENERAL

In some answers you do not make a quality comparison between the types of wood but answers that the types of wood are used for house building, timbering, walls and roof. This type of response is found mainly in southern Sweden.

Type of wood for building construction in general (J 55 reply that pine and spruce used interchangeably mixed forest of pine and fir, growing on thin land Malingsbo, Dalarna Photographer probably 1908 Forestry Academy)

page 14

Many answers also indicate differences in the use of the different types of wood. The primary difference is that pine is mainly used in houses with humid indoor climate where there is a high risk of rot. Such buildings may be dwelling houses, barns, stables, etc. Spruce was used more for barns, warehouses, shelters etc. thus buildings with significantly drier indoor climate. This form of division between wood species is found throughout the country but is mainly concentrated in central and northern Sweden. A landscape that differs markedly from the others is Bohuslän, where spruce is the primary species of wood. There are many indications that this is the lack of pine. A response from that says that pine is used for window carpentry, etc., which indicates that pine is of a higher quality.

Wood types for house building in general

Map

map

114 responses indicate that 20 responses indicate that ~ ....., "only spruce was used exclusively - first hand or primarily 14 8 answers indicate that 68 responses indicate pine was used in. Spruce was used in second hand second hand

Torrå (snag) is called pine that died on root and dried before being cut down. The tree can either be deliberately brought to dry by ring barking (see page 43) or dried due to other reasons snag is mostly used for simple buildings such as barns, This is not, however, quite common. Occasionally, dry pine is considered to be of higher quality than ordinary pine. This applies primarily to pine that has been deliberately dried on root through ring barking. Oak was used for natural reasons only in southern

Sweden. very good , nevertheless it is rarely used for whole houses This is partly because oak is also not in sufficient quantity in southern Sweden

Map

map

13 answers indicate that 5 answers indicate that dry pine used oak used 15

Sida 16

PILLARS AND POSTS Building parts like pillars and posts are difficult to replace and are easily attacked by rot due to their close contact with the ground. Therefore, there are high demands on timber for these building parts. In about 90% of the answers, oak is the best wood species. However, there are clear regional differences. The use of oak stops quite suddenly at the northern border of Öster- and Västergötland . Of course, this is because the north of it becomes oak more uncommon. Because most of the houses in the northern part of the country were built entirely of pine and did not specify any special herring wood, the largest proportion of responses was to oak. Oak is primarily used for pillars> and posts.

Picture on the oak

Experimental fields in Stockholm Photo T Lagerberg about 1923 Skogshögskolan

Sida 16

Sida 17

Wood to poles OAH sleepers

Map

map

It 5 response indicates that V pine was used 58 reply that 1 response (+) indicates that oak used dry pine used

trusses and rafters In over 80% of the responses indicated that you use spruce for roof chairs and rafters. The reason for this is that spruce is tougher than pine and is therefore better suited for this purpose.

Wood type for roofing chairs and rafters ·

Map

map

(/ 2 answers indicate pine was used 14 answers indicate that 1 answer (+) indicates that fir was used dry pine was used

sida17

FLOORS For flooring, fir was used most. Up to 90% of respondents answered this type of wood. reported , inter alia, the following reasons.

Sprose has not so marked center and is whiter than pine, giving an intended smoothness in color. the difference in hardness between spring wood and sommerwood as well as between the core and the sapwood is not so large, why wear will be considerably more even than in

Wood type for floor

Map

map

1 answer indicates that pine was used 14 answers indicate that 1 answer (+) indicates that fir was used oak

## FURNITURE AND CARPING

There are not many people who have written about the type of wood used for interior decoration and carpentry, as this was not included in the list of questions. However, it appears to have used both oak, pine, dry pine and fir. it has also been very careful when it came window and door joinery, primarily uSED eg pine or dry pine .

## EXTRACT FROM THE ANSWERS

HÄLSINGLAND Forest sn EU 3015 Gran used on the places where the rot was and is at least Kanbar , redwood or pine, however, where the rot was the Danube, Kanbar , dry pine have also been used, but not oak or birch not Asp, oak forest is not found here in our society.

Sida 18

SMALLLAND Eye sn EU 776 The most common use of timber buildings with timber was the " fere " (pine). For meadow barn, almost only "spruce", "Ike" (eke) was used "tea seals" both in housing and outbuildings.

SMÅLAND N Hestra sn EU 3413 To building log usually used fur the walls as well as bottom sleepers, for second plane used fir the floor structure, and to roof chairs: fir was considered to have better carrying capacity than pine; Oak to the bottom beams appeared sometime when access to this timber was available: oak was considered to withstand rot and fungus better than conifers.

DALARNA Söderbärke sn EU 913 Wood for house construction is called building timber irrespective of which house is to be built therefrom , for building timber , only pine timber was used for all house buildings and are now built by both pine and spruce.

SMÅLAND Vissefjärda sn EU 36337 As far as timber is concerned, most spruce was used, but also pine and oak. My home in Fåglasjö, Vissefjärda , was on a farm. The farmhouse still stands and it was completed in 1846. It is knotted and thus of timber. Externally, the brädfod - row (tense), and red. The flooring was of spruce, wide planks but not all of the same width. An old building, even older than my home, was demolished a few years ago here in the resort. There , the lower wall planks were made of oak, so that the wall would be resistant to rot. It was a manor building and had very low stone footing. It was wallboarded , but when it rained could drip easily beat against the wall, because they had oak timber very bottom. In house buildings for residential purposes, the footwood (the lower tirroruna yard ) was often removed from oak, in order to make it durable and stable, as was the case for barn building, where the footwood in the actual cottage was of this type of wood. I have also seen in old barns, that there were some planks of oak in the wall, which wetted the manure pile, ie from the foot count. Both the foot tree and the next shift were oak.

