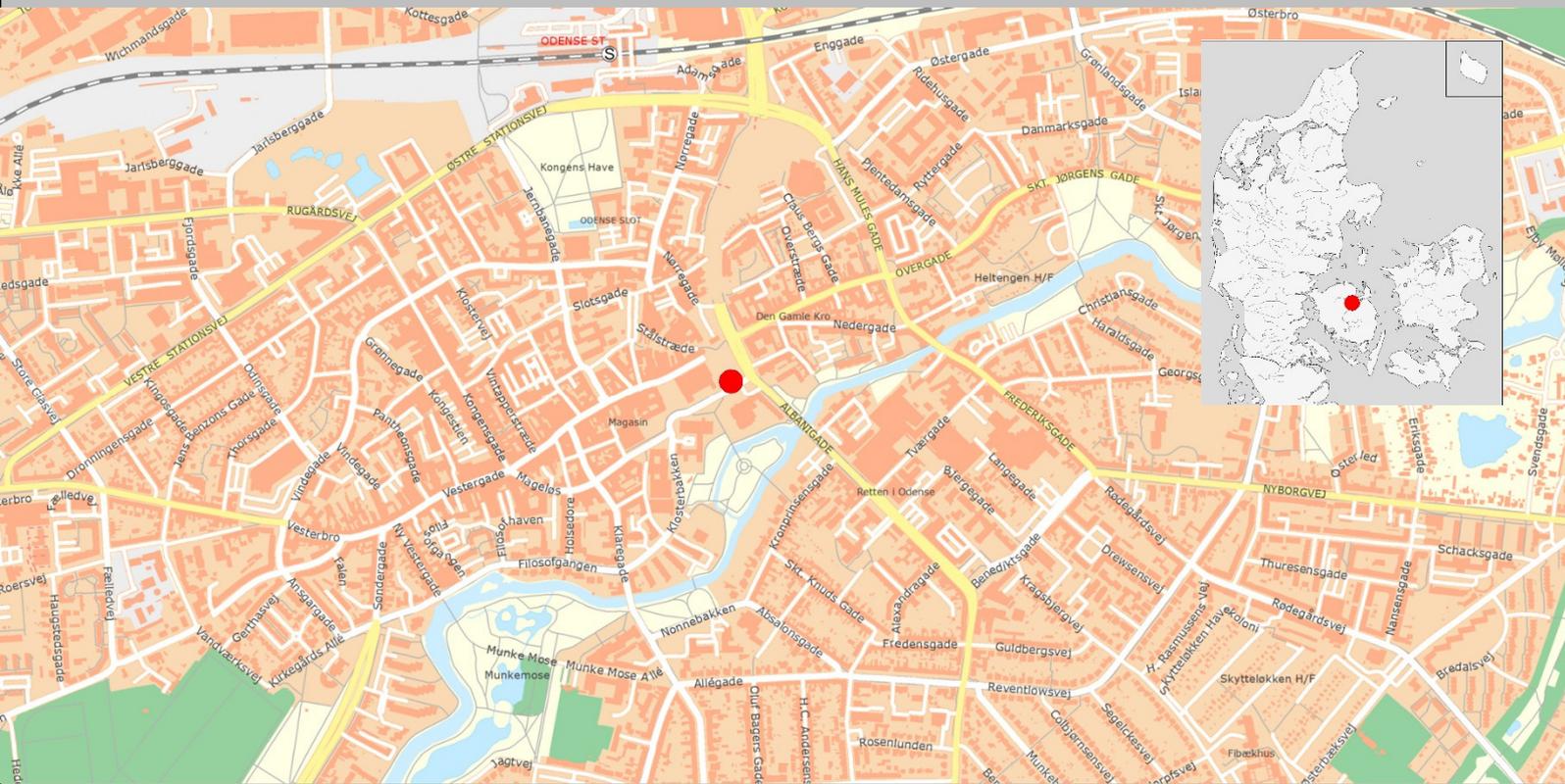


OBM 9776, Vilhelm Werners Plads (FHM 4296/1392)



Archaeobotanical analyses of soil samples from Medieval
Odense.

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Introduction

The excavated site of Vilhelm Werners Plads is located on a plateau next to a marsh and a small river, The Odense Å¹, which today belongs to a central part of present day Odense City. Odense Å terminates in Odense Fjord, which is located at a distance of approximately 6 km from the site.

During the excavation in all about 4300 m³ of soil was excavated which contained different cultural layers and features. These included building remains, postholes, pits, wells, latrines and part of a historically well-known major road, which passes through Odense. The road was in medieval times central, not only to Odense but also to the overall traffic on the island of Fyn where Odense is located. The many features found during the excavation could be dated to the period from about 1100 A.D. and all the way up to modern times (Haase, 2016).

While the excavation took place, extensive sieving of soil samples was done on site, where archaeological but also archaeobotanical material was picked out, cleaned and dried. Also, a large number of scientific samples for different types of environmental analyses were taken while the excavation took place. In particular, many soil samples of several liters were taken either in bags or in boxes for archaeobotanical and other analysis. Most of these samples were kept wet after the end of the excavation. Some samples, however, were floated to retrieve the carbonized material in the soil.

Flotation is a preparation method, used to separate light matter like for instance carbonized material. During flotation, water is added to the soil sample in a container. As the soil is dissolved by the water, all light material like carbonized plant remains float to the top of the container. It is then poured into a fine meshed (ca. 0,25 mm) cloth. The flotation sample in the cloth is then dried, after which it is ready for analysis.

Material and methods.

After the excavation had ended, a large number of archaeobotanical samples and also a few especially selected sieved samples were screened under a microscope with a X40 magnification in the Department of Archaeological Science and Conservation at Moesgaard Museum. The screening was done in order to evaluate the content of botanical material in the samples. On the basis of the screenings, many samples were selected for final analysis. The selection was done both on the basis of the content of archaeobotanical material in the samples but the importance of the contexts also played a major role in selecting samples for final analysis.

The analyzed samples in this report consist in a few cases of sieved material (which will be specified in the text). By far the most samples, however, consist of wet archaeobotanical soil samples retrieved from bags or boxes. In these cases, sub-samples were taken from the bulk samples for plant macrofossil analysis. Apart from one sample (x487), which was very small, (100 ml), all sub-samples had a volume of 200 ml each. Alternatively they consisted of larger samples which were adjusted down to 200 ml, allowing for quantitative comparison in macrofossil content. The sieved samples had a larger volume than the wet samples as x4870

¹ Vilhelm Werners Plads was excavated by Odense Bys Museer. It belongs to Odense sogn, Odense by, has stednr: 080407-130 and UTM coordinates: 588036/6139758 zone 32.

was 1000 ml. and x4338 was 2150ml. The original soil sample sizes of the sieved samples are not known, however, so no quantitative comparisons could be made between the wet samples and the sieved samples.

Following the sub-sampling, all archaeobotanical wet samples were wet-sieved through a stack of sieves, with varying mesh sizes down to a smallest mesh size of 250 µm. Plant remains were picked out from the different-sized residues, using a binocular microscope with 40x magnification. At first, whole samples were analyzed, but this proved to be too time-consuming. Additionally, the fine fraction in the 250 µm sample, which takes the most time to analyze, also yields very few macrofossils and usually only “siv”, *Juncus* seeds². Economic plants are normally only found in the two largest fractions which had 2 and 1 mm mesh sizes. Therefore, a decision was made to analyze the two largest fractions completely, as these take up relatively little time to analyze and yield the most economic species. The finest fractions were subsampled: one fourth of the finest fraction (with 250 µm mesh sizes) and half of the second finest fraction (with 500 µm mesh sizes) were analyzed. The amount of seeds was then multiplied by 4 and 2 respectively, to correct the volume.

Plant macrofossils were identified by cand. mag., Fenna Feijen using literature and modern reference material from the Department for Archaeological Science and Conservation, Moesgaard Museum. The report has been written by Fenna Feijen and cand. mag. Peter Mose Jensen in cooperation.

The results of the analyses are presented in tables 1-15. Regarding the interpretation of the tables, it must be noted that sometimes a high amount of seeds, for example thousands of strawberry seeds, or hundreds of “gåsefod”, *Chenopodium* seeds, will skew the percentages. The main reason for the differences in seed occurrences between species is, that some plant species produce lots of seeds and other plants just a few. Some plants species produce seeds that are harder and more durable, and therefore have a better chance of preservation than seeds of other species. Therefore, it should be noted, that numbers of seeds cannot easily be compared to each other. When relevant, however, this will be described in the text.

The analyzed plant remains were mainly preserved uncarbonized by water logging. Waterlogging preserves seeds through the absence of aerobic bacteria, that would quickly decompose organic remains otherwise. A few remains, however, were preserved either carbonized or due to mineralization. The carbonized or mineralized remains are specifically mentioned in the tables. Preservation by carbonization happens when the plant remains for various reason have been exposed to fire or heat. In most cases these plants will have been exposed to everyday activities involving fire like everyday burnings in fireplaces or ovens, but accidental fires like house fires that can lead to preservation by carbonization are also seen relatively often on archaeological excavations. During mineralization, the contents of a seed are replaced by calcium phosphate. This can happen in very nutrient rich environments. For instance, cesspits have a high phosphate content; therefore, conditions for mineralization in latrines are favourable.

² It should be noted, that in many cases the Danish plant names will be used for ease of reading together with the Latin names. In these cases the Danish names will be marked with “ ”, like for instance “hvidmelet gåsefod”.

Preservation of the plant macrofossils from Vilhelm Werners Plads was generally good, sometimes excellent. Even delicate features like the hairs on a seed of “almindelig mælkeurt”, *Polygala vulgaris* and a grain of charred oat, *Avena* sp. were present.

In the analysis tables, taxa are grouped into different categories, reflecting their present-day habitat preferences, or association with humans. The category ‘unclassified’ is used for taxa with wide ecological tolerances, like “bittersød natskygge”, *Solanum dulcamara*. This plant can grow in a variety of habitats, including marshes, sand dunes and forests. The ‘unclassified’ category is also used for taxa that have been identified to genus or family level only, like “æртеblomst-familien”, Fabaceae.

The category ‘cultivated plants’, includes plants that were certainly or almost certainly cultivated. One example of an almost certainly cultivated plant is “humle”, *Humulus lupulus*. Regarding “humle”, the assumption is made, that it was most probably cultivated, because Odense was an urban environment making it likely, that it was either intentionally grown in or around Odense, or that it was alternatively an imported cultural plant, even though it may theoretically have been gathered from the wild.

The category ‘edible plants collected/cultivated’ contains plants that could have been either cultivated or gathered from the wild. An example of a plant that was certainly gathered from the wild is “mosepors”, *Myrica gale*, which only grows in heathland or in acid bog areas. Some plants belonging to this category, might also represent accidentally occurring wild plants. An example of this is seeds from “hylde”, *Sambucus nigra* which could likely be human consumption waste. Another possibility, however, is that the seeds of this species derive from trees growing next to the houses, or that they represent wild plants growing in the town.

Regarding the use of plant part names the colloquial terms ‘seed’ or ‘grain’ will be used for plant diaspores, also in cases where this is not correct from a botanical point of view. Nomenclature follows Heukel’s Flora (van der Meijden, 2005).

It should also be noted that remains other than plant remains like eggshells, insect remains and fish bones are also mentioned in the tables whenever they were recognized. These elements were not systematically analyzed but some animal remains were identified by Susanne Østergaard at the Department of Archaeological Science and Conservation, and two beetle wing cases were identified by Tom Hakbijl at Naturalis, Leiden, The Netherlands.

Results

The samples analyzed for this report come from various contexts, including the road, stables, pits, buildings, different cultural layers, latrines and wells and will be presented in the following sections.

The road

A number of samples were taken from different contexts in a main road passing through the excavation. As described above, the road was of major importance to Odense itself but also to the traffic on Fyn in general. It contains many soil layers and was clearly used for a very long period of time. The oldest layers are apparently dated to about 1.100 A.D., but these are superseded by numerous younger layers. All road layers uncovered during the excavation, however, more or less follow the layout of modern day Overgade/Vestergade.

Archaeobotanical samples were analyzed from the road along a 15 meter transect. Samples x5506, x5507, x5515, x5516, x5517, x5538, x5539, x5595, x5596 and x5602 are from layer 2692 while the samples x5344 and x5499 are from layer 2948.

Layer 2692 is archaeologically interpreted as a levelling layer which was established prior to the construction of the superseding layer 2948.

The samples taken from 2692 are part of a series of 10 samples taken along the trajectory. Among these, x5506 and x5515 are described as coming from the top of the layer, while x5595 is described as coming from the bottom. X5507, x5516, x5517 and x5538 are all described as containing general fill from the layer.

Layer 2948 is a walking layer on the road containing twigs, which were probably added to the layer to avoid that the road became too muddy. Both layer 2692 and layer 2948 have been dated to around 1200-1300 A.D.

The results of the analyses from the road can be seen in tables 1-2 and fig. 1.

Discussion of the road layer samples

The samples from layer 2692 contained a long list of different plant species. Many of these were from cultivated or probably exploited plants. Cereals present in the samples include a few charred grains of oats, *Avena* sp. wheat, *Triticum* sp. and barley, *Hordeum vulgare*, and the very rare find of seeds of "fennikel", *Foeniculum vulgare*. Other potentially collected or cultivated plants present in the samples are "mosepors", *Myrica gale*, "almindelig hyld", *Sambucus nigra*, "brombær", *Rubus fruticosus*, "hasselnødder", *Corylus avellana*, "rose", *Rosa* sp., "jordbær", *Fragaria* sp. and "hindbær", *Rubus idaeus*.

Many of the wild seeds in the samples are typically occurring on fields or ruderal areas, but seeds from wetlands and marshes are also well represented. The long list of both exploited and wild plants, and the presence of both carbonized and uncarbonized plant material fits well with the interpretation of layer 2692 as being a levelling layer, as the plant material probably reflect many different kinds of soil from different contexts used as fill in the road. Also, the presence of many other elements besides plants in the sample indicate a mixture of many different material types being present. As is seen in table 1-2 layer 2692 contained, for instance, both wood, charcoal, egg shells, hairs and bones from fish and mammals. It is known that at least animal bones were sometimes used intentionally for levelling and perhaps drainage in several of the road layers, so perhaps the bones found in layer 2692 were also used for this purpose.

The two samples from layer 2948, x5344 and x5499 have the highest plant macrofossil concentration of all the road samples. As these two samples come from a walking layer on the road, it is assumed that the content of these samples could probably both reflect material used in the construction of the road but also material that for one reason or another had been dropped on the road while it was in use. The wood fragments in the samples, are likely remains of the wood and twigs used to build this road layer. The remains of cultivated and probably exploited plants, in contrast, are more likely remains of plants that were either dropped while transported on the road or could alternatively be associated to activities that took place either on the road or in the vicinity like for instance activities related to the markets stalls or the houses or working areas next to the road.

The economic plants in the samples from layer 2948, include species like a charred, sprouted grain of oat, *Avena* sp., a few seeds of "fennikel", *Foeniculum vulgare*, several seeds of "mosepors", *Myrica gale*, seeds of "jordbær", *Fragaria* sp, "almindelig hylde", *Sambucus nigra*, "hindbær", *Rubus idaeus*, and nut shell from "hassel", *Corylus avellana*.

The wild seeds in the sample are hard to interpret, as they might both represent material used to construct the road, material transported on the road, plant material utilized in the area or plants growing beside the road. Especially many plants typically occurring on fields, ruderal areas and meadows appear in the two samples, which may both come from hay or crop cleaning products. The most common agricultural weeds are "hvidmelet gåsefod", *Chenopodium album*, followed by "bleg/fersken-pileurt", *Persicaria maculosa/lapathifolia*, "rødknæ", *Rumex acetosella* and "almindelig pengeurt", *Thlaspi arvense*. Another prominent plant group in the two samples are plants typical for marshes and wetlands. The most common marsh plants are "siv", *Juncus* sp, "sumpstrå", *Eleocharis* sp. and "dunhammer", *Typha* sp., "Skebladfamilien", Alismataceae and "Kær-ranunkel", *Ranunculus flammula*. These plants could be from marshy or muddy areas beside the river.

Fig. 1 shows the general plant group distribution in the analyzed samples from the road. Due to the presence of market stalls on some areas of the road, and the fact that the road passes several parcels, any differences in composition between samples along the road could potentially be used to provide information about plant use and road construction strategies.

As can be seen from the diagrams, there appears to be no major differences in plant macrofossil composition along the transect. Some differences in sample compositions could be seen between the two investigated layers, however, as the percentage of marsh plants is the highest in layer 2948, while the percentage of agricultural weeds is higher in layer 2692. Also, the layer 2948 samples had a greater species diversity and a higher amount of seeds than the samples from layer 2692. This difference in plant macrofossil concentration, however, could be due to different preservation conditions between the sample locations.

Wells

Interpretation of archaeobotanical samples from wells

The results of the analyses from the wells can be seen in table 3-4 and fig. 2.

The interpretation of archaeobotanical samples from wells depend on the specific context from which the samples are taken. While the well is in use, seeds and leaves from the natural environment immediately surrounding the well will accumulate at the bottom, but these will very likely be mixed with economic and other plants that for different reasons have fallen

into the well. At a later phase, when the well falls out of use, it will typically be filled up with soil, latrine material and household waste (Jacomet & Kreuz 1999). It should be noted, however, that wells may sometimes be re-excavated, for secondary use as a well, which means that several primary use layers are sometimes found. The following discussions relate specifically to the individual wells.

Well ADK

Well ADK was a 2.4 m. high structure which consisted of two large barrels placed on top of each other and wrapped in a straw mat. The lower barrel was dendro chronologically dated to 1316 A.D. and the upper barrel to 1336 A.D. These two dates provide a *terminus post quem* dating of the well. The dendrochronological dating of the well together with the archaeological datings suggest that ADK was established around 1400 A.D., and it was presumably in use for many years. It should also be noted that well ADK was possibly used in connection to a brewery that was also dated to around 1400 A.D. This brewery (ABK) has been analyzed in a separate report (Jensen 2017). Three samples: x4330, x4255 and x4272 were sampled from contexts connected to the well.

X4330 comes from soil from underneath the lower barrel in the well, and it therefore to some extent pre-dates the construction of the well. It is, however, still possible that x4330 could contain plant material that became mixed with the soil layer while the construction of the well took place.

X4330 only contained very few cultivated or probably exploited plants. Most notably among this plant group, a number of seeds of “humle”, *Humulus lupulus* were found.

The two other samples from well ADK – x4255 and x4272 come from soil interpreted as backfill in the well. More specifically x4272 came from fill in the lower barrel while x4255 came from soil in the upper barrel. Regarding the general interpretation of this backfill, it was noted archeologically, that the soil content in ADK was crudely layered and partly consisted of clay layers. This suggested that the well was not used as an “ordinary” dump for household waste but was more likely filled relatively quickly with different types of soil, clay and waste with the purpose to quickly fill the hole in the ground, after the well was given up. Since the material in the well is most likely backfill consisting of soil from the general area the content of x4255 and x4272 probably reflect a relatively general mixture of local material probably mainly from about the time when the well was abandoned.

The plant contents in the two samples x4255 and x4272 are relatively similar to each other but also to the content of sample x4330 described above, which came from the well bottom. The few economic plants in the samples mainly come from “humle”, *Humulus lupulus*, which appears in all samples from the well. Even though the “humle” seeds in the well are not necessarily from the immediate vicinity of the well it should be noted, that this plant together with “mose-pors”, *Myrica gale* which was also present in the ADK samples in small amounts were the most common plants used as an additive to beer in medieval Denmark. Their occurrence in the well samples might therefore reflect that well ADK was connected to brewery ABK. Other economic species found in samples x 4255 and x4272 besides “humle” and “mosepors” include cereal bran, “figen” and “hør”.

A lot of the wild seeds in the samples from well ADK are weeds typically occurring on cereal fields, like “klinte”, *Agrostemma githago* and “Kornblomst”, *Centaurea cyanus*, “Rundskulpe”, *Neslia paniculata* and “kiddike”, *Raphanus raphanistrum*. Of special note

among the ruderal plant group is the presence of a few seeds of “bulmeurt”, *Hyoscyamus niger*, as this plant functioned as a medicine plant as well as being a weed (Brøndegaard 1978). It should also be noted, that a number of plants from wetlands or marshes like “vild hør”, *Linum catharticum* and “siv”, *Juncus* sp. were found. These plants, that likely represent wet conditions, may possibly reflect species that grew around the well before the bottom of the well was covered with soil.

Well AWL

Sample x5963, that comes from the fill of well AWL is dated to 1100-1200 A.D. The fill is mostly sand, with some decomposed organic material. The lower part of the fill is more organic, and screening results suggest it contains latrine material. The results of the analysis agree with this, as the sample contained a number of edible plants like “hindbær”, *Rubus idaeus* and “jordbær”, *Fragaria* sp. A few seeds of “humle”, *Humulus lupulus* and a relatively large number of probable agricultural weed seeds were also found in the sample especially “hvidmelet gåsefod”, *Chenopodium album*, “almindelig fuglegræs”, *Stellaria media* and “sort natskygge”, *Solanum nigrum*.

Well XD

X2684 comes from fill in well XD which has been dated to around 1300-1350 A.D. The fill is layered and rich in organic material. Cereal bran and seeds of various fruits and berries found when the sample was screened indicates presence of latrine material (Petersen & Hammers 2015), and this interpretation was confirmed by the analysis results, as sample x2684 contained many remains of edible plants. For instance, x2684 contained cereal bran, but the main food plant content in the sample consisted of numerous remains from fruits and berries. Of special note in this regard were thousands of seeds from “jordbær”, *Fragaria* sp. but also plants like “kirsebær”, *Prunus* sp., “æble/pære”, *Malus/Pyrus* sp., “hindbær”, *Rubus idaeus* as well as the likely imported species “figen”, *Ficus carica* and “vindrue”, *Vitis vinifera* were present. Finally “fennikel”, *Foeniculum vulgare* should also be mentioned as a special food plant that was found in this well. Besides the food plant remains the sample also contained many wild seeds. In particular, many typical cereal weeds were found, of which most seeds were from “klinte”, *Agrostemma githago* and “almindelig kiddike”, *Raphanus raphanistrum*.

Well/pit complex AGQ

Several samples were analyzed from pits/wells belonging to this pit/well complex, that was dated to 14th Century.

X2603, from AGQ contained bran and fragmented seeds of cereal weeds like “klinte”, *Agrostemma githago*, probably ground together with cereals. Also, a number of berry and fruit seeds were found in the sample. From this plant group in particular, “jordbær”, *Fragaria* sp. was relatively abundant, and the berries together with the bran remains indicate presence of latrine material in the investigated soil layer. Of special note this samples also contained a high amount of seeds of “dyrket hør”, *Linum usitatissimum*, which could have been eaten. Of other special finds in the sample a leaf of “rosmarin”, *Rosmarinus officinalis*, as well as the high amount of “mosepors”, *Myrica gale* seeds should be mentioned. Apart from the presumably exploited species the sample also contained many wild seeds especially from typical agricultural weeds.

X2584 and x2588 come from the top and bottom of layer 1760 in a rounded pit. The layer, which is interpreted as probable latrine material, is dated to around 1300-1350 A.D.

Even though the two samples come from the top and bottom of the layer, there are no clear differences in composition between the two samples. Compared to the other archaeobotanically investigated well/latrine samples, x2584 and x2588 contain hardly any remains of cereals, as only a charred grain of oat, *Avena* sp, was found in x2584. Other probably eaten plants were found in the two samples, however, in the shape of especially "jordbær", *Fragaria* sp. and "hindbær", *Rubus idaeus* which may point towards latrine material being present. Also, presumably exploited plants like "almindelig hylde", *Sambucus nigra* and "mosepors" *Myrica gale* were found in the samples. The wild seed content in the two samples is generally low, but most wild species typically occur on agricultural land, ruderal land or grassland.

Stables

The results of the analyses of the stable samples can be found in table 5 and fig. 3.

X2291 is from stable OJ/NB, dated to the late 14th Century A.D. with the analyzed soil interpreted as levelling of existing deposits as well as earth brought in from elsewhere. X2291 contains a number of cultivated plants, like cereals and seeds from "almindelig hør", *Linum usitatissimum*, and "hindbær", *Rubus idaeus*. Traces of cereal bran, for instance, was found indicating that a little human dung might be present, so perhaps the stable areas was sometimes used as a human latrine. Some cereals, however, were carbonized indicating that part of the layer may also have consisted of household trash. The special find of "almindelig hjertespad", *Leonorus cardiaca* in the stable should also be mentioned as interesting, as this plant might perhaps have been used as medicine for livestock (Brøndegaard, 1978) Alternatively the "almindelig hjertespad" could have been used as medicine by humans and may be part of human dung.

The wild seeds in the sample were mainly typical agricultural weeds like "kornblomst", *Centaurea cyanus* and "klinte", *Agrostemma githago* and may likely represent animal fodder or floor bedding in the stable.

X1036 is from Feature KK/NB, dated to the early 15th Century A.D. that has been interpreted as a layer from a wooden building, containing human and animal dung, as well as bedding material for the animals. Since x1036 contained no traces of human plant food (apart from a few shells of hazel nut, *Corylus avellana*, that had most likely not been eaten), the presence of human dung for this reason could not be verified on the basis of the archaeobotanical analysis.

It was, however, very likely that x1036 contained both hay and animal dung heap material. The many remains from typical agricultural weeds may thus represent the original presence of hay or floor bedding in the stable, while the relatively abundant traces of plants typical for marshes and wetlands may have come from animal dung or hay. The seeds of "star", *Carex* sp. in the sample may also have come from animal dung as many species of "star" often grow on wet meadows. Most probably, the animals in the stable have been grazing locally or been fed with hay that was harvested locally, so most likely the marshland plants in x1036 to some extent reflect the natural environment close to Odense.

Latrines

A large number of latrines from the site were archaeobotanically investigated (see table 6-8 and fig. 4). The archaeobotanical content of latrine samples can often be difficult to interpret. The reason for this is that latrines most often served not only as human latrines, but also as more general trash pits, both while the latrine was in use but also afterwards, when the latrine would likely have been filled with different types of material and soil.

Plant remains in the Odense samples that typically indicate more general trash are components like carbonized material (grains and charcoal), wood fragments, straw etc.

One other factor that makes the interpretation of latrine samples complicated is the fact that the latrines could likely have been continuously emptied while they were in use. For instance, latrines could have been emptied, and their content spread out on fields and gardens. This means that different layers in latrines are very probably mixed together (van Zeist, 2010; Kuijper, 1986).

Because of the complexity of soil layers in latrines, archaeobotanically analyzed latrine samples often contain both a high amount of seeds and a great diversity in cultivated and edible plant species, compared to other contexts.

Plant remains in human waste will typically include cereal bran to some extent. Cereal bran often comes from ground grain, and the presence of bran likely indicates bread, porridge or other plant food types based on grain, that has passed through the human digestion system. A number of other food plant seeds are also often found in human waste. Examples of these are "jordbær", *Fragaria* sp., "hindbær/korbær/brombær", *Rubus idaeus/caesius/fruticosus*, "figen", *Ficus carica*, "vindrue", *Vitis vinifera*, remains of "æble/pære", *Malus/Pyrus* sp., and other food plant seeds and plant remains that have hard plants parts that are typically swallowed together with eaten food. Other edible food plants like nut shells of hazel, *Corylus avellana* and fruit stones of "kirsebær", *Prunus* sp. and "blomme", *Prunus domestica* are less likely to be swallowed when food is eaten, and for this reason these plant remains most likely represent trash, for instance from food preparation rather than human waste.

Remains of wild plants in latrines are often harder to interpret as either human waste or trash than economic plants. Mosses for instance were probably used as toilet paper in medieval times and for this reason mosses often ended up in latrines. Mosses could, however, also have ended up in the latrines for other reasons. Typical cereal weeds, when found, could very well represent weeds that were accidentally eaten because they were a component in flour. For instance, seeds from "klinte", *Agrostemma githago* are often found in rye flour and when encountered in latrines, especially in a fragmented state, they could very likely reflect food based on rye. On the other hand, the presence of many of the cereal weed seeds in latrine samples could very likely rather be remains of animal fodder, trash from cereal cleaning etc.

Finally, animal remains like bones, fish bones and eggshells that are also typical of latrines, could probably both be remains of eaten foods as well as representing kitchen waste and other trash.

As seen from the discussion above, there can be several possible interpretations of latrines. For this reason, the following section will provide description of the individual latrine samples from Odense.

Descriptions of the individual latrine samples

X251 comes from latrine GQ which is dated to 1450-1550 A.D. The sample contained economic plants of which species like buckwheat, *Fagopyrum esculentum*, "jordbær", *Fragaria* sp. and "humle", *Humulus lupulus* were prominent. Also, large amounts of cereal bran were present which indicates human dung. Wild seeds in the sample were mainly from typical agricultural weeds. Besides typical latrine material the sample also contained signs of other types of trash. For instance, the sample contained a large amount of hairs which is possibly trash from tanning of hides or slaughter of animals.

X484. In this sample from latrine GQ dated to 1450-1550 A.D. some economic plant remains especially from "jordbær", *Fragaria* sp. and "hindbær", *Rubus idaeus* could indicate human dung. Other economic plants like charred grains of rye, *Secale cereale* and fruit stones of "kirsebær", *Rubus* sp. probably more likely represent trash, and the presence of especially large amounts of charcoal and wood also indicate that trash is very prominent in the sample. The wild seeds in the sample are mainly from typical agricultural weeds.

X486 comes from latrine AEJ which is of an unknown date. The analyzed sample contained comparatively few plant remains. Economic food plants in the sample that could indicate human waste are "hindbær", *Rubus idaeus*, "jordbær" *Fragaria* sp. "opiumsvalmue", *Papaver somniferum* and perhaps "almindelig hyld", *Sambucus nigra* while species like "kirsebær", *Prunus* sp. probably more likely reflect general trash. Other indicators of the latrine being used for trash are for instance the relatively large amounts of wood fragments present. The relatively few wild seeds in the sample represent a mixture of different environments.

X1040 comes from feature AEG, that was dated to 1350-1400 A.D. X1040 contained several food plant remains that may indicate human waste like "jordbær", *Fragaria* sp., "hindbær", *Rubus idaeus*, "almindelig hyld", *Sambucus nigra* and two seeds from "figen", *Ficus carica*. The sample probably also contained general waste indicated, for instance, by the presence of fragments of wood and charcoal. The weed seeds in the sample are likely remains of agricultural weeds.

X1153, x1164 and x1204 all come from feature LZ which is a large circular pit containing latrine material. The pit, that is dated to 1400-1500 A.D. may have been covered by a roof. The three samples from this latrine will be described together in the following section but differ from one another in several ways which will be described in the text. Signs of human waste are found in varying degrees in the three samples. In x1153 the human waste indicators, however, are very scarce, as only one cereal bran fragment and one fragment of "almindelig hyld", *Sambucus nigra* points towards human dung. X1164 on the other hand contained many indicators of human waste. In this sample were found large amounts of cereal bran together with for instance seeds of "figen", *Ficus carica*, "jordbær", *Fragaria* sp., "æble/pære", *Pyrus/Malus* sp. and "korbær", *Rubus caesius*, which may all have been eaten by humans. While wild seeds in all the three samples are dominated by likely agricultural weeds the signs of general trash differ. Most trash indicators are found in x1164 where for instance both charcoal, wood fragments and hairs appeared in relatively large numbers.

X1683 comes from feature OS, , which is a large pit, either used as a latrine or for dumping latrine material, that was dated to 1100-1200 A.D.. A few remains of cereal bran and a few seeds of "jordbær", *Fragaria* sp., in x1683 could possibly indicate human waste. Also a relatively large occurrence of mosses might indicate, that the pit was used as a latrine or at least contained human waste, as mosses were likely used as "toilet paper" in medieval times.

Other economic plants in x1683 that was probably part of general trash are species like “mosepors”, *Myrica gale* and nut shells of “hazel”, *Corylus avellana*. The presence of wood fragments and charcoal also represents trash.

The wild plant remains in the sample are hard to interpret as they represent a mixture of species growing on different environments.

X2172 comes from latrine ATG which consisted of two well preserved barrels. ATG was dated to 1350-1400 A.D.

The sample contained large amounts of cereal bran and remains of “dyrket hør”, *Linum usitatissimum*, “æble/pære”, *Malus/Pyrus* sp. and “jordbær”, *Fragaria* sp., which indicate human waste being present in the latrine. Other plant remains in the sample that could indicate more general waste are charred cereal grains and a species like “humle”, *Humulus lupulus* but also the presence of wood fragments and straw. The wild seeds in this sample are primarily from species typically occurring on fields and other ruderal soils.

X2220 comes from feature ATF, which was dated to 1400-1500 A.D., and contained two well preserved barrels. The barrels could previously have been used for storage. The sample contained only few plant food remains that indicate human waste being present like a few remains of cereal bran and a few seeds from “jordbær”, *Fragaria* sp., and “hindbær”, *Rubus idaeus*. A few nutshell fragments of “hazel”, *Corylus avellana* probably represent general waste and the same does the wood fragments and charcoal in the sample.

The wild seeds in the sample are primarily from species typically occurring on fields and other ruderal soils.

X2508 is from feature AWU, which is dated to 1300-1350 A.D. It is a pit with layered infill, which seems to contain latrine material as well as general waste. Seed preservation in this sample was excellent.

There were not many economic plants in the sample, even though there was some cereal bran present, which may indicate human waste. There were also some seeds of “humle”, *Humulus lupulus* still covered by their seed coats.

In relation to economic plants there were many wild plant species in x2508. Especially plants typically occurring on fields and ruderal soils and plants typical for wetlands and marshes are abundant in the sample

It should also be mentioned that some amounts of for instance wood, charcoal, straw and hair was found in the sample which indicates the presence of general waste.

Sample x2609 was from latrine AWW, which is dated to 1300-1350 A.D.

Human waste as a component in the sample is strongly indicated especially by the many cereal bran remains and seeds of “jordbær”, *Fragaria* sp. The presence of for instance wood fragments, however shows that also more general trash was present in the latrine.

The wild seeds in the sample are mostly from species typically occurring on fields and ruderal soils.

X2643 derives from feature XW, which is a possible latrine or storage barrel, that might both contain remains of waste or stored material. XW is dated to 1350-1400 A.D.

The sample contained a range of different economic plants. Some were edible but these are relatively scarce and it was not possible with certainty to interpret the sample as representing human waste. The most prominent economic plants present were “humle”, *Humulus lupulus*, but also few remains of “hamp”, *Cannabis sativa* and “almindelig hjertespad”, *Leonurus cardiaca* were found. The presence of some amounts of wood

fragments in the sample indicates, that at least part of the sample soil consists of general trash.

Most wild seeds in the sample are species that typically occur on fields or other ruderal soils like "hvidmelet gåsefod", *Chenopodium album*, "Sort natskygge", *Solanum nigrum* og "ru svinemælk", *Sonchus asper*.

X5388 comes from feature ATG, which was dated to 1400-1500 A.D. ATG is a latrine constructed from well-preserved barrels, and was perhaps originally covered by a small building.

The sample only contained few plant remains typical for human waste. Most notable among these plants were "hindbær", *Rubus idaeus*. Other economic plants were present in the sample however, like "humle", *Humulus lupulus*, nut shells from hazel, *Corylus avellana* and fruit stones from "kirsebær", *Prunus* sp. but these species indicate general trash rather than human waste.