WESTMANLAND Sura sn EU 3138 Both pine and spruce were used for house building , but where pine was available, this type of wood was preferred. To some houses used only spruce wood, I have not heard anything about. For flooring in dwelling rooms, spruce boards have had a certain preference because this type of wood has a whiter appearance when scrubbing, but as this type of wood is of a looser nature, nothing has thus been gained in duration . In the area here almost oak is missing , and therefore it could not be used. If such a tree has existed, it has been extremely frightened of it and has been felled, it has come into use in the manufacture of wheels. Asp and birch have not come into use, as the supply of coniferous forest has met the building needs.

Picture on trees

Examples of dry and lean land where the trees grow slowly Uppland Photo Peter Grödinger 1981

Sida 20

## REQUIREMENTS AND CHARACTERISTICS OF TREES FOR BUILDING PURPOSE

61 pcs have answered the question of the requirements and characteristics of trees suitable for building purposes. Fundamentals have been the demands made on the wood. This should be densely grown, ie the distance between the annual rings should be small. In addition, the timber should be straight and contain as few twigs as possible. Trees that give such wood look in a special way and grow on certain soil and under certain climatic conditions. The answers include the following characteristics.

- o The trees should grow on lean soil, which gives slow growth and a thickly grown wood. For example, pine should like to grow in murky soil. Several also write that pine should grow on heights or ridges. Spruce, on the other hand, should grow, for example, at the edge of mosses or in sinks.
- o trees are grown in dense stands, which contributes to a timber that becomes bushy and knot-free.
- o Northern slopes as a plant site are also considered to produce straight and densely grown wood.
- o The tree should be ripe. This is a very complex concept, but one important assumption is that the tree's growth should have stopped close enough, ie the annual shoots should be as small as possible.
- o The tree shall have a thickness and length corresponding to its intended use.
- o The stem should be straight, smooth and have as few twigs as possible. This requirement is important for house building timber.
- o The tree must not be twisted. This is important for both carpentry and carpentry.
- o The crown and bark of the tree should have a special appearance. From this, one can judge, among other things, whether the timber is densely grown.
- o The tree must have a high core wood content.
- o Worm or rot attacks must not occur.

The more detailed requirements and characteristics of good trees are presented here through quotations from selected learners of the answers. The quotes that are included represent all the characteristics presented in the answers.

21

22

Picture on fine pine



Branche-free and straight pines ~ dense stocks Inventory Photo Peter Grödinger 1981

22

23

EXTRACT FROM ANSWERS

BLEKINGE Medelstads hd EU 624 • . t ill

Was the wood better in the past? Pages 35 to 48

**FALLING TIMES** The answers regarding felling times are reported here by landscape and according to a temperature zone subdivision , which is common for construction activities. The precipitation period has been set for months as it is most common in the responses. However, a large part of the answers are written in fairly general terms, for example autumn, winter or late winter. These answers have been interpreted into probable months. The term winter in this context means winter precipitation.

A couple of factors that affect the winter precipitation are temperature and snow depth. It would be winter climate but not so much snow that you were hindered in the felling work. This is the explanation that the winter according to the table below ends earlier in zones I and II than in zones III and IV.

Precipitation winter:

zone I Nov - Feb

zone II Dec - Feb

zone III Jan - March

zone IV Jan - March

map

temperature zone distribution

35

36

FALLING TIMES: NUMBER OF ANSWERS / PEOPLE - LANDSCAPE

Oct Nov Dec Jan Feb March April Over in Lapland 2 7 5 3 2 Norrbotten 2 3 3 3 Västerbotten 1 1  
 Jämtland 4 8 6 3 June 1 II Härjedalen Dalarna Ångermanland Medelpad Hälsingland Västmanland 6 1  
 2 24 1 2 2 22 5 1 5 5 1 24 3 1 6 10 1 24 2 1 6 8 1 Guest country 1 1 2 Värmland 1 1 7 12 15 4 1 III  
 Uppland Dalsland 1 2 2 14 3 11 3 2 2 Västergötland Närke 7 2 15 1 13 1 5 1 Södermanland  
 Östergötland Småland IV Bohuslän 1 1 1 1 6 2 1 19 12 2 17 12 3 1 8 2 1 Sept 1 Halland 1 6 6 Skåne 1  
 1 3 3 1 Blekinge Öland-Gotland 2 3 7 3 5 1 2 Previously, the trees were always felled in winter  
 Alavattnet, Jämtland Photographer unknown 193? Forest Academy 36 Oct Nov Dec Jan Feb March  
 Mar Apr In Lapland Norrbotten Västerbotten Jämtland Härjedalen Dalarna II Angermanland Medelpad  
 Hälsingland Västmanland Västlandland Vännland III Uppland Dalsland "r -, , \_ i" - ... ----- / 1 / ' "/  
 VI \ ( / ' \ / ~ ~ / \ ..... --- ' .... J / ----- \ ..... .. j - ..... \ / \ \ / Västergötland Närke Södennanland  
 Östergötland Småland IV Bohuslän Halland Säkne Blekinge Öland-Gotland / .' I "" "" \ ---- "" "" , "\ " I /  
 "" I " / I LR ---- ---- / \ . / '0kt Nov Febr Mar Apr

Sida 37

PRECIPITATION TIMES MONTH DISTRIBUTION

tabell

the middle curve indicates the month when most gave its tirmmer . the two outer curves indicates when about 10% of the respondents gave its timber. 10% - the limit is set in order to avoid extreme values .