The wild plants in the sample are hard to interpret and may have come from several different biotopes like agricultural/ruderal soils indicated by species like "knudet pileurt/fersken-pileurt" *Persicaria maculosa/lapathifolia*, "sort natskygge", *Solanum nigrum* and "liden nælde", *Urtica urens* and wetlands indicated by "siv", *Juncus* sp.

X5422 comes from latrine ATG, which is dated to 1400-1500 A.D. The sample contained many plant remains that indicate that human waste has a strong presence in the sample. Particularly, cereal bran, "jordbær", *Fragaria* sp., "pære/æble", *Pyrus/Malus* sp. and perhaps "almindelig hør", *Linum usitatissimum* should be mentioned in this regard. It should also be mentioned that a lot of mineralized cereals were found in this sample, which indicates a phosphate-rich environment. The wild plant remains from the sample are mainly from species typical for agricultural soils or other ruderal areas.

X5885 is sampled from latrine ATH, which is dated to 1200-1300 A.D. The sample contained both some cereal bran but also remains of for instance "jordbær", *Fragaria* sp. that might indicate human waste being present. Other economic plants in the sample, especially nut shells from hazel, *Corylus avellana* were more likely general trash and this was probably also the case with the straw, wood fragments and charcoal in the sample. The wild plant remains in x5885 are mainly from species typical for agricultural soils or other ruderal areas.

X5914 comes from layer 3077 in latrine AUW and is dated to around 1350-1400 A.D.

The presence of human waste is strongly indicated by very large amounts of seeds from "jordbær", *Fragaria* sp. Also other edible and exploited plant remains were present in the sample however, for instance in the shape of seeds from "hindbær", *Rubus idaeus*.

The wild plant remains in the sample were dominated by remains of species typically occurring on agricultural and ruderal soils. In particular many seeds of "klinge", *Agrostemma githago* were found in the sample, which may indicate that the layer also contained cereal waste, which again may indicate that more general waste occurred in the layer. The presence of general waste was also indicated by the appearance of hair, wood fragments and remains of animal bones especially from fish.

X5959 comes from latrine AWO, which is dated to 1100-1200 A.D. The presence of especially large amounts of bran and many remains of food plants for instance from "jordbær", *Fragaria* sp. and "pære/æble", *Pyrus/Malus* sp. indicates, that a large part of the

sampled soil consisted of human waste. The wild plant remains from the sample are mainly from species typical for agricultural soils or other ruderal areas.

X5962 is from layer 3136 in latrine AUW, which is dated to 1400-1500 A.D. The presence of bran and food plants like "jordbær", *Fragaria* sp. and "hindbær", *Rubus idaeus* confirms that the sample probably partly consisted of human waste. Other economic plants in the sample like nut shell fragments from hazel, *Corylus avellana* and "mosepors", *Myrica gale* together with the presence of charcoal and wood fragments indicate general waste rather than human faeces.

The remains from wild plants in the sample were relatively few, but are primarily from species typical for agricultural soils or other ruderal areas like for instance "almindelig fuglegræs", *Stellaria media* and "liden nælde", *Urtica urens*.

The market stall

The results of the analyses of the market stall samples can be found in table 9 and of x4870 can be found on fig. 5.

X4870 is from feature AKT, dated to 1300-1350 A.D., which is interpreted as a light building on the major road. It is possibly a market stall. It should be noted, that x4870, when analyzed, had already been sieved on the site and stored as a dry sample (see description of sieved samples above). Therefore, it is not quantitatively comparable to other samples, and the original volume of this sample is unknown.

The sample especially contained a high amount of uncharred hazel nutshell fragments, *Corylus avellana*. A charred grain of oat, *Avena* sp., a seed of "almindelig hør", *Linum usitatissimum* and seven "mose-pors", *Myrica gale* fruits, a few seeds of "hindbær", *Rubus idaeus* and "almindelig hylde", *Sambucus nigra* were also found, but all in all there were not many economic species present in the sample. A major reason for this, may be, that relatively large mesh sizes were used during the archaeological sieving. This means that many small seeds may very likely have been lost while larger plant remains like hazel nut shells and grains were retrieved. There is also a possibility that fragile seeds were destroyed by the drying process, resulting in a less complete picture of the archaeobotanical assemblage.

Very likely the components in the analyzed sample reflect different activities that took place in connection to the market stall. Some plant remains like the hazel nut shells may be remains of food eaten in the area. Other remains may reflect things that were traded. The market area was historically known as a fish market, and for this reason some of the bones from fish and mammals may possibly represent traded goods.

X5809 is described as a growth layer (layer 3063) from prior to the construction of the market stall. The layer is dated to 13th Century.

The sample contained many roots which supports the interpretation of the layer as a growth layer. Many plant remains in the samples represent probably exploited species or wild plants typically occurring on fields or ruderal areas. Also, the sample contained economic plant remains in the shape of for instance carbonized grain and nut shell fragments of hazel, *Corylus avellana*. This, together with a presence of elements like charcoal, fishbones, eggshells etc. shows a big cultural impact when the soil layer was formed, and that part of the sample soil probably consisted of trash.

Middens

The results of the analyses of the samples from the middens can be found in table 10 and on fig. 6.

Archaeobotanical analyses from middens – like latrines – can be rather complex to interpret, as they – again like latrines – are likely to contain a mixture of human and animal dung as well as more general trash (see discussion of the latrine samples above). In addition, weeds would have grown both on as well as around the midden.

The general guidelines for recognizing human waste and more general trash through the presence of bran and various economic and wild plants are therefore the same for latrines and middens. An expected difference between contents in middens and latrines, however could potentially be a higher presence of plants typically occurring on meadows, wetlands and marsh areas, as plants from this kind of biotopes in a midden sample could very likely reflect animal dung and/or animal fodder.

The following section will provide descriptions of the individual midden samples from Vilhelm Werners Plads.

X1896 comes from a dung layer from feature UX, which is described as a building with kitchen, kilns and clay floors. The sample is dated to 1400-1500 A.D.

Probably part of the sample soil contains human waste indicated by the presence of cereal bran and food plants like “jordbær”, *Fragaria* sp., and “figen”, *Ficus carica*. Other economic plants in the sample like nut shells from hazel, *Corylus avellana* indicate trash as does the presence of some amounts of wood and charcoal in the sample.

The wild seeds in x1896 mostly come from species typical for agricultural and ruderal soils. Plants from wetlands/marshes however, are also well represented and might indicate animal fodder/dung.

X1910 is thought to be a manure/fertilizer layer, which is dated to 1400-1500 A.D. The sample contained only few economic species, but the assemblage is dominated by ruderal wild species. Also, straw and wood fragments were present in this sample, and this agrees with an overall interpretation of the sample soil as containing livestock manure, with some household waste mixed in.

X3790 comes from feature ATE, which is probably a pit containing organic material interpreted as household waste. ATE is dated to 1350-1400 A.D. The interpretation of the pit content as containing of household waste is supported by the plant remains in the sample.

The sample only contained few economic plants for instance from “humle”, *Humulus lupulus* and nut shells from hazel, *Corylus avellana*. A number of seeds from wild plants were found in the sample, however, especially from species typical for fields and other ruderal areas. The presence of bones from fish and mammals in the sample may also indicate trash.

X4177 comes from feature AHG, which is dated to 1300-1350 A.D. AHG was interpreted as a wattled pit containing trash from livestock and latrine waste.

The presence of human waste in this sample was very strongly indicated by the presence of cereal bran and a number of food plant seeds especially from “jordbær”, *Fragaria* sp., “figen”, *Ficus carica*, “hindbær”, *Rubus idaeus* and perhaps “almindelig hør”, *Linum usitatissimum*.

The presence of animal dung is not very apparent in the sample but might be indicated by a relatively large amount of straw in the sample.

The wild seeds in the sample mostly belong to species typically occurring on fields and other ruderal areas.

x4189 is from feature AUN, which has been dated to 1300-1350 A.D. It is interpreted as a waste pit under a levelling layer.

The sample only contained very few economic plant remains that are hard to interpret and among which seeds of "jordbær", *Fragaria* sp. and "korbær", *Rubus caesius* are most abundant.

The presence of general trash in the sample soil is especially indicated by the presence of wood fragments and charcoal.

In relation to economic plants, wild plant remains are relatively common in the sample. Most of the wild seeds belong to plants that typically occur on fields and ruderal areas and plants that most often occur on wetlands. These may reflect remains of animal fodder, and hay or possibly waste from cereal cleaning.

X4201 from a dung layer in in feature AHC is dated to 1350-1400 A.D. Feature AHC, was a wooden structure interpreted as containing household waste, livestock litter and latrine material.

It contained only very little botanical material, which probably represents general trash and possibly human waste. Most notably, the sample contained a number of seeds of "jordbær", *Fragaria* sp.

X4207 is from feature AUP, which is a series of waste pits with a heterogeneous fill, that was dated to 1100-1200 A.D.

The sample contained cereal bran and a number of food plant remains for instance from "almindelig hør", *Linum usitatissimum*, "jordbær", *Fragaria* sp. and "hindbær", *Rubus idaeus*, which indicate that part of this samples consists of human waste. Among the food plants, the rare finds of a single seed of "rødbede", *Beta vulgaris* and two seeds of "ribs/solbær", *Ribes* sp. should especially be mentioned.

General trash and possibly also animal dung is indicated by the presence of charcoal and straw in the sample.

The wild seeds in the sample represent a number of different biotopes and are hard to interpret.

Houses

House AEH

A number of analyzed samples are from this building dated to the late 14th century. AEH measured about 8,7 x 3,7 m. It contained clay floors, an oven and a fireplace and is interpreted as a possible kitchen building.

The results of the analysis from the house are found in table 11 and on fig. 7.

The individual samples from house AEH that have been taken from different activity layers with relations to the fireplace/oven will be described in detail in the following section.

X2167 from layer 408 probably contains material from cleaning out an adjacent fireplace. The proximity of the sample to a fireplace is indicated by large amounts of charcoal even though the sample contained almost no remains of carbonized cereals and weeds.

Food remains both from plant foods and animal foods were virtually absent from the sample. The sample, however, contained a large amount of uncarbonized wild plant remains.

Especially probable agricultural weed seeds and seeds from “siv”, *Juncus* sp. were abundant and may derive from crop cleaning or represent animal fodder or straw/hay used as floor bedding in the area.

X2279 comes from floor layer 1592. The sample contained some amount of charcoal probably from the oven/fireplace but only contained few partly carbonized remains of crops and edible plants. All other plant remains in the sample were uncarbonized. Most abundant was nutshell fragments from hazel, *Corylus avellana*, which likely derive from nuts that were eaten in the kitchen. Most weeds are species typical for agricultural, ruderal and grassland areas and may likely represent remains of for instance floor bedding or animal fodder or perhaps remains of crop cleaning.

X2408 from layer 414 contained large amounts of wood fragments and charcoal probably from the oven/fireplace. The sample also contained a few carbonized grains from oat, *Avena* sp., barley, *Hordeum vulgare* and rye, *Secale cereale ssp.cereale* which indicates that different crops were being processed in the kitchen area. Also a number of nutshell fragments from hazel, *Corylus avellana* were found which probably represent food that was eaten in the building.

Only few remains of wild plants were found and for this reason these are hard to interpret.

X2433 comes from layer 1650. The proximity to a fireplace is indicated by large amounts of charcoal in the sample as well as a few carbonized grains of oat, *Avena* sp. Other edible or likely exploited species in the sample are nut shells from hazel, *Corylus avellana* and “mose-pors”, *Myrica gale*. “Mose-pors” was used as an additive to beer in medieval times but it was only represented in sample x2433 with few seeds which makes interpretations of its possible use in the kitchen very uncertain. Other elements that could indicate that the area was used as a kitchen were a few bone remains from fish, indicating that perhaps fish were also being prepared in the building.

There were relatively few remains from wild species in the sample and many of these were species that typically occur on agricultural, ruderal and grassland areas.

X2572. The proximity of x2572 to the fireplace/oven in the area is indicated by some amount of charcoal and few carbonized grains. Most wild plants in the sample can be categorized as weeds, perhaps left behind by the process of cereal cleaning. This supports a pollen analysis from the sample that interprets the area as a place where grains were processed (Sørensen 2015).

House ARA

The analyses from House ARA can be found in table 12 and on fig. 8.

House ARA measured about 6 x 2m. It consisted of several building phases and is dated to the 15th Century A.D. The building contained a hearth and an oven/kiln, and is interpreted as a dwelling house where several possible activities took place. It is for instance suggested that the hearth, besides being used for cooking, was perhaps also used for smelting of copper alloys (Haase 2016).

X5140 contained large amounts of charcoal, which indicate a proximity to the hearth in the house. In this sample, many carbonized grains from oat, *Avena* sp., barley, *Hordeum vulgare* and rye, *Secale cereale ssp. cereale*, were also found which, perhaps together with a few fish bones, are probably remains of food that was prepared in the building. Some of the

cereals in the sample were carbonized in a strange way, the inside being black and the outside layer brown, possibly indicating relatively low carbonization temperatures.

Only relatively few wild plant remains were found in x5140 and these are hard to interpret. Many of the wild seeds are carbonized which shows the proximity to the hearth.

Many fragments of plaster with imprints of branches/plant stalks were also present in x5140. These are likely to be remains of an oven. The stalks of plant material are neatly aligned, just as they would be in plaitwork. If the plant material was used for tempering, it would not have been so neatly arranged. In the past, baskets would be used as a mould for clay ovens. An old basket would be covered in clay and baked. The original basket would be burnt, leaving behind the clay structure (personal communication J. K. Larsen, 2016).

X5141 has a content that is very similar to the content of x5140 described above. For instance, a few fragments of plaster with plant material imprints, just like those in x5140, were found in x5141, which indicates that the two samples probably come from quite similar contexts. X5141 contained very high amounts of both charcoal but also of carbonized cereal grains and seeds. Most of the carbonized grain in x5141 was barley, *Hordeum vulgare*, but oat, *Avena* sp. was also present in relatively high numbers. In most archaeological samples it is not possible to separate the weed “flyvehavre” from the cultivated oat, “dyrket havre”, *Avena sativa*, but in x5141 one oat grain could be identified as cultivated oat. The carbonized grain together with especially nutshells of hazel, *Corylus avellana* are most likely remains of food plants being eaten in the house and processed in the hearth.

All wild seeds in the sample were carbonized, which connects them to the hearth, and the majority were from typical agricultural weed species. Likely they represent either weed pollution in the grain, trash from cereal cleaning that was perhaps used as fuel or remains of floor bedding.

X5121 is from a dirt layer in house ARA. The sample contained large amounts of charcoal but only few other plant remains. The sample did however contain few carbonized grains which together with bones from fish and mammals and egg shells could be remains of food being prepared or eaten in the area. Of special note, one half of an amber bead was also retrieved from the sample.

Basement APL

The analyses from House APL can be found in table 12 and on fig. 8.

Feature APL is interpreted as a basement, which is dated to the late 15th. Century A.D. The building, which measured 6 X 3,8 m. was demolished by a fire and was apparently backfilled after the fire with demolition material connected to the building. The basement had an activity layer (layer 2870) that contained a large amount of sand as floor covering. Finds in the building layers suggest that metalworking (perhaps of silver or brass) took place in the building and the found ceramics furthermore suggest that beverages were perhaps served at the place.

The two analyzed samples x5590 and x5591 come from different parts of the basement from the same activity layer (2870) and will for this reason be discussed together here.

Unfortunately, both samples only contained few plant remains and other components, and it was not possible to see any clear differences in composition between the two samples. It was also very hard to clearly recognize any activities on the basis of x5590/x5591. It should be noted, however, that x5591 contained very few bone remains from fish and mammal as

well as egg shells, that might indicate that animal food was either stored, prepared or eaten in the basement.

X5976 derives from a buried barrel in basement APL, and the archaeobotanical analysis of this sample might therefore potentially reveal information related to the barrels function. Unfortunately, there were not many archaeobotanical remains present in the sample. The identified plant remains, however, represent a mixture of a number of different plant species (both from probable exploited plants like for instance nut shell fragments from hazel, *Corylus avellana* as well as wild plants like "salturtfamilien", Chenopodiaceae, "siv", *Juncus* sp. and "knudet/fersken-pileurt", *Persicaria maculosa/lapathifolia*). This might indicate general trash. Of special note a fishbone from plaice "rødspætte", was found as part of the sample.

Packing layer

X1908 is from layer 845, which is interpreted as clay `packing` around posts. The result of the analysis can be found in table 13 and on fig. 8.

The sample contains few remains of economic plants even though a number of different species are represented, but many wild plant species were also found, especially from typical agricultural weeds. Since the sample contains a mixture of economic plants and typical agricultural weeds, and other elements like wood fragments and charcoal, it likely represents trash material.

Levelling layers

A number of samples have been analyzed from different levelling layers and the analysis results can be found in table 14 and on fig. 9.

X487 is from a levelling layer connected to activity area AEG. The sample is dated to 1350-1400 A.D. where levelling took place, in order to prepare the area for settlement. The sample contains a lot of sand and gravel, but only few plant remains. Most plant remains are from wild plants and mostly represent either typical agricultural weeds or marsh plants but also some amount of charcoal. Nut shell from hazel, *Corylus avellana* is the only economic plant remain present. Probably the sample to some extent represents general trash.

X531 comes from layer 541, which was probably established prior to construction in the area. It has been dated to 1400-1500 A.D. A few economic species are present. Particularly "humle", *Humulus lupulus*, but also for instance "jordbær", *Fragaria* sp. was found that belonged to this group.

The wild plant remains in the sample belonged to a long range of species and especially plants typically occurring on agricultural and ruderal areas and plants from wetlands and marshlands were well represented. The sample also contained elements like wood fragments, mosses, straw and even traces of felt, which indicates trash as being part of the sample soil.

X2358 could be filling or gradually accumulated material (Petersen and Hammers 2015). The sample is from layer 1743, which is interpreted as a cultural layer that lies on top of an old growth layer that is dated to 1200-1300 A.D.

The sample contained a number of remains from economic plants, especially from "jordbær", *Fragaria* sp., "hindbær", *Rubus idaeus* and "almindelig hyld", *Sambucus nigra*. These together with other elements in the sample like traces of wood fragments, charcoal

and remains of fish and mammal indicate that a large part of the sample soil probably consists of different household trash.

The remains of wild plants in the sample are mainly from species typically occurring on agricultural or ruderal soils, but also species from other soil types like wetlands are present. Many wild plants in the sample probably represent household trash, but other plants like the marshland species and plants like “star” *Carex* sp. and “stor nælde”, *Urtica dioica* might also represent plant remains that originally came from the underlying growth layer.

Pits

Pits could have had many different functions, that might be reflected in the plant material found within the pit soil. Often, however, most soil in pits will probably represent waste either because the pit functioned as a waste pit or because the pit was backfilled with waste after its primary function had ended.

The individual samples from the pits will be described in detail in the following section, and the results of the analyzes can be found in table 15 and on fig. 10.

X534 comes from layer 1870 in pit AUR from a kitchen area. Likely dated to around 1100 A.D. or earlier. The proximity to a kitchen might possibly be indicated by some amount of charcoal as well of the presence of some edible plants like hazelnut shells, *Corylus avellana*, “jordbær”, *Fragaria* sp. and “hindbær”, *Rubus idaeus*. Also the remains of fish and mammals in the sample may indicate food.

The wild plants in the sample are hard to interpret. They mainly belong to species typical for agricultural and ruderal areas and meadows, but species from for instance wetlands like “dunhammer”, *Typha* sp. were also present.

X1702 comes from layer 951 in pit AWR, which is dated to 1100-1200 A.D. The pit is interpreted as possibly an abandoned well or alternatively a pit that had been used for retting, dyeing or for some other purpose.

The sample contained relatively few plant remains, but some carbonized grains especially of oat, *Avena* sp., were found in the sample. Many of the wild species in the sample are typical for agricultural and ruderal areas and meadows, but also species from other biotopes like “siv”, *Juncus* sp., that indicate wetlands were found. The carbonized grains together with elements in the sample like wood fragments and charcoal indicate general trash and there are no stems to indicate retting, obvious colouring plants or other species present that indicate the original function of the pit.

X3843 is from pit AUO, which has been dated to 1200-1300 A.D. The pit was apparently redug several times and was apparently in the end filled successively with different types of material.

The sample contained few remains of cereal bran, which indicates that part of the sample soil may have consisted of human waste. Of special note regarding the economic plants in the sample, it should be mentioned, that x3843 also contained a relatively high number of seeds from “mose-pors”, *Myrica gale*. “Mose-pors” was used as an additive to beer in medieval times and possibly the sample to some extent contained trash from beer brewing.

The wild seeds in the sample mainly represent species typically occurring on agricultural and ruderal areas, and very likely represent waste from cereal cleaning being present.

Finally, x3843 also contained some amount of charcoal and wood fragments that indicated, that general household waste was present.

X4338 comes from feature AEG, which is dated to 1350-1400 A.D. The archaeological excavation of the pit indicated that a large part of the fill consisted of waste. The analyzed sample is a "finsoldet prøve", that had already been sieved during excavation and stored as a dry sample. This probably means that small and fragile fragments may to a large extent have disappeared, while large and more durable organic remains will have a relatively good chance of survival.

The sample contained a long range of edible and other economic plants. The edible plants include species like "jordbær", *Fragaria* sp. and "hindbær", *Rubus idaeus* which may indicate the presence of human waste in the sample. Also, the many seeds from "almindelig hylde", *Sambucus nigra* may represent human latrine material, but could alternatively be part of more general household waste. The reason for the presence of many seeds of "hylde" may to some extent be that the sample is a "finsoldet prøve", since "hylde" has very large and durable seeds, that are likely to survive drying out.

Other food plants in x4338 that are more likely household waste rather than human waste include carbonized grains, shell fragments from hazel, *Corylus avellana* and possibly also "bulmeurt", *Hyoscyamus niger*, which appeared with many seeds in the sample. "Bulmeurt" is on one hand a wild plant but it was also used for medicinal purposes, and the many seeds in x4338 may indicate a deliberate use or cultivated plants here.

The wild plant remains in x4338 mainly come from agricultural and ruderal areas but also species from other biotopes were present. For instance many seeds from "star", *Carex* sp. were found in the sample. Many "star" species grow on moist meadows and the seeds in x4338 may be associated with the sphagnum that was also present in the sample.

Probably x4338 contains human waste, and more general household trash, the latter of which is not only indicated by many of the plants remains but also by the presence of charcoal and remains of fish and mammals in the sample.

Discussion

Many taphonomic processes influence inclusion of plant macrofossils in the assemblages from archaeological sites, and the arrival of plant remains at a particular place. This is especially the case for very complex archaeological sites like medieval towns, and archaeobotanical samples from towns are for this reason often characterized by many plant species from very different biotopes (van Zeist et al., 2000).

Differences in preservation between different types of plant remains plays a major role when interpreting the plant record found in archaeobotanical samples. Especially it is important to note, that many plant parts like leaves (for instance from salad or cabbage) or roots and tubers are most often too fragile to survive through time. This means that for instance plant foods based on leaves, roots or tubers will in most cases not be found in archaeobotanical samples. Plant seeds on the other hand are relatively likely to survive. For this reason, it is most often the seeds, fruitstones and nut shells etc. of plants that are found preserved in archaeological contexts. Even comparisons between seeds from different species can be difficult, however, especially because some plant species produce more seeds than others. One "figen" *Ficus carica* for instance contains hundreds of seeds, while a "kirsebær", *Prunus* sp. just contains one seed

Interpretation of the plant record is also made difficult by the complexities of plant deposition. In undisturbed natural contexts the majority of plant macrofossils will be of more

or less local origin. That is why plant macrofossils can potentially provide site-specific information on former plant communities growing in and around the site at the time of deposition. Pollen analysis, in contrast, is more useful for reconstruction of the regional vegetation, because some pollen grains are usually dispersed much further from the parent plant than seeds and fruits (Lowe and Walker 1997). Additionally, the pollen of some plant species do not fossilize. For the aforementioned reasons, pollen analyses and the study of plant macrofossils are complementary methods for vegetation reconstruction.

Even interpretations of macrofossils and pollen in natural environments can be complicated, however. Plant remains may be reworked into younger sediment, or transported by water from a distance. Regarding macrofossils, wind-dispersed seeds like “birk”, and “hjortetrøst”, seeds could be transported by the wind to the site from quite a long distance.

Reconstruction of the environment at time of deposition in an urban context is particularly difficult. The plant macrofossil assemblage of a town environment consists of plants derived from different environments, some local, others regional. Medieval urban environments are often characterised by deposition of waste. This would have resulted in eutrophication of the town environments (Heimdal 2005). Nitrophilous plants like for instance “stor nælde”, *Urtica dioica* and “bulmeurt”, *Hyoscyamus niger* would have grown well in such an environment. Naturally growing plants could also have been transported to the site by water or wind or by human activities. This means that plants could even have been imported from other countries or even other continents for instance together with imported crops. Transport through animal activity is also possible. For instance, cattle transported seeds from pastures to the site in the shape of dung or because they were stuck either to fur or underneath their hooves (Heimdal, 2005).

The many activities that have taken place in urban environments means that in most cases, the plant remains found in urban samples will not represent natural vegetation but instead consist of plants that were for different reasons brought in and deposited on the site. This was not only the case for weed plants but also, and probably especially for cultivated or other exploited plants because humans transported crops and other plants from surrounding agricultural areas to the city and used them for many purposes and activities and disposed of them as trash.

The following sections will provide an overview of the occurrence of different plant groups in the samples from Vilhelm Werners Plads.

Cereals

Finds of cereals include charred grains and uncarbonized cereal bran. The carbonized grains were mainly from oats, *Avena* sp. and barley, *Hordeum vulgare*, but also rye, *Secale cereale* ssp. *cereale*, and wheat, *Triticum* sp. were found in low amounts. The cereal bran was not identified. The overall distribution of cereal species in the Odense material is quite typical for medieval samples in Denmark where wheat was rarely cultivated. The cereals were probably in most cases grown in the direct vicinity of Odense (Sørensen, 2016).

Apart from a sprouted oat grain in x5344 from the road which points towards that the grain could have been used for beer brewing, the intended function of the cereal grains in the samples is not known. It is however normally assumed that barley was most often used for beer making in medieval times. Rye and wheat were probably to a large extent used for

bread or other human food, while oat was probably mainly used as animal fodder for instance fodder for horses (Brøndegaard, 1979). As shown by the archaeobotanical analysis from brewery ABK (Jensen, 2017) and as indicated by the sprouted oat grain from sample x5344 however, oat in medieval Odense was not only used for animals but also for instance for beer brewing. This shows an alternative function at least for oat, and all in all it should be remembered that all of the different cereals could potentially have been used in a number of different ways.

Plants associated with beer brewing

Apart from the sprouted grain, the presence of “humle”, *Humulus lupulus*, and “mose-pors”, *Myrica gale*, which were used as beer additives in medieval times, could also point towards beer production.

“Mose-pors”, *Myrica gale* grows on wet, acid soils in heathland, marsh forest, peat bogs and dunes. It was used from prehistoric times to the High Middle Ages as a flavouring in beer, and written sources from around 1200 A.D. (Brøndegaard, 1979) tell about its use in medieval beer production in Denmark. In later medieval times, especially in the period from 1200-1300 A.D. (Kjersgaard, 1978), “humle” (*Humulus lupulus*) gradually replaced “mose-pors” for this purpose. A replacement of “mose-pors”, by “humle”, however, is not visible in these analyses from Vilhelm Werners Plads even though a shift from “pors” to “humle” has been noted through other analyses from the site (Neeke Hammers pers. Communic.). Both species are present in a relatively large number of samples between 1100-1500.

“Humle” was first grown in Denmark around 1100 AD, at first especially in monastery gardens, later in “humlegårde”. “Humle”, however was not only used in connection with beer production. The sprouts of “humle” are edible and the flowers can be used as a medicine. Another use was to deter animals like mice, fleas, rats and flies. For instance, the species can be used to keep insects away from stored grain. The “rakler” from “humle” can also be used to make a yellow dye.

Regarding the use of “humle” in beer production, it should be mentioned, that it is the “humle” cones that are added to beer to improve taste. It also acts as a preserving agent, so the beer can be stored for a longer time (Behre 1999). For use in beer, the cones preferably have no seeds, since the seeds unfavourably affect the taste. Therefore, the cones would probably have been harvested before too much seeds had developed in them. This may explain why sometimes just a few “humle” seeds are found in a context where it is assumed that a lot of beer was brewed. Nowadays only female “humle” plants are grown, to prevent seed-setting (van Zeist et al., 2000).

Possibly collected/cultivated fruits and nuts

Fruits, berries and nuts seem to have been an important part of the daily diet in medieval times. They are seen relatively often in Danish medieval samples, and also occur often in the samples from Vilhelm Werners Plads.

Many of the species in the Odense samples that belonged to this food plant group like hazel, *Corylus avellana*, “hindbær”, *Rubus idaeus*, “brombær”, *Rubus fruticosus*, “korbær”, *Rubus caesius*, “jordbær”, *Fragaria* sp., “ribs/solbær”, *Ribes* sp. “bølle”, *Vaccinium* sp. and “almindelig hylde”, *Sambucus nigra* could, either represent cultivated plants or plants that

were collected from the wild, and it was not possible through the analysis to distinguish between collected and cultivated.

A large amount of the remains of fruits, berries and nuts that were found in the samples from Vilhelm Werners Plads include relatively common species but also species like "kirsebær", *Prunus* sp. and "blomme", *Prunus domestica* were found, which, probably due to sampling strategies, normally occur relatively rarely in Danish archaeobotanical samples. Most medieval samples from Denmark have traditionally been relatively small, and to recover a decent amount of these big fruit stones, either large samples (Karg, 2007) or alternatively a large number of samples as at Vilhelm Werners Plads are often required.

While most of the berries, fruits and nuts in the sample are most probably indigenous to Denmark the presence of a number of likely imported species should also be mentioned. These species especially include "figen", *Ficus carica*, and "vindrue", *Vitis vinifera*, which were likely eaten in the shape of raisins and dried figs in medieval times (Jahnke 2015, 2017). It should be mentioned that especially "vindrue" could possibly have been locally cultivated, but most likely both this species, as well as "figen", were, very likely, imported from the Mediterranean region.

"Figen" and "vindrue" are normally quite rare in the Danish archaeobotanical records from medieval times, and the only record of "vindrue" in the samples from Vilhelm Werners Plads is in a few samples from the 14th century (see table 1.). Apparently, raisins were rarely eaten in Medieval Denmark (Karg, 2007), and the two species were therefore most likely luxury goods, almost exclusively consumed by aristocrats and the clergy in Medieval Denmark.

Herbs

Among the group of economic plants, it should be mentioned that also a number of kitchen herbs and medicinal plants were present in the samples from Odense.

These include:

"Fennikel", *Foeniculum vulgare*, which was used medicinally and as a kitchen herb in Denmark since Middle ages.

"Almindelig hjertespand", *Leonorus cardiaca*, which was often grown in monastery gardens, and which in former times was used as heart medicine.

"Selleri", *Apium graveolens* whose cultivation is mentioned in written sources since the Middle Ages in Denmark.

"Bulmeurt", *Hyoscyamus niger* which both grew as a wild plant, but which was also cultivated and used as a medicinal plant.

"Rosmarin", *Rosmarinus officinalis*, which was originally a Mediterranean herb that was introduced and locally grown in Denmark probably from the middle ages onward.

"Opiumvalmue", *Papaver somniferum*, which is present in the archaeobotanical record throughout the Middle Ages. The seeds from "opiumsvalmue" were used as flavouring for bread, for oil production, but was also used as a painkiller.

"Hundepersille", *Aethusa cynapium*, which both grew as a weed on agricultural fields and ruderal areas, but which was also used as a medicinal plant.

Other cultivated plants

A number of cultivated plants in the Odense samples, that were either grown in fields like grain or in gardens will be described in the following section and include the following species:

“Boghvede”, *Fagopyrum esculentum* which was only found in low numbers in sample x251 dated to 1450-1550 A.D. “Boghvede” was in former times used both as human and animal feed and the seed coat was used as packaging material. “Boghvede” originates from eastern Asia and was probably introduced in Denmark around 1300. It has been found in the general Danish archaeobotanical record from the 14th century onward.

“Rødbede”, *Beta vulgaris* was only represented by a single seed in sample x4207. This sample is from a midden dated to the 12.th Century A.D., and the find may be the earliest find of “rødbede” in Denmark. Even though only a single seed was found, the food plant may potentially have been much more commonly exploited than indicated. As earlier mentioned, soft plant parts like for instance root bulbs do not preserve well, and it is also a problem that these food plants are harvested and eaten before they set seed.

“Almindelig hør”, *Linum usitatissimum* which was found in a number of samples from Vilhelm Werners Plads was a widespread crop in Denmark during the Middle Age. The plant was utilized both for its oil rich seeds and for its fibres used in cloth production.

“Hamp”, *Cannabis sativa* was only found in the Odense samples in latrine sample x2643 dated to 1350-1400 A.D. was probably first grown in Denmark during the Middle Ages. The seeds are used for oil, human food, chicken feed and cattle medicine. The fibres are used for rope and textile. The plant also has medicinal properties. For instance, cooked seeds of “hamp” were used as medicine against pox, while the leaves were used to keep away fleas. The plants were also grown on grain fields as a protection against rodents.

Table 1. Presence of special plants (either imported, connected to brewing practices, or new as a Danish crop)

plant species	Danish name	presence at Odense TBT
<i>Ficus carica</i>	Figen	1300-1500
<i>Vitis vinifera</i>	Vindrue	1300-1400
<i>Foeniculum vulgare</i>	Fennikel	1200-1300
<i>Beta vulgaris</i>	Rødbede	1100-1200
<i>Leonurus cardiaca</i>	Almindelig hjertespad	1350-1500
<i>Humulus lupulus</i>	Humle	1100-1550
<i>Myrica gale</i>	Mosepors	1100-1500
<i>Rosmarinus officinalis</i>	Rosmarin	1300-1400
<i>Ribes</i> sp.	Solbær/ribs	1000-1500

Agricultural or ruderal weeds

The largest group of wild plants from Odense can be classified as agricultural weeds and ruderal plants. Nowadays it is assumed that most, if not all, wild plant seeds found in medieval latrines derive from agricultural weeds. In the past, before the introduction of herbicides, weeds were much more common on cereal fields than they are now. Crop fields were fertilized with manure, which contained many plant seeds. The weed seeds were unintentionally harvested together with the cereals. Because good seed-cleaning techniques did not yet exist, many of the seeds were eaten along with the cereals. That way, they ended up together with other consumption waste in the latrines (van Haaster, 2008; Kuijper, 1986). Alternatively, the agricultural weeds found in the samples from Vilhelm Werners Plads could derive from cereal cleaning that took place in the town or cereal cleaning waste, that was used for animal fodder, floor bedding or some other purpose.

Weed species often contain information about the soil characteristics of the field. For example, "rødknæ", *Rumex acetosella*, "almindelig spergel", *Spergula arvensis*, "én-årig knavel" *Scleranthus annuus*, "kiddike", *Raphanus raphanistrum* and "kornblomst", *Centaurea cyanus* are typical weeds of calcium poor soils. "Ager-stenfrø" *Lithospermum arvense* on the other hand grows on calcium rich soils. "Klinter", *Agrostemma githago*, "sort natskygge", *Solanum nigrum*, "snerle-pileurt", *Fallopia convolvulus* and "liden nælde", *Urtica urens* grow on nutrient rich fields. Plants like "bidende pileurt", *Polygonum hydropiper* and "brøndsel", *Bidens* sp. grow on wet fields. The presence in the Odense samples of weeds from different habitat types indicates that the cereals were either from different regions (Kuijper, 1986), or alternatively indicate that soil conditions in the fields surrounding Odense were very diverse.