REASONS for winter felling

the replies have indicated two types of subjects of winter precipitation. Firstly, winter precipitation a timber of higher secondly, the production conditions favor warmer in winter. The first type of motif is about 90 % of the number of responses, which shows how high a good work was valued. With regard to the first type of motif, it is fundamental that the tree should be felled when it has as little life activity and is as dry as possible and when it contains at least s of. This falls in the winter for both pine and spruce. If you fall in the tree in the spring, it has the following consequences. Root risk increases due to the high saw content. The risk of cracking during drying is also greater due to a large difference in moisture content before and after drying, so the wood shrinks a lot in a short time which gives cracks. The risk of worm and insect infestation also increases in sawn wood. Furthermore, the wood becomes looser and the strength one decreases. 37 Designs associated with production conditions are of two types. The LS is the t easy to remove the timber during the winter, when t o r snow, and winter suit folding device well into farming year. Winter precipitation motifs based on quality requirements 25 answers indicate reduced root risk as the main motif 5 pcs in conjunction with the saw 28 responses indicate the absence of saw as a central motif. 14 of these indicate that high sawdust entails root risk, cracking risk, risk of mask deterioration strength 12 responses indicate smaller mask and insect attack as main motive 4 pcs attack with saw

37

38

(/ (/? Answer indicates 1? Answer indicates less) cracking risk as increased strength as the primary motive main motive 3 pcs put it in context 2 pcs set it in connection with the sap of the sap designs for winter felling based on production conditions ? answer indicates easier to transport motif 2 responses (+) indicates a good fit in the agricultural year as a motive

38

39

## EXTRACTS FROM THE ANSWERS

DALARNA Älvdalen's sn

EU 2964

All timber should be folded "å tuerend " (waning moon, below). Then the wood is firmer, ie contains less juices. Similarly, the summer chopping timber is looser and juicier than the winter chopping. In October, November and December, it was appropriate to cut down timber so that it could be towed to a navigable road, before the snow became too deep. Of ax, the ax was the only tool for felling trees. "Laplågur", furrows, felled in the spring for bark for livestock feed, were considered not good enough for fuel. Their wood got a blue color and was of a fairly loose nature.

HALLAND Gällareds and Gunnarps snr EU 4014

Signed Bresell, born in 1858, who collected the data partly through his own observations from early childhood and by activating older buildings in the locality and partly by the sayings of older people. House timber was usually felled during the winter and it was also observed that the precipitation occurred during new. The timber would thus be more resistant to rot and can not easily be attacked by the worm. A further advantage was considered, stumps and roots for the under new felled trees were given more power to push new shoots. However, during the last quarter of the 19th century, when oak bark was purchased for the tanneries in Denmark and abroad, the oak was cut in June and early July during the best sowing time for the bark to be used. It has been said that in the early 1800s, the trees were often felled during the growing years of summer in order to make use of the bark for bread; if

these trees used for timber is not known, but less likely. The trees were felled with ax even though they were quite rough. Harvesting was mostly done through thinning in such a way that the best trees were selected for building timber and the poorer for fuel. There was a major carving at some place in the forest, the place was called woods or cozy.

40

41

Picture on a carpenter and his tools

Carpenter's Tools 1. fellingaxe. 2. Handaxe. 3. Bila. 4. A man shows how a log is crossed. 5. Soldering board. 6. x Hold hook. 7. Tug iron (" rake "). 8. Old fashioned saw. 9. Modern saw. 10. Dipping drill . 11. Old bottom drill. 12. Lumber Club. 13. " towbar ". Photo 1929, in the Nordic Museum.

41

42

Picture on on the man tho barking on rot

In the past, trees barked at root. Such so-called root barking was a way of impregnating the wood. Then the wood was eventually filled with resin and tar. Grundsjö Photographer unknown 1931  
Forestry School

42

43

## BARKING on ROT

The answers to the questionnaire are sometimes described methods for producing wood with particularly high root resistance and good strength. One method of creating such wood is to bark the tree before cutting it down . 20 people have indicated this method. Barking on the root can in practice be done in different ways, but the principle is that one above the ground is peeling off the bark in one or more rings around the tree. When you leave the tree in this way for a while, you cut it down . Resin and tar substances have then accumulated in the tree and naturally impregnated the wood. The time that the tree must stand before it is cut varies, but there are examples of upwards of 6 years. Wood produced in this way is primarily used for particularly exposed building parts, such as window joinery.

map

21 answers indicate that barking on root

### EXTRACT FROM ANSWERS

BOHUSLÄN Västerlanda sn EU 1580

When father would have good wood, he went to the tea forest on a bark ring down ve root. So the wood had to stand all over the sun , so in winter , he took the wood. Then they were tortured too hard. They made bark bark with tree t. ex. ash they have probably died out. If you bark a box and leave it for a summer, the ashes die , but if you cut down the tree when it is healthy, root can be proclaimed .