Possibly exploited wild plants

Regarding the interpretation of wild as opposed to collected plants it should be noted that the distinction between wild and exploited plants is often difficult. The following section contains a possible interpretation of the possibly exploited wild plants from Vilhelm Werners Plads.

"Tørvemos", *Sphagnum* sp. and other mosses are wild plants that could have been collected and used both as packing material or toilet paper. "Tørvemos" could also have been used to treat wounds.

"Mjødurt", *Filipendula ulmaria* is a wild plant, that was possibly also used as an economic species, as the flowers could have been used for instance for flavouring drinks.

"Sort sennep", *Brassica nigra* has been cultivated in the past as an oil plant or for mustard production (van Zeist et al., 2000). The amount of seeds of "sennep" in the Odense samples, however, is not very high, so they are more likely to have been agricultural weeds on this site.

"Almindelig spergel", *Spergula arvensis* was grown for its oil rich seeds in the Iron Age as human food (Harild et. al., 2007) and in later historical times, as human and cattle food (Brøndegaard, 1978). During the Middle Ages, however, it was most likely just an agricultural weed.

"Angelic", *Angelica* sp. is a plant that could have been used both as food or medicine. However, the seeds are found in low amounts in the samples from Vilhelm Werners Plads,

making it uncertain that they reflect intentional use here. They are most likely to have derived from natural vegetation and arrived at the site accidentally, together with bedding material for livestock for example.

“Vild gulerod”, *Daucus carota* seeds could either have been from a domesticated or a wild carrot plant.

“Sort natskygge”, *Solanum nigrum* is an agricultural weed that was used as a vegetable and medicinal plant in Denmark during the Middle Age.

Wetland plants

The high amount of marsh and water plants in many samples from Vilhelm Werners Plads agrees with the presence of a marsh or river near to the site.

“Kær-guldkarse”, *Rorippa palustris* grows best on soil that is flooded during winter and falls and dry during summer. Today, it often grows on cattle-watering places beside rivers. “Tigger-ranunkel”, *Ranunculus sceleratus* is also a pioneer species, of open, damp ground. “Tigger-ranunkel” is outcompeted when the surrounding vegetation grows denser. It occurs on many different soil types. It can also grow under brackish conditions.

“Brun fladaks”, *Cyperus fuscus* is intolerant of light competition from other plants. ‘

Wet, marshy ground is indicated by presence of “fliget brøndsel”, *Bidens tripartita*, “Vandnavle”, *Hydrocotyle vulgaris* and “almindelig mjørdurt”, *Filipendula ulmaria*. “Kragefod”, *Comarum palustre* grows in shallow oligotrophic water, and on marshy, sometimes drier ground. Other places where it can grow are carbonate-rich, phosphate-poor peat bogs. Sometimes it grows on sandy ground with organic detritus. It is a pioneer plant of vegetation succession in aquatic environments.

Wet, marshy ground is indicated by species like “Eng-kabbeleje”, *Caltha palustris*, “tigger-ranunkel”, *Ranunculus sceleratus*, “fliget brøndsel”, *Bidens tripartita* “kragefod”, *Comarum palustre* and “almindelig mjørdurt”, *Filipendula ulmaria*.

“Vandnavle”, *Hydrocotyle vulgaris* can grow in acid as well as calcareous bogs, and is often found in association with Sphagnum moss.

Plants like “sø-kogleaks”, *Schoenoplectus lacustris*, “sværtevæld”, *Lycopus europaeus*, “pindsvinekno”, *Sparganium* and “dunhammer”, *Typha* sp. could have grown in the reed swamp at the water margins.

Saltmarsh

The seeds of “strand-trehage”, *Triglochin maritima*, a salt marsh species, could have been transported to the site by cattle grazing on the saltmarshes, by humans or by an exceptionally high tide. This would not be unexpected, as Odense is located close to an estuary.

Waterplants

Aquatic habitat is represented by five taxa, “gul åkande”, *Nuphar lutea* and “andemad”, Characeae, “Bukkeblad”, *Menyanthes trifoliata* “Krebseklo” *Stratiotes aloides*, and “vandaks”, *Potamogeton* sp. The seeds could have been from plants growing in the Odense Å. An explanation for the presence of aquatic plants could be high water levels of the river. As an alternative humans could accidentally have transported them to the site, perhaps in water for cleaning dirty surfaces, for watering of garden soil etc.

Heathland and acid bogs

Heathland species from the site include:

“Børste-siv”, *Juncus squarrosus*, which grows on damp acid soils, especially on heathland. “Tørvemos”, *Sphagnum* sp. grows in acid bog areas, and was perhaps brought to the site as packing material or to use as “toilet paper” in connection with the latrines.

Leafs from “hedelyng”, *Calluna vulgaris* were present in several contexts, and this presence is supported by the results of the pollen analysis of the site which indicates that heather vegetation could have been present at a certain distance from the site (Sørensen, 2015).

The same does the presence of seeds of “bølle”, *Vaccinium* sp., which likely represent berries that were collected on local heathland. Another possibility is that “hedelyng” plants and the berries of “bølle” were imported to the site from further away. “Lyng” was used in the past for instance as animal fodder, bedding material and sometimes as fertilizer.

Other remains

Bone remains of mammals and fish were commonly present in the samples, as well as egg shell fragments. The egg shell fragments are quite large, so these are probably from chicken eggs. A marine mollusc, the “almindelig strandsnegl”, *Littorina littorea*, was found in sample x5506. This species is edible, so it could have been transported by humans to the site. Some fly pupae were so well-preserved that you could still see the fly in them. The cocoons present in latrines are likely to be from dung flies. Two beetle wing-cases from x5515 were identified by Tom Hakbijl at Naturalis, Leiden. “Grøn øjenløber”, *Elaphrus riparius* is common and widely distributed in Denmark nowadays. It is confined to banks of standing or slow running waters, mostly on sandy or clayish soil. Sparsely covered, or bare sun-exposed ground are preferred by this species (Lindroth 1985). In nature, “Lille uldtorbist”, *Trox scaber* occurs in bird nests and on animal substances like horn, hair and hide. It is not particularly anthropophilic. However, the species is often found in archaeological contexts. “Lille uldtorbist” is believed to have been associated in the past with the processing of hides (personal communication T. Hakbijl, Naturalis, 2016).

Conclusion

The plant macrofossil assemblage from Vilhelm Werners Plads represents many different and complex contexts including latrines, a road, several buildings (including stables and a market stall), pits and cultural layers dated to almost the whole medieval period. Due to the complexity of the site and the often excellent preservation conditions the analyzed plant material, not surprisingly consists of a very long list of plant species including both cultivated or wild economic plants, agricultural weeds, ruderal plants, marsh plants, aquatic plants, saltmarsh plants and plants from heathland. Ruderal plants and agricultural weeds represent the largest plant group, followed by marsh plants, cultivated and economic plants.

Even though many contexts were present, it should be remembered that the excavation still only covers a relatively small part of the areas that constituted the whole of medieval Odense. The excavation area abutted a central road going through the town. The area was also close to Sct. Albani/Sct. Knuds church and part of the excavated area was probably a relatively wealthy guild area, at least during the later parts of the medieval period.

The proximity of the excavation area to the church grounds and to church/monastery gardens might for instance be indicated by the presence of, in Danish contexts, unique and very rare garden plants and spices like, “almindelig hjertespand”, *Leonurus cardiaca*, “fennikel”, *Foeniculum vulgare* and “rosmarin”, *Rosmarinus officinalis*. In the same way, the presence of species like “figen”, *Ficus Carica*, and “vindrue”, *Vitis vinifera* which are also rare occurrences in Danish medieval samples likely represent imported plants, and they are clear indications of wealthy inhabitants living in the area.

Apart from revealing a wealth of informations about specific contexts, the analyzed samples from Vilhelm Werners Plads therefore also provide well founded information about a wealthy area in the town, that was influenced by the nearby church. The information from this site is therefore very suitable for comparisons with archaeobotanical investigations from other areas of medieval Odense.

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Identified plants (descriptions in danish)

Plants identified to species:

Achillea millefolia (L.). Almindelig Røllike. 15-50 cm. Blomstrer juni-Oktober. Åbent land, specielt vejkanter, skrænter, overdrev, ruderaer, kultur- og strandenge (Hansen 1993).

Aethusia cynapium (L.). Hundepersille. 5-200 cm. Blomstrer juni-september. Agerjord, haver (Hansen 1993).

Agrostemma githago (L.). Klinte. 30-90 cm høj (40-80 cm), omkring 200 frø pr. plante. Blomstring og frømodning juni-august. Hovedsagelig vinterannuel, findes i visse egne af Jylland i vårsæd. Tidligere en meget frygtet ukrudtsplante i vintersæden. Må ikke bruges til opfodring, da planten er meget giftig. Klinte stille større fordringer til jordens kvalitet end rugen, og i dårlig, sandet, fugtig jord trives den ikke. Agerjord, ruderaer. Medtaget fordi Klinte har været anvendt som indikator for vinterannuelle afgrøder (Frederiksen et al. 1950, Hansen 1993, Jessen & Lind 1922).

Alisma plantago-aquatica (L.). Vejbred-skeblad. 30-100 cm. Blomstrer juni-august. Søer, vandhuller og grøfter (Hansen 1993).

Alopecurus geniculatus (L.). Knæbøjet rævehale. 15-45 cm. Blomstrer maj-august. Fugtig bund ved vandhuller og grøfter (Hansen 1993).

Anthemis arvensis (L.). Ager-Gåseurt. 15-40 cm høj, omkring 4400 frø pr. plante. Blomstrer juni-august. Sommer og vinterannuel. Almindeligt ukrudt i tynde vintersædsmarker, især på tørre, kalktrængende og udpinte jorder. Agerjord, vejkanter, ruderaer (Frederiksen et al. 1950, Hansen 1993).

Aphanes arvensis (L.). Alm. Dværøgløvefod. 5-15 cm høj. Blomstrer i juli-september. Som regel vinterannuel. Findes fortrinsvis i vintersæd og græsmarker med svagt kalktrængende jorder. Agerjord (Frederiksen et al. 1950, Hansen 1993).

Apium graveolens (L.). Vild selleri. 30-80 cm. Blomstrer juli-september. Strandenge (Hansen 1993).

Arnoseris minima (L.). Svineøje. 5-25 cm. Blomstrer juli-august. Sandet agerjord (Hansen 1993).

Avena sativa L. Almindelig Havre. 60-120 cm høj. Optræder ofte sammen med Flyvehavre (Hansen1993).

Beta vulgaris. Rødbede.

Bidens tripartita (L.). Fliget brøndsel. 15-60 cm. Blomstrer juli-oktober. På urolig, våd bund ved søer, vandhuller og gadekær, samt på tidligere mosebund. Desuden vandlidende marker og ruderaer (Hansen 1993).

Bolboschoenus maritimus (L.). 30-100 cm. Blomstrer juli-august. Strandørsumpe og på strandenge (Hansen 1993).

Brassica nigra (L.) Koch. Sort Sennep. 50-100 cm høj. Blomstrer juni-juli. Sommerannuel. Marker og ruderaer (Hansen 1993).

Briza media (L.). Hjertegræs. 20-45 cm. Blomstrer Juni-Juli. Enge og skænter, især på kalkbund (Hansen 1993).

Calluna vulgaris (L.) Hull. Hedelyng. 20-60 cm, blomstrer august-september. Flerårig. Heder, klitheder, hedemoser, tørre dele af højmoser (Hansen 1993).

Caltha palustris (L.). Eng-Kabbeleje. 15-30 cm høj (15-40 cm), omkring 2.800 frø pr. plante. Blomstrer april-maj. Flerårig. Besværligt ukrudt i vandlidende græsmarker, trives på næringsrige områder og kan bringes til huse som bifangst ved høslæt. Forefindes ved våd bund, i dyndeng og ved grøfter. Svagt giftig (Frederiksen et al. 1950, Hansen 1993, Korsmo 1926).

Camelina sativa (L.) Crantz. Sæd-Dodder. Omkring 40.000 frø pr. plante. Blomstrer juni-juli, frøene modnes august sammen med Hørplanten. Er tæt forbundet med Hør dyrkning, og frøene er olieholdige (Frederiksen et al. 1950).

Cannabis sativa. (L.). Hamp. 50-200 cm. Blomstrer juli-september. Kulturbund på marker og ruderater (Hansen 1993).

Centaurea cyanus (L.). Kornblomst. 15-75 cm høj (40-60 cm, 40-80 cm), omkring 700-1600 frø pr. plante. Blomstrer juli-august, frøet modnes delvis sammen med kornet. Sommerannual eller vinterannual. Tidligere meget udbredt og meget frygtet. Almindelig i vintersæd, især rug, men findes også i vårsæd. Ved dybpløjning, harvning og tromling nogen tid inden udsåning af vinterafgrøden bringes Kornblomst til spiring og kan ødelægges inden den endelige udsåning. At dybdepløjning stimulerer fremkomsten af nye planter, er måske indikator på den kraftigere muldfjælspløvs betydning for spredningen af denne type ukrudt. Kornmarker, markskel, vejkanter, stendiger, ruderater. Medtaget fordi Kornblomst har været anvendt som indikator for vinterannuelle afgrøder. Optræder først for alvor i pollendiagrammer dateret til vikingetid-tidlig middelalder (Frederiksen et al. 1950, Henriksen 1993).

Chenopodium album (L.). Hvidmelet Gåsefod. 25-80 cm høj (30-70 cm), gennemsnitlig omkring 3.100 frø pr. plante (20.000 frø), dog frodige eksemplarer helt op til 40.000 frø. Blomstrer og frømodning juni-oktober. Udpræget sommerannual, meget skadelig ukrudt i vårsædsmarker. Især på velgødet jord. Omkring bebyggelse, agerjord og ruderater (Melander 1998, Frederiksen et al. 1950, Hansen 1993, Jessen & Lind 1922).

Chenopodium glaucum (L.). Blågrøn gåsefod. 10-50 cm. Blomstrer juli-september. På strandenge, i strandrørsump, på agerjord og ruderater (Hansen 1993).

or

Chenopodium rubrum (L.). Rød gåsefod. 20-60 cm. Blomstrer juli-september. På strandenge, i strandrørsump, omkring bebyggelse, på agerjord og ruderater (Hansen 1993).

Corylus avellana (L.). Hassel. Busk op til 10 meters højde. Næringsrig bund i lyse skove, skovbryn, krat og hegn (Hansen 1993).

Cyperus fuscus. (L.). Brun fladaks. 5-15 cm. Blomstrer juli-september. Fugtig-åben, tidvis udtørret dynd- eller sandbund ved damme og søer (Hansen 1993).

Daucus carota. (L.). Vild gulerod. 30-80 cm høj. Blomstrer juli-august. Pælerod hvid og sej. Vejkanter, græsmarker, sydvendte skrænter, stenede strandbredder (Hansen 1993). I det klassiske Grækenland blev guleroden brugt som lægemiddel. Roden er spiselig, om end den er meget lille og tynd (Körber-Grohne 1995).

Descurainia sophia (L.) Webb. Finbladet Vejsennep, Barberforstand. 40-80 cm, blomstrer juni-august, sommerannual. Omkring bebyggelse og ruderater, strandvolde og tanglinier (Hansen 1993).

Eupatorium cannabinum (L.). Hjortetrøst. 50-150 cm. Juli-september. Rørsumpe, eutrofe lavmoser, vældskrænter, fugtige løvskove og krat, grøfter, strandrørsumpe (Hansen 1993).

Euphorbia helioscopia (L.). Skærm-Vortemælk. 10-30 cm (10-40 cm) høj stængel, omkring 650 frø pr. plante. Blomstrer i juli-september. Udpræget sommerannual. Optræder i åbne og/eller sent såede sommerafgrøder. Agerjord, haver og ruderaer (Melander 1998, Frederiksen et al. 1950, Hansen 1993).

Euphrasia, Øjetrøst og *Odontites* cf. *verna* (Ballardi) Dumort. (coll.) Mark-Rødtop. 10-40 cm høj (5-40 cm), Blomstrer juni-september. Kan optræde i store mængder på lavtliggende noget vandlidende og næringsfattig jorder. På enge, strandenge, i kornmarker, grusgrave og vejkanter (Frederiksen et al. 1950, Hansen 1993).

Fagopyrum esculentum. Boghvede.

Fallopia convolvulus (L.). Snerle Pileurt. 15-100 cm lange stængler, som enten er nedliggende eller slynger sig op om stængler, strå og blade fra andre planter, omkring 140-200 frø pr. plante. Blomstrer og frømodning juli-september. Udpræget sommerannual, modnes sammen med korn og hør. Knyttet til kornmarkerne og forekommer almindeligt i vårsæd hvor den er mest generende samt i Hør, kan fremme lejesæd i kornet. Agerjord, ved bebyggelse (Melander 1998, Frederiksen et al. 1950).

Ficus carica. Figen.

Filipendula ulmaria. (L.). Almindelig mjørdurt. 50-150 cm. Blomstrer juni-juli. Enge, ellesumpe, grøfter, ved vandløb, fugtige askeskove (Hansen 1993).

Foeniculum vulgare. Fennikel.

Geum rivale.). Eng-nellikerod. 20-40 cm. Blomstrer maj-juni. Enge, ved vandløb, ellesumpe, våde skove (Hansen 1993).

or

Geum urbanum (L.). Feber-nellikerod. 30-60 cm. Blomstrer juni-august. Fugtige løvskove, krat, haver, ved bebyggelser (Hansen 1993).

Hordeum vulgare vulgare (L.) Avneklædt Byg. 50-100 cm høj. Højden kan have ændret sig på grund af dyrkning.