43

44

Picture on stripbarking log

Average of rotbarking hours, you see how tar ooh resin enriched in the wood so that the heartwood is hardly discernible Location Unknown Photo H H 1903 Forest School

44

45

DALARNA Leksands sn EU 37734

An old method to get hard and solid construction timber, may here ANFO - race : "For building on land, such a tree is best, from which all volatile parts are completely separated. In this intention , the tree trunks are cut in the sawing time, as long as they are to make timber, leave them 1 to 2 years, and then cut them into a season, when the sentencing and remove running at least could damage the young plants . This way it is fit for most of the timber, while the cracks thereby cure and the tree almost becomes hard as stone.

SMÅLAND Torsås parish EU in 1507

when the formerly burned out tar, they would cover the valley floor with spruce bark, then large ripe white barked timber spruces were floated , which were twig-free so high you managed to chop the bark around and equally down at rot as low as possible, then the bark is raised in a groove on one side, then the whole bark was ripped off in one piece. These spruces were then allowed to dry on the roots, they were cut in the winter, they were in most cases flattened to someone who would build the following year, oh so these spruces had to fulfill two purposes.

NORRBOTTEN Edefors sn EU 6667

The house hour fell during the period 15 dec. to Feb. 28 with only the calculation that the trees were then with the least juice. Ring barking occurred to a lesser extent to obtain dry pine . Obtaining dry pine in this way took a period of 6 years. The tool used in ancient times for logging was the ax / chop - the ax / and the saw has only come into use in recent times. The place in the forest where the house was felled was called / heostömmen - hågge /.

BLEKINGE Asarums sn EU 1786

Both saw logs and other timber were barked immediately, The old people said: That anyone who was concerned about obtaining good building logs cut a wide strip of wood inside the bark on two opposite sides, as high as he could reach on the growing tree : This would happen in the winter . When the sap of spring step up to the tree ferment this out and was seated as a resinous stripe in the gap between the bark and trunk, the tree became thereby Sarde - les hard and durable. During my time or since 1860, such a method did not occur on a larger scale, but it still happens that some caring farmer "Flens" one or two trees from which he wants to obtain good wood . Tex window arches

45

Picture on a man tho barking log on ground

Barking of timber Location unknown Photographer unknown 1938 Forest Academy

46

47

#### TIME BETWEEN FALLING AND BARKING

More than 140 people have commented on how long to wait for barking after the felling. More than half have replied that they bark the timber directly at the fall in winter, just under 40% that they should do so by the spring of the same year and just under 10% that you remove some of the bark at the fall to remove the rest at a later date. opportunity.

A common feature in the responses is that it is considered harmful if the bark is left for too long. If you let it do so, the wood can be damaged in several ways. One cause of damage is that moisture gets trapped between the surface wood and the bark and gives rise to blueberry . Worms and insects can also get in between surface wood and bark and cause damage. The risk is greater when it gets hot, it is among others a reason that so many stresses that the bark should be removed before the spring.

One reason for waiting until spring or until the timber has thawed is that it is more difficult to remove the bark while the timber is frozen.

Some, as mentioned, remove some of the bark at the fall and save the rest for a later occasion, they are aware of what can happen if you wait too long. It has among others a notice that the timber will crack if it gets dry quickly, which it does if you take away all bark at once. Therefore, only part of the bark is removed in the first round.

picture

Debarking and measuring log immediately after socket Uddeholm Värmland credit age salsify again about 1930 Forest Colleges Vertebra

47

48

picture

see stripbarking such irruner , it has Taq not live for only a portion of the bark . Noted to be the caring presentation of the timber Gammalkroppa , Värmland Photographer unknown 1911 Forestry Academy

## EXTRACTS FROM SVAR

SMÅLAND Torsås sn E. U. 1507

when pine or fir were killed for busvirke peeled logs very well, because otherwise " kväcknade " the mask between the bark and the " tree " , it would be cut in winter " Nean " any first " Nean " in the New Year, it is still one of the today at request of timber, "ä the winter blow?. VÄSTMANLAND Gunnilbo sn EU 1968 buildings logging bark was rarely in the forest, this stage only when it was very long and heavy trees, these can then be much easier to lug home from the forest, the bark was then in the spring when it did not lean and easily barked the coarser bark to the root end was counted off with an ax, the thinner to the small end was taken with bark spade ÖSTERGÖTLAND Ulrika sn EU 4694 Spricker was counteracted in logs by allowing the bark rings to sit left on logs 3 to 4 at approximately 3-mill intervals at this stage when shortly after the logs for rot and moisture the logs were protected by covering over timber pile and ski-protected logs for snow and rain 48

Was the wood better in the past? Pages 49 to 73

#### USE OF Sapwood

About 100 pcs have commented on the use of surface wood . More than 50% have replied that they remove the surface wood and just under 40% that it is allowed to remain. There are no major regional differences here . The basic motive for removing the surface wood is that it is of lower quality than the core wood. Surface wood is more sensitive to rot and insect infestations, etc. For certain joinery and those parts of buildings that are particularly exposed to moisture, such as sleepers and poles, and as sapwood be less suitable. Many people use the surface wood even though it is considered to be of lower quality than the core wood. A motive for this, as several people indicate, scarce access to wood is not possible to save the surface wood. The two motives are most common in forested regions such as Öland, Gotland and Västergötland. Another motive is that the log at timber construction becomes too narrow if you remove the sapwood.

picture

Wood sawn to without regard to the distribution of the core and sapwood Södermanland Photo Peter Grödinger 1980

49

50

Use of sapwood

Map

map

map

responses indicate that 39 responses indicate that the sapwood removed sapwood not be removed to

#### EXCERPT FROM RESPONSE

UPPLAND Övergrans sn

EU 3529

As the region is comparatively skogrig and a 1 classic community exists within Håbo Härad has never second wood needed to be used, to .m. firewood is still cut from trees from root, d. vs any part of the tree is not cut down for sawing, but the whole tree becomes firewood. The surface wood was used cut-off (attached) for wood.