Humulus lupulus. (L.). Humle. 2-6 m. Blomsterer juni-Juli. Ellesumpe, muldbund, i skovbryn og hegn. Fugtigt, næringsrig bund i ellesumpe, skovbryn og hegn (Hansen 1993).

Hydrocotyle vulgaris. (L.). Vandnavle. 5-20 cm. Blomstrer juli-september. Hedemoser og søbredder (Hansen 1993).

Hyoscyamus niger. (L.). Bulmeurt. 30-80 cm. Blomstrer juni -juli. På strandvolde, ved ruiner, omkring beboede steder (Hansen 1993).

Juncus squarrosus L. Børste-Siv. 15-30 cm, blomstrer juni-august. På fugtige heder og næringsfattige enge, klitlavninger (Hansen 1993)

Knautia arvensis. (L.) Coulter. Blåhat. 30-70 cm. Blomstrer juni-juli. Overdrev, vejkanter, skrænter (Hansen 1993).

Lapsana communis (L.). Haremad. 50-100 cm høj. Blomstrer juni-august. Sommer og vintersannual. Skove, hegn, agerjord, haver (Hansen 1993)

Leonurus cardiaca Almindelig hjertespan. 30-120 cm høj. Blomstrer juli-august. Næringsrig kulturbund ved beboelser, vejkanter, ruderaer (Mossberg & Stenberg 2005)

Leucanthemum vulgare. (L.). Hvid okseøje. 20-70 cm. Blomstrer juni-juli. Græsmarker, kulturenge, skrænter, vejkanter (Hansen 1993).

Linum catharticum (L.). Vild Hør. 5-25 cm, blomstrer juni-august. Sommer og vinterannual. Skrænter, overdrev, kær, vejkanter, kridtgrave (Hansen 1993).

Linum usitatissimum (L.). Almindelig hør. Højde 30-80 cm (Hansen 1993)

Lithospermum arvense (L.). Ager-stenfrø. 15-40 cm. Blomstrer maj-juni. Agerjord og i grusgrave (Hansen 1993).

Lychnis flos-cuculi (L.). Trevlekrone. 20-50 cm høj. Blomstrer juni-juli. Fugtige enge (Hansen 1993).

Lycopus europaeus (L.). Sværtevæld. 20-70 cm høj, blomstrer juni-august. Rørsump, enge og langs grøftekanter. (Hansen 1993).

Menyanthes trifoliata (L.). Bukkeblad. 12-30 cm. Blomstrer maj-Juni. Moser, kær samt hængesæk ved søbredder (Hansen 1993).

Montia fontana. (L.). Stor vandarve. 10-30 cm. Blomstrer juni-september. Væld, bække, grøfter. (Hansen 1993).

Myrica gale (L.). Pors. Busk, 1-1,5 m høj. Blomstrer marts-april. På næringsfattig, fugtig bund, især i moser og grøfter i heder og klitheder (Hansen 1993)

Neslia paniculata, Rundskulpe.15-60 cm. Blomstrer juni-Juli. Åben, næringsrig bund på agerjord og ruderaer (Mossberg & Stenberg 1994).

Nuphar lutea. Gul åkande. Blomstrer juni-august. Tørvegrave, søer og vandløb (Hansen 1993).

Papaver argemone (L.). Kølle-valmue. 20-40 cm. Blomstrer maj-juli. Agerjord, grusgrave, forstyrrede vejkanter (Hansen 1993).

Papaver somniferum (L.). Opium-valmue. 40-80 cm. Blomstrer juni-juli (Hansen 1993).

Pedicularis palustris (L.). Eng-troldurt. 15-40 cm. Blomstrer maj-juni. Våde enge og moser (Hansen 1993).

Persicaria hydropiper (L.). Bidende pileurt. 20-60 cm. Blomster juli-september. Ved søbredder, grøfter, moser, fugtig skovbund og agerjord (Hansen 1993).

Persicaria lapathifolium (L.). Blegbladet Pileurt. 30-60 cm (25-80 cm) høj, omkring 800-850 frø pr. plante. Blomstrer og modner frø i juli-september. Udpræget sommerannuel plante. Kan være meget skadelig i vårsæden, især i lave noget vandlidende marker, hvor den kan forekomme meget talrigt, kan også forekomme i vintersæden. (Melander 1998, Frederiksen et al.1950, Hansen 1993)

Persicaria maculosa (L.). Ferskenbladet Pileurt. 25-60 cm høj, omkring 200-800 frø pr. plante. Blomstrer og frømodner juli-september. Rent sommerannuel (kan også forekomme i vintersæd, Melander 1998). Forholder sig som *Persicaria lapathifolium*. Agerjord, ofte vandlidende, ruderaer. (Frederiksen et al. 1950, Hansen 1993, Jessen & Lind 1922).

Picris hieracioides (L.). Ru bittermælk. 30-90 cm. Blomstrer juli-august. Jernabaneskrænter, vejkanter, krat, gerne på kalkbund (Hansen 1993).

Plantago lanceolata (L.). Lancetbladet Vejbred. 10-40 cm (10-30 cm) langt blomsterskaft, omkring 1.500 frø pr. plante, dog 15.000 på en stor plante. Blomstrer maj-juni, frømodning august-oktober. Flerårig. Overdrev, skrænter, marker, vedvarende græsmarker og ruderaer (Frederiksen et al. 1950, Hansen 1993).

Plantago major (L.). Glat Vejbred. 10-30 cm høj, omkring 21.500 frø pr. plante (op til 2.000 frø pr. plante Melander 1998). Blomstrer maj-august. Flerårig. Kan pletvis optræde talrigt i tynde kornmarker, navnlig på våd og fast jord (Frederiksen et al. 1950, Jessen & Lind 1922, Hansen 1993).

Polygala vulgaris (L.). Almindelig mælkeurt.10-20 cm. Blomstrer juni-august. På tør, lysåben bund, klitter, overdrev, tørre enge (Hansen 1993).

Polygonum aviculare (L.). Vej Pileurt. 10-75 cm (10-60 cm) lavtvoksende med lange stængler, omkring 125-200 frø pr. plante. Blomstrer og frømodning juli-oktober. Typisk sommerannual. Fortrinsvis lerede jorder, hyppigst i åbne vintersædmarker og hørmarker, sjældnere i vårsæd (Melander 1998, Frederiksen et al. 1950, Hansen 1993, Jessen & Lind 1922).

Potamogeton sp. Vandaks. Flerårige vandplanter med krybende jordstængel.

Potentilla palustris (L.). Kragefod. 30-60 cm. Blomstrer juni-juli. Hedemoser, klitlavninger, næringsfattige søbredder (Hansen 1993).

Prunella vulgaris (L.). Almindelig brunelle. 5-25 cm. Blomstrer juli-august. Findes oftest på kalkholdige kyststrækninger (Hansen 1993).

Prunus cerasus. Kirsebær.

Prunus domestica. Blomme.

Prunus spinosa (L.). Slåen. Busk. 1-2 m høje. Ægte grentorne. Har overvintrende knopper. Blomstrer april-maj, oftest før løvspring. I skovbryn, krat, hegn, klinger, strandvolde (Hansen 1993).

Ranunculus flammula (L.). Kær-Ranunkel. 15-30 cm høj, blomstrer juni-august. Fugtige enge samt i og ved vandhuller (Hansen 1993).

Ranunculus sceleratus (L.). Tigger-ranunkel. 15-40 cm høj. Blomstrer juni-august. Bredde af søer, damme og grøfter, væld, vandlidende agerjord (Hansen 1993). Ifølge Brøndegaard (1978) har tiggere brugt saften til at lave sår og blærer på huden for at vække medlidenhed (1979 bd. 4, s.173).

Raphanus raphanistrum (L.). Kiddike. 30-60 cm (30-80 cm) høj, omkring 100 frø pr. plante. Blomstrer og frømodning juni-august. Typisk sommerannual plante med frøformering. Spredes ofte med staldgødning. Forekommer fortrinsvis på tørre, sandede og kalktrængende marker. Optræder i alle forårssåede afgrøder og er et stort problem for framavlen af vårsæd. Agerjord (Melander 1998, Frederiksen et al. 1950, Hansen 1993).

Rorippa palustris (L.). Kær-guldkarse. 10-40 cm. Blomstrer juni-august. Ved søer, åer, gadekær, fugtige græsmarker, ruderater (Hansen 1993).

Rosmarinus officinalis. Rosmarin.

Rubus caesius (L.). Korbær. Blomstrer juni-september. Sætter bær. Skove, krat, hegn, gærder, strandskrænter, markskel (Hansen 1993).

Rubus fruticosus (L.). Brombær. Meget variabel samleart, i Dk bestående af ca. 55 småarter. Blomstrer juni-august. Sætter bær. Skove, krat, hegn, stengærder (Hansen 1993).

Rubus ideaus (L.). Hindbær. 1-1,5 m høj. Blomstrer juni. Sætter bær. Skove, krat, skovrydninger (Hansen 1993)

Lolium perenne L. Almindelig Rajgræs. 20-50 cm. Blomstrer juni-august. Op mod 150 frø pr. plante. Flerårig plante. Varierende frøstørrelse, 2,85 til 3,52 mm lange og 1,03 til 1,35 bredde. Navnet Rajgræs er fra det engelske Ryegrass eller Raygrass som betyder ruggræs. I det 18. og 19. århundrede blev Rajgræs importeret fra England til dyrkningsformål. Pga. domesticeringen og hybridisering er plantens naturlige karakteristika antagelig ændret³. Vejkanter, overdrev, enge, vedvarende græsmarker. (Melander 1998, Hansen 1993, Helbæk 1958a, Jessen & Lind 1922).

Rumex acetosella (L.). Rødknæ. 15-30 cm høj, omkring 1.000 frø pr. plante. Flerårig. Udpræget vegetativ formering. Optræder som ukrudt i alle afgrøder på magre kalkfattige

³ Mundtlig meddelelse ved museumsinspektør D. Robinson, NNU.

sandjorder og tørre humusagtige jorder. Grå klit, strandoverdrev, sandede overdrev og vedvarende græsmarker, vejkanter, skovrydninger, agerjord (Frederiksen et al. 1950, Hansen 1993, Jessen & Lind 1922).

Sambucus nigra (L.). Almindelig Hyld. Busk op til 8 meters højde, blomstrer juni-august. Næringsrig bund, skove, krat, hegn og ruderaer (Hansen 1993).

Schoenoplectus maritimus (L.). Strand-kogleaks. 30-100 cm. Blomstrer juli-august. Strandørsump, på strandeng, søer og grøfter (Hansen 1993).

Scleranthus annuus (L.). Enårig Knavel. 5-20 cm stængler. Blomstrer næsten hele året, dog fortrinsvis maj-juni. Er enten sommerannual eller overvintrende enårig. Forekommer almindeligt som ukrudt i både vårsæd og vintersæd i let, kalkfattig jord. Særlig hyppig i rug, og regnes som en af de mest sikre karakterplanter for kalktrængende jorder. Sandet, især næringsfattig, tør agerjord (Frederiksen et al. 1950, Hansen 1993).

Secale cereale (L.). Almindelig Rug. Højde 50-150 cm. Højden har ændret sig på grund af avling, se f.eks. Tvensberg 1995 (Hansen 1993).

Silene dioica (L.). Dag-pragtstjerne. 20-50 cm. Blomstrer maj-juni. Fugtige, næringsrige skove og krat samt strandklipper på Bornholm (Hansen 1993).

Sinapis arvensis (L.). Ager-sennep. 30-60 cm. Blomstrer maj-august. Agerjord (Hansen 1993).

Solanum dulcamara (L.). Bittersød natskygge. 30-180 cm. Halvbusk. Blomstrer juni-juli. Bær ægformede, skinnende røde. Fugtige kratskove, rørsumpe, hvide klitter (Hansen 1993).

Solanum nigrum (L.). Sort natskygge. 15-50 cm. Blomstrer juni-oktober. Bær mat sort eller grønt, saftigt. Agerjord, haver, ruderaer (Hansen 1993).

Sonchus asper Ru svinemælk. 30-100 cm høj. Blomstrer juli-oktober. Næringsrig- og kvælstofrig bund på ruderaer, vejkanter, agerjord (Mossberg & Stenberg 2005).

Sparganium erectum (L.). Pindsvineknop. 30-100 cm. Blomstrer juli-august. Ved søbredder, i åer, bække, grøfter og vandhuller (Hansen 1993).

Spergula arvensis (L.). Alm. Spergel. 10-40 cm (10-30 cm) høj, omkring 3.200 frø pr. plante. Blomstrer og frømodner juni-september. Frøene spirer både forår og efterår, men de efterårsspirende fryser som regel bort om vinteren og kan kun overleve meget milde vintre. Kan optræde uhyre talrigt i vårsædmarker, især på lette kalktrængende jorder. Værdsat i stubmark som foder til fårene. Agerjord, især næringsfattig bund. (Frederiksen et al. 1950, Hansen 1993, Jessen & Lind 1922).

Stellaria graminea (L.). Græsbladet fladstjerne. 10-20 cm. Blomstrer juni-september. Overdrev, skrænter, vejkanter, strandoverdrev, grøn klit (Hansen 1993).

Stellaria media (L.) Mill. Alm. Fuglegræs. 5-30 cm (5-20 cm) lange nedliggende stængler, omkring 15.000 frø pr. plante. Blomstrer og modner frø næsten hele året. Både sommerannual og vinterannual. Danmarks hyppigst forekommende ukrudsart. Planten kan optræde meget talrig i kornmarker. Agerjord, haver, tanglinier. (Melandter 1998, Frederiksen et al. 1950, Hansen 1993).

Stratiotes aloides (L.). 10-40 cm. Blomster juli-august. Næringsrige, lavvandede søer, damme, tørvegrave, grøfter og kanaler (Hansen 1993).

Thlaspi arvense (L.). Almindelig pengeurt. 15-40 cm høj. Blomstrer maj-juni. Agerjord, ruderaer (Hansen 1993).

Trifolium repens (L.). Hvid-kløver. 10-25 cm. Blomstrer juni-august. Åben, fugtig, næringsrig bund på enge, skrænter, vejkanter (Hansen 1993).

Triglochin maritima (L.). Strand-trehage. 15-40 cm. Blomstrer juni-august. På strandenge (Hansen 1993).

Triglochin palustre (L.). Kær-trehage. 15-40 cm. Blomstrer juni-juli. På fugtige enge og strandenge (Hansen 1993).

Tripleurospermum inodorum Schultz Bip. (Matricaria inodora) Lugtløs Kamille. 20-60 cm (30-60 cm) (30-70 cm) høj. Mellem 10.000 og 200.000 frø pr. plante, gennemsnitlig 34.000 frø. Blomstrer i juni-oktober. Oftest toårig, undertiden vinterannual, sjældnere sommerannual eller flerårig. Meget ondartet ukrudt i frøafgrøder, kan optræde talrigt i tynde vintersædmarker. Agerjord, vejkanter, skrænter og ruderater. (Melander 1998, Frederiksen et al. 1950, Hansen 1993, Jessen & Lind 1922, Korsmo 1926).

Tripleurospermum maritimum (L.). Strand kamille. 10-60 cm. Blomstrer juni-august. Strande, strandvolde, grå klit (Hansen 1993).

Urtica dioica (L.). Stor Nælde. 50-100 cm høj. Omkring 22.000 frø pr. plante. Blomstrer juli-august. Skadelig i varige græsmarker på muldrig eller moseagtig jord. Askeskove, hegn, vejkanter, ruderater. (Frederiksen et al. 1950, Hansen 1993).

Urtica urens (L.). Liden nælde. 20-40 cm høj. Blomstrer juni-september. Agerjorde, haver, ruderater (Hansen 1993).

Vitis vinifera. Almindelig vin.

Plants identified to genus or family:

Alismataceae. Skebladfamilien. Flerårige vand-og sumpplanter med bladrosetter.

Cf. Anagallis sp. Cf. arve.

Anchusa sp. Oksetunge.

Angelica sp. Angelik

Apiaceae. Skærmblostmfamilien.

Asteraceae. Kurvblomstmfamilien.

Atriplex sp. Mælde.

Avena sp. Havre (enten dyrket havre eller flyvehavre).

Betula sp. Birk.

Brassica sp. Kål.

Brassicaceae. Korsblomstmfamilien.

Bryophyta. Mos.

Carduus sp. Tidsel.

Carex sp. Star.

Caryophyllaceae. Nellikefamilien.

Cerealina indet. Ubestemt korn.

Chenopodiaceae. Salturtfamilien.

Chenopodium sp. Gåsefod.

Eleocharis sp. Sumpstrå. Flerårige sumpplanter.

Euphrasia sp. Øjentrøst.

Epilobium sp. Dueurt.

Fabaceae. Ærteblomstmfamilien.

Fragaria sp. Jordbær.

Galeopsis sp. Hanekro.

Galium sp. Snerre.

Hieracium sp. Høgeurt.
Hordeum sp. Byg.
Hypericum sp. Perikon.
Hypochaeris sp. Kongepen.
Juncus sp. Siv. Ofte på fugtige voksesteder.
Lamiaceae. Læbeblomstfamilien.
Lamium sp. Tvetand.
Leontodon sp. Borst.
Leucanthemum sp. Margerit.
Luzula sp. Frytle.
Malva sp. Katost.
Malus sp. Æble.
Mentha sp. Mynte.
Myosotis sp. Forglemmigej.
Odontites sp. Rødtop.
Papaver sp. Valmue
Poaceae. Græsfamilien.
Polygonaceae. Pileurfamilien.
Potamogeton sp. Vandaks.
Prunus sp. Kirsebær.
Pyrus sp. Pære
Ranunculus sp. Ranunkel.