50

51

BOHUSLÄN Hogdal sn

E .U . 1378

Was the surface wood considered inferior and would be removed, or was it left? The surface was allowed to remain except for window arches when it was discarded .

BLEKINGE Medelstads hd

EU 624

we come to the footbosses (foot trees) this beams if you took the roughest yoke most hearty and straightest oak you could bring, if you did not have such a yard on your own yard then you swapped for pine or spruce or also bought you can use such spokes as were appropriate, but the spokes must not be any other type of wood which was absolutely unsuitable for Z Steel Pine used for all types of house construction. It can also be used for parts that are exposed to moisture. Spruce was used for all types of house construction. However, it is much more sensitive to rot than pine. Advantageously used for flooring and interior joinery. Oak is good for vertical and horizontal supports, not as good for long beams. Oak has very high rot resistance. E E von Rothstein Pine was used for all kinds of buildings. It is resistant to rot because it contains a lot of resin. The resin is sensitive to heat, which is why resin-rich pine is not suitable for building parts that are exposed to strong heat. Spruce was used for construction purposes, but is more sensitive to rot than, for example, pine. As the spruce is quite porous, it also becomes susceptible to fungi. Oak is more suitable for vertical and horizontal supports than for long beams. It is very resistant to rot.

ÖLAND Böda sn

E. U. 8195

There were no special features, but only the tree was

rough enough to cut or carve it into beams and

as long as any good surface wood was even used for Eknomin

did not allow anything else.

51

52

Picture on floating

Picture of horse

52

53

## Transport timber

Almost everyone who answered the question of timber progress indicates that the most common method is towing timber with or without mats in snow.

Another way to seal timber is to float. About 90 people have indicated this method. When you read the answers you find a clear connection

between what the communicators have answered and where in the country these are active. To illustrate this, the answers below have been divided according to Svensk Byggnorm's temperature zone classification of the country (see page 35).

Text to the tabell

Floating of timber

100/0% fZIJ nice

D fio at times

t. \ 1 does not float

50/50%

0/100%

I II III IV temperature zone

You are more negative towards floats in northern Sweden than in the south. This

despite the fact that in northern Sweden there is a greater number of watercourses that

are suitable for rafting. There are also significantly more people in northern Sweden who motivated why not float the timber. The motives that

For example, it is stated that the wood becomes more susceptible to rot and that

it gets lower strength.

Caption

i.Jverst: Flotting

Medelpad

Photo Gustaf Lundberg 1920 Forest College

Bottom: Timberlass

Bispgården, Jämtland

Photo G Lundberg 1920 Forest College

53

54

EXTRACT FROM ANSWERS

NORRBOTTEN Piteå national forges

E. U. 2691

The timber advance usually took place in two stages: first down the discharge from the forest down to the landfill site, as for the most part lay on the river bank, where the wood was carved and piled for drying. ning; and the following winter, the home was sealed to the building site. sen. They usually took care of such occasions when it was snowing. free ice cover on the river, when transporting your wires was faster ket, because you got loads of large quantities. Also for ecom float of house timbers, and the float then took place with unpainted wire- ke. But then it became summer, before the car could move. in general, they avoided doing so. It was also considered so that the wire did damage by lying in the water.

DALARNA Grangärde sn

E. U. 829

The relocation of house building timbers was not allowed to occur  
the timber take damage.

Jämtland Stuguns sn

E. U. 1528

House building timbers were never floated. They were afraid of the timber  
would smile draw water, and therefore could during the timber  
run long roads.

HÄRJEDALEN Linsäll sn

E. U. 4024

They did not float house hours, as this would have become so  
destroyed. You were afraid of water in the wood, and you took  
therefore also only trees on hardy hills, not on sunken ground.

BLEKINGE Medelstads hd

E. U. 624

flew for hours, no, never, for that was perfectly ok  
to damage it with yoke also could not occur, for when the timber is laid  
outside water network ok may lie for a few days when trades were passed through-  
drunk with water, ok got a gray color which never went away,  
ok when it came out drought it got even darker, ok out of light hour  
Mar became a complete resident for all kinds of insights and unheard of,  
ok, that is still the case today, <easy attachment to our ancestors  
they know,

JAMTLAND Lits sn

E.U. 1080

The timber for a house building was towed on support (sledge, short sled)  
to the building site, only in the later times has it been used

work for it. No other mode of transport has ever been used here

54

55

in the resort. Similarly, it has not been used to float house construction works, since it was considered that float timber would be less durable.

NORRBOTTEN Nedertorneå sn

E. U. 4783 Floating has occurred when the timber has been dropped at watercourses. But you have not wanted to buy nice timber for house needs, because the water sucks tar and turpentine out of the wood and then becomes wood weaker and worse.

Picture

Timber transported on trolley, a less common way of passing

timber

Johannishus video commission, Blekinge

Photo P Wahlström 1928 Forest Academy

55

56

Picture on saw wood

Picture on saw wood

56

57

DRYING

Timber construction is a relatively rough technique. For this reason, the drying times deviate from what applies for brought wood joinery.

A lot of those who answered the questionnaire were relatively timed

fresh wood and then let the timber dry in the wall. The drying time that is often stated is that between felling, barking and construction.

The motive for letting the timber dry in the wall would be that of man

timber with relatively fresh and soft timber, the logs form one after the other and the wall becomes dense. Those who use this method

often leaves the timber frame with a roof for ex 1 year. After this time

you do masonry, plaster and joinery work then

move in. One who replied gives the council that the first year you let them

friends live in the house, the second year you let your friends live there, the third year you move in yourself. Then the house is dry enough.

Others consider it important that the timber is completely dry when you

building. This is justified by the fact that the logs otherwise become leaky

due to shrinkage during drying.

There is also a large group that brings together the two methods.

They let the timber dry for a while before timing the house,

and then let it continue to dry in the wall.

It is therefore difficult to come up with the answers to the questionnaire

to a uniform drying method. However, some statements indicate that

one is generally more careful about drying when it comes to carpentry wood, there are those who dry this for up to five years.

Caption to page 56

Above: We are suitably laid out in dry cloths. Småland

Photo Peter Grödi nger 1980

Below: Detail of wood pile. notice

that there is no lie between each turn of the tree

for the air to be efficient. Småland

Photo Peter Grödinger 1980

57

58

Picture of high quality forest . Uppland Photo Peter> Gr> Ödinger > 1981

58

59

REFERRED TO THE AGE

BUILDING TEACHES

As a supplement to the answers to the questionnaire are reported here

summary what some more important older building doctrines say about timber assessment. The presentation of the building doctrines follows true classification grounds as the answers to the questionnaire. The following building teachings

recorded:

o Carl Stål, Draft general building theory, Falun 1854.

o E E von Rothstein, Practical Components of General Theory,  
Stockholm 1859

o Henrik Kreuger, Building Art in Building Materials, Stockholm 1920.

o The Craft Book of Wooden Construction Art, Stockholm 1938.

USING DIFFERENT WOODS

Carl Stål

Pine was used for all types of house construction. It also works well

use for building parts that are exposed to moisture.

Spruce was used for all types of house construction. However, it is significant

more sensitive to rot than pine. Advantageously used for flooring and interior joinery.

Oak is good for vertical and horizontal support, not as good to long beams. Oak has very high rot resistance.

E E by Rothstein

Pine was used for all kinds of buildings. It is resistant against rot because it contains a lot of resin. The resin is sensitive for heat, which is why waxy rich pine is not suitable for building parts which are exposed to strong heat.

Spruce was used for construction purposes, but is more sensitive to rot than for example pine. As the spruce is quite porous, it also becomes susceptible to fungi.

Oak is more suitable for vertical and horizontal support than for long beams. It is very resistant to rot.

59

60

picture

Older pine with well developed and regular bark showing that the tree is of high quality. Location unknown Photographer unknown year unknown Forest Academy

60

61

Henrik Kreuger

Furu was widely used as building material. The high resin content makes pine very resistant to rot, but sensitive to heat. As the resin content increases, the strength also decreases. Spruce can be used in conjunction with pine for building purposes when the rot risk is small. Spruce is a soft wood species and easily exposed to fungal attack. In the past, oak has been used to a greater extent as a structural timber, but has recently been used due to the reduced availability, mainly for floors, panels, door and window carpenters and furniture. It is a hard type of wood with higher strength than both spruce and pine. Oak resists rot very well.

Craft book

There is not much information in the craft book on how to use different types of wood. At one point it is mentioned that pine or possibly spruce is used for carpentry.



## REQUIREMENTS AND FEATURES OF TREES

Carl Stål

Good soil causes the tree to grow quickly. The tree then gets too big annual shoots, the annual rings become wide and the wood porous. One consequence is that spruce and pine easily get rooted. Too lean soil, on the other hand, causes the tree to lose its healthy appearance. Coniferous trees should grow in the north slope so that growth will not be too great. The trees should be healthy, straight and well-grown. On young trees, the bark should be smooth and fine. A clear sound should occur if you strike with a club in a barbed spot on the south side of the tree. Signs of erroneous tree are that the trunk has lumps of resin, raised, white or red spots or long vertical train-shaped stripes. Other signs are that the bark is coalesced, split, knotted, or cut through by cracks.

EE von Rothstein

Spruce and pine must not grow in too good soil as they get too broad annual rings. They also must not grow too lean, the wood will certainly be hard then but the trees can become morbid and die quickly. Fir and pine need to grow in dense populations in the northern slope so that they will have narrow annual rings, ie grow densely. Oak grows stronger the faster it grows. Signs of good trees are:

1 . A perfectly lively greenery, especially at the top and on the branches and the leaves fall off late in the fall.

61

Picture fire damage

Picture fire damage

Examples of trees with old fire damage that led to the wood not growing out, around the entire trunk. First : Västerbotten Photo G Schotte 1922 Forestry School Bottom: Location unknown Photographer unknown 1929 Forestry Academy

61

62

2. A powerful appearance and a reasonably regular dense crown without leafless dry .

3. A straight plant, especially in conifers, a slow tapering of the trunk upwards, and in deciduous trees only mild curvature.