Rhinanthus. Skjaller. 10-50 cm høj, omkring 350 frø pr. plante. Blomstrer i maj-juni. Rugskjaller, *Rhinanthus apterus*, kan være meget generende på sandede, lidt fugtige rugmarker i Nord og Vestjylland. Fugtige enge, strandenge, sandede vejkanter og kornmarker. Medtaget fordi planten er omtalt som meget udbredt i rugmarkerne af Begtrup (1808), men er ikke identificeret som andet end Skjaller. (Frederiksen et al. 1950, Hansen 1993, Holmgård 1962:108f.).

Ribes sp. Ribsslægten.
Rosa sp. Rose.
Rumex sp. Skræppe.
Sagina sp. Firling.
Silene sp. Limurt.
Solanaceae. Natskyggefamilien.
Solanum sp. Natskygge.
Sparganium sp. Pindsvineknop.
Sphagnum sp. Tørvemos.
Triticum sp. Hvede.
Trifolium sp. Kløver.
Typha sp. Dunhammer.
Vaccinium sp. Bølleslægten.
Valeriana sp. Baldrian.
Viola sp. Viol.

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Figurer og tabeller:

X -num.	x5344	x5499	x5506	x5507	x5515	x5516	X-num.
analysed sample size (ml)	200	200	200	200	400*	200	Analyseret prøvestørrelse (ml)
Context	2948	2948	2692	2692	2692	2692	Kontekst
Cultivated plants							Dyrkede planter
<i>Avena</i> sp. charred					1		Havre/flyve-havre
<i>Avena</i> sp. charred, sprouted	1						Havre/flyve-havre med spire
<i>Cerealia</i> indet. charred				2			Korn ubestemt
<i>Hordeum</i> sp. charred					1		Byg
cf. <i>Hordeum</i> charred	1						cf. byg
<i>Triticum</i> sp. charred				1			Hvede sp.
<i>Foeniculum vulgare</i>	2			1			Almindelig fennikel
Edible plants, collected or cultivated							Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	3	18	3F	3F	3F	2F	Hassel (nøddeskal)
<i>Fragaria</i> sp.	3	6	1	1		1	Jordbær
<i>Myrica gale</i>	13+1F	1+2F					Mose-pors
<i>Prunus</i> sp.			4F				Kirsebær
<i>Rubus fruticosus</i>					1		Almindelig brombær
<i>Rubus idaeus</i>	1	4	1	1	1	1	Hindbær
<i>Sambucus nigra</i>		1+2F	1		1+1F		Almindelig hyld
Agricultural land, ruderal & grassland							Agerjord, ruderater og enge
<i>Agrostemma githago</i>	6+29F	2+9F	1+2F			4F	Klinte
<i>Anthemis arvensis</i>	1						Ager-gåseurt
<i>Aphanes arvensis</i>	7	5	1	1	1	1	Almindelig dværgløvefod
<i>Arnoseris minima</i>	2						Svineøje
<i>Centaurea cyanus</i>	2	1			1		Kornblomst
<i>Chenopodium album</i>	187	130	15	24	17	22	Hvidmelet gåsefod
<i>Descurainia sophia</i>	4	2					Finbladet vejsennep
<i>Fallopia convolvulus</i>	1	3				2	Snerle-pileurt
<i>Lapsana communis</i>	1				1		Haremad
<i>Neslia paniculata</i> seed pod			1F				Rundskulpe frøkapsel
<i>Plantago major</i>	1						Glat vejbred
<i>Papaver argemone</i>	11	3	2				Kølle-valmue
<i>Persicaria lapathifolium/maculosa</i>	14+15F	7+5F	2	3	1		Knudet pileurt/fersken-pileurt
<i>Picris hieracioides</i>	3						Ru bittermælk
<i>Polygonum aviculare</i>	6	5				1	Vejpileurt
<i>Prunella vulgaris</i>	3					1	Almindelig brunelle
<i>Raphanus raphanistrum</i> seed pod	2		3 c.			1	Almindelig kiddike
<i>Raphanus raphanistrum</i> seed		1					Almindelig kiddike frø

Table 1: Road layer samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount. *Amount of seeds divided by 2.

X -num.	x5344	x5499	x5506	x5507	x5515	x5516	X-num.
analysed sample size (ml)	200	200	200	200	400*	200	Analyseret prøvestørrelse (ml)
Context	2948	2948	2692	2692	2692	2692	Kontekst
<i>Rumex acetosella</i>	12	16	6	1	1	10	Rødknæ
<i>Solanum nigrum</i>	1				1	1	Sort natskygge
<i>Sonchus asper</i>		1					Ru svinemælk
<i>Spergula arvensis</i>	7+13F	2+5F	2	1			Almindelig spergel
<i>Stellaria graminea</i>	2	3		1	1		Græsbladet fladstjerne
<i>Stellaria media</i>	8	1	1	1	1		Almindelig fuglegræs
<i>Thlaspi arvense</i>	1+2F	1+4F	2	3	2	1F	Almindelig pengeurt
<i>Trifolium repens</i>	1						Hvid-kløver
<i>Tripleurospermum maritimum</i> charred	3						Strand-kamille
<i>Urtica urens</i>	3			3	2		Liden nælde
Heathland and acid moors							Hede og hedemoser
<i>Juncus squarrosus</i>	2						Børste-siv
<i>Sphagnum</i> sp.	9					1	Tørvemos
Marshes & shallow water							Vådbund & lavt vand
Alismataceae				1	1		Skebladfamilien
<i>Caltha palustris</i>	1						Eng-kabbeleje
<i>Cyperus fuscus</i>	1	2				3	Brun fladaks
<i>Eleocharis</i> sp.	7	4	2	1	3	4	Sumpstrå
<i>Epilobium</i> sp.	1			1			Dueurt
<i>Eupatorium cannabinum</i>					1F		Hjortetrøst
<i>Filipendula ulmaria</i>	2						Almindelig mjødukt
<i>Juncus</i> sp.	134	42	73	35	48	44	Siv
<i>Linum catharticum</i>	1						Vild hør
<i>Lychnis flos-cuculi</i>	2						Trævlekrone
<i>Lycopus europaeus</i>			1				Sværtevæld
<i>Ranunculus flammula</i>	13	4					Kær-ranunkel
<i>Ranunculus sceleratus</i>				1		2	Tigger-ranunkel
<i>Sparganium erectum</i>		2					Grenet pindsvineknop
<i>Sparganium</i> sp.			1	2			Pindsvineknop
<i>Typha</i> sp.	18	5	5	2	6	2	Dunhammer
Unclassified							Blandet økologi
Asteraceae		2					Kurvblomstfamilien
<i>Atriplex</i> sp.	3	2					Mælde
<i>Brassica</i> sp.	3	1	1				Kål
<i>Carex</i> sp.	8	14	5	3	4	4	Star
Caryophyllaceae	14				1		Nellikefamilien

Table 1: Road layer samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount. *Amount of seeds divided by 2.

X -num.	x5344	x5499	x5506	x5507	x5515	x5516	X-num.
analysed sample size (ml)	200	200	200	200	400*	200	Analyseret prøvestørrelse (ml)
Context	2948	2948	2692	2692	2692	2692	Kontekst
<i>Chenopodium</i> sp.		12+29F			15		Gåsefod sp.
Chenopodiaceae	4+6F		14	24	2+11F	17	Salturtfamilien
<i>Epilobium</i> sp.	1			1			Dueurt
<i>Galeopsis</i> sp.	7	2+1F		1	2		Hanekro
<i>Hieracium</i> sp.		1					Høgeurt
<i>Hypericum</i> sp.	2	1	1	1			Perikon
Lamiaceae				1	1		Læbeblomstfamilien
<i>Mentha</i> sp.	1						Mynte
<i>Myosotis</i> sp.	1						Forglemmigej
<i>Papaver</i> sp.			4	2	2		Valmue
Poaceae	55	7	2		2	6	Græsfamilien
Polygonaceae	19+10F	2+11F	8	5+2F	1	13	Pileurtfamilien
<i>Ranunculus</i> sp.	6	2	3	4	1	1	Ranunkel
<i>Rumex</i> sp.	5	4	2		1		Skræppe
<i>Sagina</i> sp.	13	1	4			3	Firling
<i>Silene</i> sp.			1				Limurt
<i>Solanum</i> sp.	1						Natskygge
<i>Urtica dioica</i>	4	3	1		1	3	Stor Nælde
<i>Viola</i> sp.	1			3	1	1	Viol
Other remains							Andre fund
Wood	xxx	xx	xx	xx	xxx	x	Træ
Charcoal	x	xx	x	x	xxx	x	Trækul
Roots			xxxxx	xxx			Rødder
Fish bones, scales	x	xx	xx	xx	xx	x	Fiskeben/fiskeskæl
Mammal bones			x				Pattedyr knogler
Hair			x		xxx	x	Hår
Eggshell (bird)	x	xx	x		xx	x	Fugl æggeskæl
Insect remains	xxx			xx	xx	x	Insekt rester
<i>Trox scaber</i>					1		Lille Uldtorbist
<i>Elaphrus riparius</i>					1		Grøn Øjenløber
<i>Spiropora verticillata</i>				x			Bryozoa fossil
<i>Littorina littorea</i>			1				Almindelig Strandsnegl
Juvenile sheep, incisor		1					Lam, incisor
Cat tooth				1			Kat tand
Piglet, upper maxilla right	1						Gris overkæbe højre
Bryophyta	25	76	6	24	7	7	Mosser

Table 1: Road layer samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount. *Amount of seeds divided by 2.

X -num.	x5517	x5538	x5539	x5595	x5596	x5602	X-num.
analysed sample size (ml)	200	200	200	200	200	200	Analyseret prøvestørrelse (ml)
Context	2692	2692	2692	2692	2692	2692	Kontekst
Cultivated plants							Dyrkede planter
<i>Avena</i> sp. charred		1					Havre/flyve-havre
Cerealia indet. charred			2				Korn ubestemt
<i>Hordeum/ Secale cereale</i> charred	1						Byg/ rug
<i>Foeniculum vulgare</i>	1						Almindelig fennikel
Edible plants, collected or cultivated							Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	4		3		6F	1	Hassel (nøddeskal)
<i>Fragaria</i> sp.	5		1	1	8	2	Jordbær
<i>Myrica gale</i>						1	Mose-pors
<i>Rosasp.</i>	1						Rose
<i>Rubus idaeus</i>	2	3			1		Hindbær
<i>Sambucus nigra</i>	1+1F	2	1		1		Almindelig hyld
Agricultural land, ruderal & grassland							Agerjord, ruderater og enge
<i>Agrostemma githago</i>		5F					Klinte
<i>Aphanes arvensis</i>		1			4	2	Almindelig dværgløvefod
<i>Chenopodium album</i>	22+2F	14+6F	11	31+8F	36	19	Hvidmelet gåsefod
<i>Fallopia convolvulus</i>	1+1F		2		3		Snerle-pileurt
<i>Hyoscyamus niger</i>		1		1			Almindelig bulmeurt
<i>Lapsana communis</i>				1			Haremad
<i>Lithospermum arvense</i>					1		Rynket stenfrø
<i>Papaver argemone</i>	1				6	21	Kølle-valmue
<i>Persicaria lapathifolium/maculosa</i>	1+2F	1	3	2	3	2	Knudet pileurt/fersken-pileurt
<i>Picris hieracioides</i>							Ru bittermælk
<i>Polygonum aviculare</i>	2	2			7	1	Vejpileurt
<i>Prunella vulgaris</i>				1	1		Almindelig brunelle
<i>Raphanus raphanistrum</i> seed pod					2		Almindelig kiddike
<i>Rumex acetosella</i>	4		4		5	1	Rødknæ
<i>Spergula arvensis</i>	1		2		3	6	Almindelig spergel
<i>Stellaria graminea</i>			1		1	1	Græsbladet fladstjerne
<i>Stellaria media</i>	2				5		Almindelig fuglegræs
<i>Thlaspi arvense</i>		6	1+2F		9	1	Almindelig pengeurt
<i>Urtica urens</i>	3	1	3		4	1	Liden nælde
Aquatic							Vandplanter
<i>Nuphar lutea</i>					1F		Gul åkande

Table 2: Road layer samples cont. Unless otherwise specified all plant remains are uncarbonized. "CF" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X -num.	x5517	x5538	x5539	x5595	x5596	x5602	X-num.
analysed sample size (ml)	200	200	200	200	200	200	Analyseret prøvestørrelse (ml)
Context	2692	2692	2692	2692	2692	2692	Kontekst
Heathland and acid moors							Hede og hedemoser
<i>Sphagnum</i> sp.					1		Tørvemos
Marshes & shallow water							Vådbund & lavt vand
Alismataceae		1		1		1	Skebladfamilien
<i>Bidens tripartita</i>					1		Fliget brøndsel
<i>Cyperus fuscus</i>			1			1	Brun fladaks
<i>Eleocharis</i> sp.	1	2	1	2		2	Sumpstrå
<i>Juncus</i> sp.	23	45	34	55	63	45	Siv
<i>Potentilla palustris</i>						1	Kragefod
<i>Ranunculus sceleratus</i>					1		Tigger-ranunkel
<i>Sparganium</i> sp.				1			Pindsvineknop
<i>Typha</i> sp.	1	7	3		3	1	Dunhammer
Unclassified							Blandet økologi
Apiaceae					1	1	Skærmblostmfamilien
Asteraceae					1	1	Kurvblomstfamilien
<i>Betula</i> sp.	1						Birk
<i>Carex</i> sp.	9	5	38	4	13	9	Star
Caryophyllaceae		2	3	1	1+7 F		Nellikefamilien
Chenopodiaceae	23	19	2		40	8	Salturtfamilien
<i>Galeopsis</i> sp.					1		Hanekro
<i>Hypericum</i> sp.		1			2		Perikon
<i>Luzula</i> sp.						1	Frytle sp.
<i>Mentha</i> sp.						2	Mynte
<i>Myosotis</i> sp.						1	Forglemmigej
<i>Papaver</i> sp.		4		1	6		Valmue
Poaceae	4	3	3	2	9	4	Græsfamilien
Polygonaceae	8		2	5	8+13F	4	Pileurtfamilien
<i>Ranunculus</i> sp.	4			1	2	2	Ranunkel
<i>Rumex</i> sp.	1	1	1			2	Skræppe

Table 2: Road layer samples cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X -num.	x5517	x5538	x5539	x5595	x5596	x5602	X-num.
analysed sample size (ml)	200	200	200	200	200	200	Analyseret prøvestørrelse (ml)
Context	2692	2692	2692	2692	2692	2692	Kontekst
<i>Sagina</i> sp.					3	1	Firling
<i>Urtica dioica</i>					2	5	Stor Nælde
<i>Viola</i> sp.					1	1	Viol
Other remains							Andre fund
Wood	xx	xx	xxx	xx	xx	xx	Træ
Charcoal	xx	x	xx	xx	x		Trækul
Roots		xxx	xxx		xxx		Rødder
Fish bones, scales		xx	xx	xx	xx	xx	Fiskeben/fiskeskæl
Mammal bones	xx	xx	xx	xx	x	x	Pattedyr knogler
Hair	xx	xx		xx			Hår
Eggshell (bird)	xx	xx	xx		x	xx	Fugl æggeskæl
Insect remains				xx	x		Insekt rester
Snail	1	x	1				Snegle
<i>Daphnia ephippium</i>						2	Dafnie ephippium
<i>Mytilus edulis</i>						2F	Blåmuslinger
Bryophyta	3	5	8	2	83	7	Mosser

Table 2: Road layer samples cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