4. On middle-aged trees, a smooth, healthy, bark-free bark liberated from mushrooms and mosses, and in older mature trees, whose bark is coarser and thicker, a clean and healthy appearance of the cracks in the bark.

5. A clear sound when you hit the ax hammer hard at a barren spot on the south side of the trunk.

Signs of incorrect tree are:

1. A lumpy form on trunk and branches.

2. Leaves without lively fresh greenery, leaves falling off early in autumn, and an extinct dry crown.
3. Fungie fragile and decayed roots.
4. A bump-dried, wrinkled, knotty with cracks and sponges provided with bark, which can easily be interrupted and h under the bark a milky mask-stung appearance.
5. Tracks for cracks between the branches, long twisted streaks on the stem li creaking ropes, which usually consist of overgrown weather cracks and white or red spots on the bark.
6. A hollow sound at the hammer blow, often indicating core rot, core damage or frost cracks. Nuclear root which is the most common disease can be recognized by a dehydrated peak. It can also be detected if you drill near the root right next to the core and examine the drill bit.
7. Double splinter or splinter that does not go around the entire tree.
8. The wood is blue, warped, twisted or has too many twigs.
9. Cracks inside the tree which appear to weaken and contribute to rot.

Henrik Kreuger

Trees will grow in dense populations on the north side and in lean soil. A lot of resin increases the resistance to rot. However, it can also provide inferior strength.

Signs of incorrect tree are:

1. Root caused by, for example , moist soil. Root is shown by the leaves being too light at the top of the tree and falling off prematurely, the bark being knotty, a whitish, milky layer forming between the surface wood and the bark, and by giving the wood a dark color.

63

64

picture

Bullwood in the form of eccentric annual rings. Location unknown Photo Eklöf year, unknown Forest College, an

64

65

2. The tree is curved, twisted, twisted or grows eccentrically. The wood is loose (which entails a greater risk of meshing).
3. The tree has abundant twig, drying and frost spikes . Occurrence of double splinter or rings of unripe wood in the core.

Handicraft's book

In the handicraft's book, you primarily take up different ways of classifying the wood ex carpentry, sawn and planed boards or boards. Regarding more basic requirements for the wood, refer to "Construction Book for Construction Work" by Knut Bildmark and then say the following:

1. Structural wood of pine or spruce shall be fully mature, winter-felled, as far as possible straight and fully healthy and thus must not be attacked by fungi , rotten or woody insects.

2. The timber shall not have major weakening cracks or loose twigs and shall be free from bark and dry during use . The water content must not exceed 15 % of the dry weight.

There is no mention at all of how dense the wood should be or methods of assessing the quality of growing trees.

#### FALLING HOURS

Carl Stål

Autumn or winter is the best felling time since the trees then contain the least saw. This means that the wood dries faster, becomes firmer and resists rot better. Winter precipitation also fits well into agriculture. Trees to be used underwater should be felled when it is at its most sawed.

E E von Rothstein

We will get firmer and denser as the trees fall during November - March. The juices are thinner in summer so the rot risk increases in summer precipitation. No precipitation may occur when it is too cold, then the wood becomes brittle. Trees to be used for underwater construction should be felled during spring, summer or fall.

Henrik Kreuger

Trees should be felled when the starch has turned into fat, because it is the starch that causes rot. This is true for spruce and pine in winter and for oak in summer.

65

66

Picture

Contemporary rational handling with a system machine Västergötland Photo VE 1974 The Swedish National Agency's

Handicraft's book

Winter precipitation has advantages in that the wood gets even more dry and does not crack easily. Cracks otherwise pave the way for fungi and rot. Probably the precipitation time can have a major impact on the rot risk. This is not primarily due to the direct properties of the wood, but because the risk of infection is generally greater in summer than in winter.

66

67

In practice, however, quality requirements must be set against what is practical and economical. Due to the increased demand for wood materials, it is not excluded that trees must be started all year round. The artificial drying method that has started to be used makes it no longer as important that

the timber is felled in the winter, but that it can also be felled on the sorrel ranger without excessive disadvantages.

#### BARKING ON ROOT

Henrik Kreuger, Barking on root is described as a method to make wood harder and more resistant to rot. You then cut a 5 cm wide bark edge around the tree about 0.5 m above the ground. The tree is then left standing for 1/2 - 1 year and then felled.

Stål, Rothstein and Handicraft's book reports no information about the barking of the root.

#### TIME BETWEEN FALLING AND BARKING

Carl Stål

Conifers should be left un-barked as long as they are considered raw. If you remove the bark prematurely, resin substances can penetrate, which gives the timber less durability. If the trees used to logging house, the bi las immediately to accelerate the drying process. Hardwood be barked at bo lningen to prevent worm infestation and accelerate drying.

E E von Rothstein

Conifers should be left un-barked as long as they are considered raw so that the resins do not disappear from the wood. The bark, on the other hand, must not remain so long as it comes off by itself. When the tree is not to be used as a roundabout, it is transported with its aruna for the drying to proceed quickly. Deciduous trees should be barked as soon as possible after precipitation to speed drying and prevent meshing. To further speed up the drying, you can leave the top left with branches and leaves during drying. What happens then is that the "top draws" water out of the starrun.

Henrik Kreuger

Timber must not be put up so that it comes into contact with the ground when rot easily arises. This is especially important if the soil consists of food soil. Ideally, the soil should be paved or gravel-covered.

Handicraft's book

If you cut down the timber in the summer, it is important for you to bark it as early as possible to prevent mesh attack between surface wood and bark. If the timber is barked prematurely, drying becomes too fast and the timber bursts easily.

67

68

#### USE OF Sapwood

Carl Stål

Since hartwood is recommended for more important building parts, such as beams, it is understood that the sapwood is inferior.

E E von Rothstein

sapwood is immature, soft and juicy. These properties make it inferior to core wood, for example, much more sensitive to rot.

Henrik Kreuger

sapwood contains a lot of plant juice. This makes it much softer than the core. Surface wood is thus more sensitive to rot. In addition, the surface wood is worn faster.

The Craft Book

does not report any information on the use of surface wood.

FLOATING , timber moving in the water

Carl Stål

does not report any floatation information.

E E von Rothstein

When floating, the timber is leached and thus does not become as durable as if it was shipped on land. The positive consequences of rafting are that the timber bursts and throws less, the juices do not log as easily and the timber becomes less stung. The penetrating moisture does no harm if you let the timber dry immediately. However, if you do not remove the bark immediately after peel, the wood can easily turn blue.

Henrik Kreuger

Strength deteriorates when timber gets wet. However, if the timber is not soaked for too long, the previous strength is maintained . It is also suggested that the starch disappears from the wood during the float, reducing the risk of root and worm attacks. The craft book The floatation is said to counteract cracking and attack by some toadstools.

68

69

DRYING

Carl stål

henge and sawn timber must be dry example airy barns before use.

E E von Rothstein

The timber should be set up for drying as soon as possible after the precipitation . It must not come into contact with damp soil. Sawn timber shall be structured in an airy building under roof. Between the layers of wood, there must be timber in lanterns , which must not lie so thinly that the drying wood bends .

Henrik ladi t Onel l beast ADJUSTMENT Geijersholm , Uddeholm Photo  
Gunno Kinnman tr oligen about 1930 Forest Colleges School

71

CUE

The answers to the Nordic Museum's questionnaire: "Wood and wood treatment" show how about a hundred years ago, selected and treated wood for construction purposes. The oldest building doctrine

presents the same approach as the answers to the questionnaire. The latter

the building doctrines, on the other hand, give the image of a wood handling city

change towards modern forms of production.

Traditional and modern wood handling differs in many ways

way. In the past, the timber would be winter-felled, densely planted and air-dried. Such requirements, which were previously considered to be absolutely crucial to the timber's durability, have today been abandoned. Most of the current timber production does not meet either. the quality requirements

they used to put on a good material.

The problems with the quality of wood in today's construction make it justified

to study the old knowledge more closely. Those parts of the timber management that were previously considered quality promotion should be analyzed. MAN

should investigate in which context it is important to use wood

that meets older quality requirements. The limited production of such timber, which, after all, still remains, should be utilized. The

practical and administrative issues, which impede the increase

use of this wood, should be resolved.

The traditional knowledge of how to choose wood, when and how

you trap and dry it has been developed for a very long time.

Right now we are in a period when this knowledge has been put to work

page. Sooner or later we must reconnect to the older methods to extract a good wood raw material. It will improve our wood construction, not least in the restoration context.

picture

Traditional felling

Geijersholm, Uddeholm

Photo Gunno Kinnman probably around 1930

Forest High Carbon

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#### CLARIFICATION OF TERMS

Blue stain , brad farm blue stain , induced of a large number of lower fungi, which are not as decay fungi and stock blue stain fungi live on the wood substance and decomposes cell walls , without the nutrient-rich content of wood cells. Therefore, the blend itself does not significantly reduce the strength of the wood but is a visible proof that the wood has received inappropriate handling.

Resin

The resin is the substancethat heals wounds that have ariens on the tree .

Root

means that fungi break down wood when ingredients in the cell walls are used as a nutritional source. The symptoms is changes entries in color, firmness, weigth and odor.

Saw

is water with nutrients dissolved therein and sugars that flow down the conduits , which are mainly found in the surface wood.

Wood

is a cellulosic and lignin Fig cell tissue constituting the main ingredient of the trunk and branches of trees. Heartwood is the single most len nv tree trunk, this part is the driest and hardest . Sap wood is the outer layer of the stain , it has higher moisture content and is less hard than the core wood. Life activity takes place mostly in the surface wood, which as the growth of the tree turns into core wood. A couple of Swdish name on resinwood, Tjärved, kådved , törved , fetved heavily resinus wood of pine. The terms are often used for woods that are deliberately dried on root.

Spiral grain

is, the fibers not follow Trade length line , but differs more or less. The reasons why certain trees exhibit a poster sheet spiral graindepends on the first year is fiber go to left and then the tree get older , straight and finaly did the fiber twisted to raigt , Other seed as input action of the sun's movement or by the biasing of wind on an eccentric crown.

Annual ring

the formed during one year. Our wood el l s early wood has wide and thin cells which are designed for growing season early part. Autumn wood or the late wood has wooden steam and thickwalled cells, landscaped under the growing season latter part. Our woods have

Picture

Cut through pine timber

73

74 summary in english