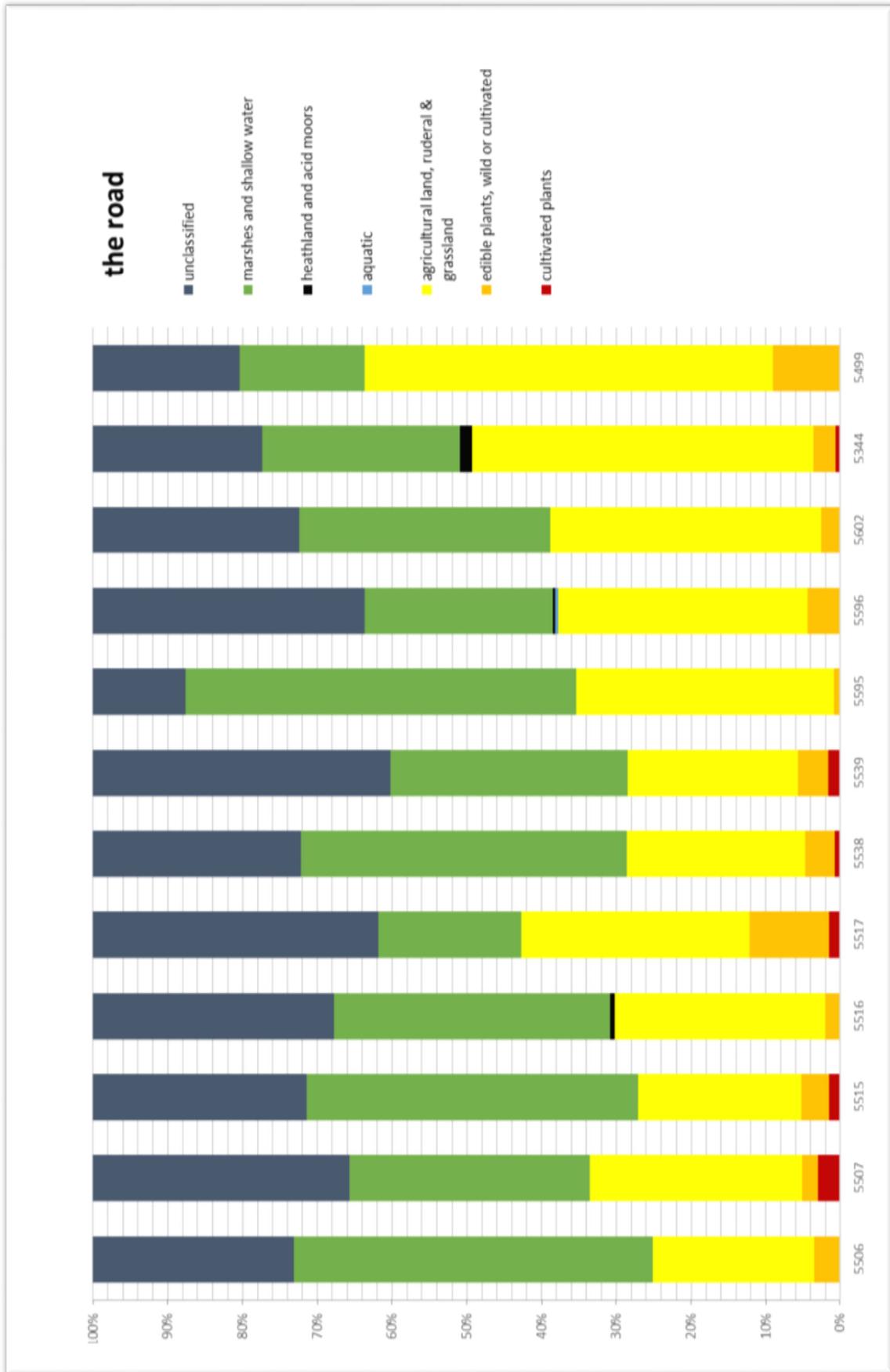


Fig. 1. Plant group distribution in the road samples

X-NR	x2584	x2588	x2603	x2684	X-NR
Sample size (ml)	200	200	200	200	Analyseret Prøvestørrelse (ml)
Context	latrin/ brønd	latrin/ brønd	latrin/ brønd	brønd/ latrin	Kontekst
cultivated plants					dyrkede planter
<i>Avena</i> sp. charred	1				Havre/flyve-havre
Cerealia indet. bran			xxx	xx	Korn indet. klid
<i>Ficus carica</i>				114	Figen
<i>Foeniculum vulgare</i>				4	Almindelig fennikel
<i>Humulus lupulus</i>			1+1F	1	Humle
<i>Linum usitatissimum</i>			26+8F	5	Almindelig hør
<i>Papaver somniferum</i>				1+2F	Opiumvalmue
<i>Rosmarinus officinalis</i> leaf			1		Rosmarin blad
<i>Vitis vinifera</i>				5+1F	Almindelig vin
Edible plants, collected or cultivated					Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)			4		Hassel (nøddeskal)
<i>Fragaria</i> sp.		13	16	1000+	Jordbær
<i>Myrica gale</i> fruit		5	20		Mose-pors frugt
<i>Prunus</i> sp.		1	1	1+27F	Kirsebær
<i>Pyrus/Malus endocarp</i>		1	1	26	Pære/ æble endocarp
<i>Pyrus/ Malus</i> seed				7+2F	Pære/ æble frø
<i>Ribes</i> sp.				1+1F	Ribs-slægten
<i>Rosa</i> sp.				1	Rose
<i>Rubus idaeus</i>	9+2F	1		32	Hindbær
<i>Sambucus nigra</i>	2+2F		1+2F		Almindelig hyld
<i>Vaccinium</i> sp.				1	Bølle-slægten
Agricultural land, ruderal & grassland					Agerjord, ruderater og enge
<i>Agrostemma githago</i> fgt		7	1+3F	1000+	Klinter
<i>Centaurea cyanus</i>			1+13F	1+10F	Kornblomst
<i>Chenopodium album</i>	19	34	22	5+1F	Hvidmelet gåsefod
<i>Descurainia sophia</i>				1	Finbladet vejsennep
<i>Fallopia convolvulus</i>			4		Snerle-pileurt
<i>Hyoscyamus niger</i>	4				Almindelig bulmeurt
<i>Knautia arvensis</i>		1			Almindelig blåhat
<i>Neslia paniculata</i>			1	2F	Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>		8	32+7F	4+2F	Knudet pileurt/fersken-pileurt
<i>Persicaria maculosa</i>			1		Fersken-pileurt
<i>Plantago major</i>			1		Glat vejbred
<i>Polygonum aviculare</i>		1	6		Vejpileurt
<i>Papaver argemone</i>				1+1F	Kølle-valmue
<i>Raphanus raphanistrum</i>			10	10	Almindelig kiddike

Table 3: Well samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x2584	x2588	x2603	x2684	X-NR
Sample size (ml)	200	200	200	200	Analyseret Prøvestørrelse (ml)
Context	latrin/ brønd	latrin/ brønd	latrin/ brønd	brønd/ latrin	Kontekst
<i>Rumex acetosella</i>	3	4	13	2+1F	Rødknæ
<i>Solanum nigrum</i>		4	12	1	Sort natskygge
<i>Spergula arvensis</i>		4+4F	6+2F	1	Almindelig spergel
<i>Stellaria media</i>		26	9		Almindelig fuglegræs
<i>Thlaspi arvense</i>	2	2	3+1F	1	Almindelig pengeurt
<i>Urtica urens</i>		48	21	1	Liden nælde
Salt marsh					Strandeng
<i>Triglochin maritima</i>			1		Strand-trehage
Heathland and acid moors					Hede og hedemoser
<i>Sphagnum sp.</i>			4	1	Tørvemos
Marshes & shallow water					Vådbund & lavt vand
<i>Eleocharis sp.</i>			1		Sumpstrå
<i>Juncus sp.</i>		4	12		Siv
<i>Ranunculus flammula</i>			1		Kær-ranunkel
<i>Triglochin palustre</i>				1	Kær-trehage
Unclassified					Blandet økologi
<i>Apiaceae</i>		1		9	Skærblomstfamilien
<i>Asteraceae</i>	1				Kurvblomstfamilien
<i>Atriplex sp.</i>			2		Mælde
<i>Brassicaceae</i>		1		4+18F	Korsblomstfamilien
<i>Brassica sp.</i>			1		Kål
<i>Carduus sp.</i>				1	Tidsel
<i>Carex sp.</i>	1	9	12		Star
<i>Caryophyllaceae</i>				1	Nellikefamilien
<i>Chenopodiaceae</i>	18		18		Salturtfamilien
<i>Galeopsis sp.</i>		2	1		Hanekro
<i>Lamiaceae</i>		1			Læbeblomstfamilien
<i>Lamium sp.</i>			1		Tvetand
<i>Poaceae</i>	4	5	4		Græsfamilien

Table 3: Well samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x2584	x2588	x2603	x2684	X-NR
Sample size (ml)	200	200	200	200	Analyseret Prøvestørrelse (ml)
Context	latrin/ brønd	latrin/ brønd	latrin/ brønd	brønd/ latrin	Kontekst
Polygonaceae	1	8	8	1	Pileurtfamilien
Ranunculus sp.			3		Ranunkel
Rumex sp.			1		Skræppe
Solanum dulcamara				1	Bittersød natskygge
Urtica dioica	2				Stor nælde
Other remains					Andre fund
Wood		xxx	xx	x	Træ
Moss		xx	xx		Mosser
Buds of tree/shrub		x			Knop fra træ/buske
Charcoal	x	x			Trækul
Fish bones, scales	x	x	x	x	Fiskeben/fiskeskæl
Mammal bones, teeth	x	x	xx	x	Pattedyr knogler
Eggshell (bird)				x	Fugl æggeskæl
Insect remains			xx		Insekt rester

Table 3: Well samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x4255	x4272	x4330	x5963	X-NR
Sample size (ml)	200	200	200	200	Analyseret Prøvestørrelse (ml)
Context	ADK	ADK	ADK	brønd/ fyld	Kontekst
cultivated plants					dyrkede planter
<i>Cerealia</i> indet. bran	xx				Korn indet. klid
<i>Cerealia</i> indet. charred			2		Korn indet. frø
<i>Ficus carica</i>	2	1			Figen
<i>Humulus lupulus</i>	1+5F	3+4F	6+4F	3+4F	Humle
<i>Linum usitatissimum</i>	2	1	1		Almindelig hør
Edible plants, collected or cultivated					Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	2	2			Hassel (nøddeskal)
<i>Fragaria</i> sp.	5	2		10	Jordbær
<i>Myrica gale</i> fruit	3	1		1F	Mose-pors frugt
<i>Myrica gale</i> catkin stalk			1		Mose-pors rakkell
<i>Prunus</i> sp.				1	Kirsebær
<i>Rubus idaeus</i>	1		1	4	Hindbær
<i>Sambucus nigra</i>		2			Almindelig hyld
Agricultural land, ruderal & grassland					Agerjord, ruderater og enge
<i>Agrostemma githago</i> fgt	1+72F	23	1	2	Klinte
<i>Centaurea cyanus</i>	1+5F		1		Kornblomst
<i>Chenopodium album</i>	16	15		79	Hvidmelet gåsefod
<i>Hyoscyamus niger</i>	2+1F	3+3F	3+5F		Almindelig bulmeurt
<i>Leontodon</i> sp.	1				Borst
<i>Neslia paniculata</i>	1	1F	2		Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>	8+7F	2	2	2	Knudet pileurt/fersken-pileurt
<i>Polygonum aviculare</i>				1	Vejpileurt
<i>Papaver argemone</i>			2		Kølle-valmue
<i>Prunella vulgaris</i>	1				Almindelig brunelle
<i>Raphanus raphanistrum</i>	1+10F	4	1		Almindelig kiddike
<i>Rumex acetosella</i>	6	3	2	5	Rødknæ
<i>Scleranthus annuus</i>	1				Enårig knavel
<i>Solanum nigrum</i>			1	30	Sort natskygge
<i>Sonchus asper</i>	1				Ru svinemælk
<i>Spergula arvensis</i>	1		5F		Almindelig spergel
<i>Stellaria graminea</i>				2	Græsbladet fladstjerne
<i>Stellaria media</i>	1			56	Almindelig fuglegræs
<i>Thlaspi arvense</i>	2+9F	4	1+4F		Almindelig pengeurt
<i>Urtica urens</i>	2	2	2	74	Liden nælde

Table 4: Well samples cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x4255	x4272	x4330	x5963	X-NR
Sample size (ml)	200	200	200	200	Analyseret Prøvestørrelse (ml)
Context	ADK	ADK	ADK	brønd/ fyld	Kontekst
Aquatic					Vandplanter
<i>Nuphar lutea</i> fgt.	4	4	8		Gul åkande
<i>Stratiotes aloides</i> leaf spine				1	Krebseklo
Salt marsh					Strandeng
<i>Triglochin maritima</i>			1		Strand-trehage
Heathland and acid moors					Hede og hedemoser
<i>Sphagnum</i> sp.	1				Tørvemos
Marshes & shallow water					Vådbund & lavt vand
<i>Alisma plantago-aquatica</i>				1	Vejbred-skeblad
<i>Caltha palustris</i>		1			Eng-kabbeleje
<i>Eleocharis</i> sp.			1		Sumpstrå
<i>Eupatorium cannabinum</i>			1		Hjortetrøst
<i>Juncus</i> sp.	11	15	56	10	Siv
<i>Linum catharticum</i>	1				Vild Hør
<i>Persicaria hydropiper</i>			1		Bidende pileurt
<i>Ranunculus flammula</i>	1			1	Kær-ranunkel
<i>Typha</i> sp.		1		2	Dunhammer sp.

Table 4: Well samples cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x4255	x4272	x4330	x5963	X-NR
Sample size (ml)	200	200	200	200	Analyseret Prøvestørrelse (ml)
Context	ADK	ADK	ADK	brønd/ fyld	Kontekst
Unclassified					Blandet økologi
<i>Asteraceae</i>	1F				Kurvblomstfamilien
<i>Atriplex</i> sp.	1				Mælde
<i>Betula</i> sp.				1	Birk
<i>Brassicaceae</i>	5		1+ 3F	1	Korsblomstfamilien
<i>Carex</i> sp.	2	3	4	3	Star
<i>Caryophyllaceae</i>	2			2	Nellikefamilien
<i>Chenopodiaceae</i>	13F	11	3+7F	176+50F	Salturtfamilien
<i>Galeopsis</i> sp.		1			Hanekro
<i>Hypericum</i> sp.		1		1	Perikon
<i>Lamiaceae</i>		1		2	Læbeblomstfamilien
<i>Luzula</i> sp.			1		Frytle
<i>Mentha</i> sp.				1	Mynte
<i>Poaceae</i>	11	7	12	4	Græsfamilien
<i>Polygonaceae</i>	3F	6	4		Pileurtfamilien
<i>Ranunculus</i> sp.	1	1		2	Ranunkel
<i>Rumex</i> sp.	2			1	Skræppe
<i>Sagina</i> sp.		1	2	1	Firling
<i>Silene</i> sp.				1	Limurt
<i>Solanum dulcamara</i>		3		25	Bittersød natskygge
<i>Trifolium</i> sp. perianth	1		3		Kløver
<i>Urtica dioica</i>	1	3	1	40	Stor nælde
<i>Viola</i> sp.				2	Viol
Other remains					Andre fund
Wood			xx		Træ
Charcoal		xx	xx		Trækul
Fish bones, scales		x	x	x	Fiskeben/fiskeskæl
Mammal bones, teeth		x			Pattedyr knogler
Insect remains	x				Insekt rester

Table 4: Well samples cont. Unless otherwise specified all plant remains are uncarbonized. "CP" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

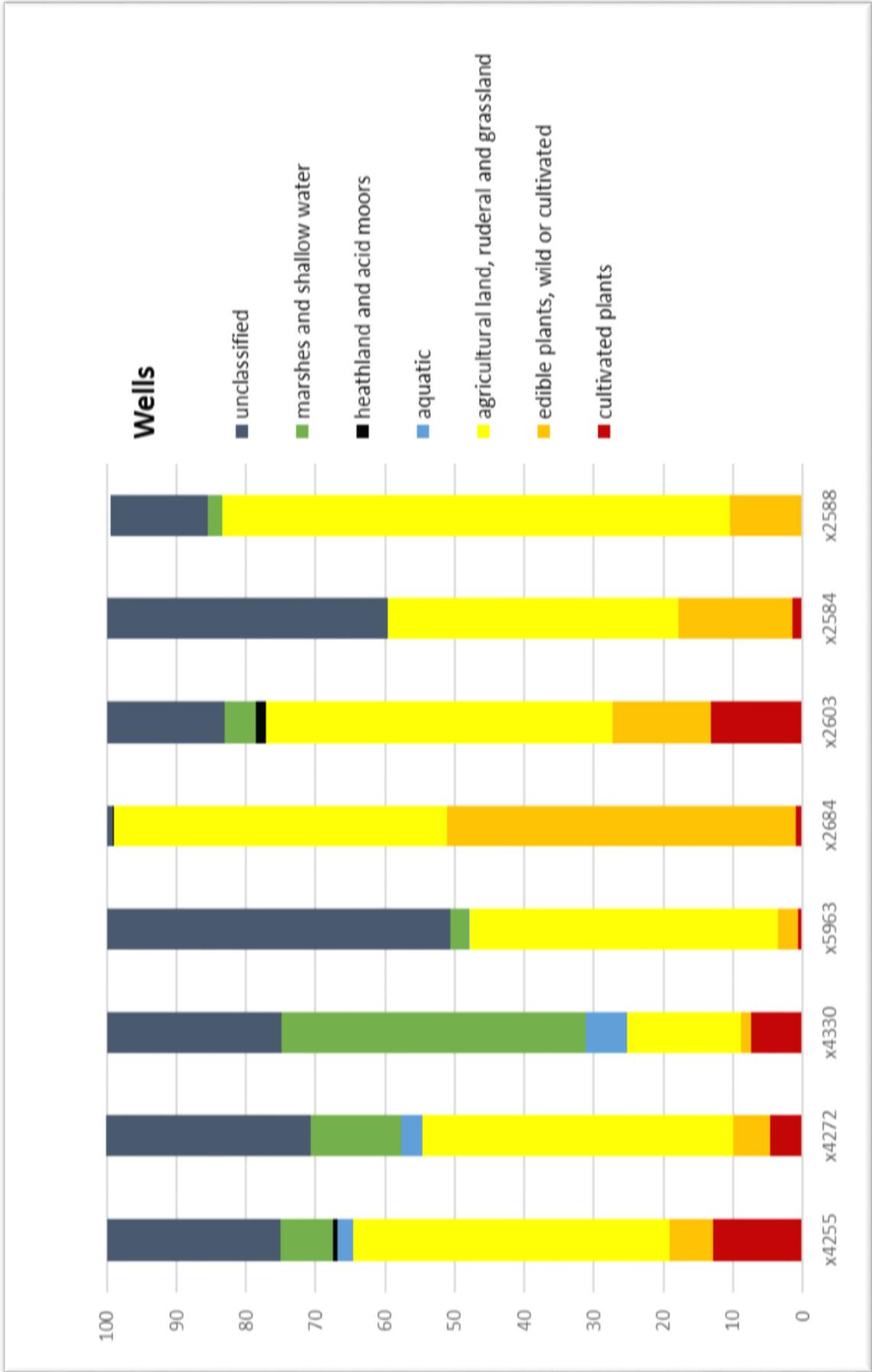


Fig. 2. Distribution of plant groups in well samples

X-NR	x1036	x2291	X-NR
Analysed sample size (ml)	200	200	Analyseret Prøvestørrelse (ml)
Cultivated plants			Dyrkede planter
<i>Cerealia</i> indet. mineralised		1	Korn indet.
<i>Cerealia</i> indet. bran		1	Korn indet. klid
<i>Hordeum</i> sp. charred		1	Byg sp.
<i>Hordeum/ Secale</i> charred		1+2F	Byg sp. / rug sp.
<i>Humulus lupulus</i>		1	Humle
<i>Linum usitatissimum</i>		1+2F	Hørfrø
<i>Foeniculum vulgare</i>		1	Almindelig fennikel
<i>Leonurus cardiaca</i>		1	Almindelig hjertespand
Edible plants, collected or cultivated?			Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	2		Hassel (nøddeskal)
<i>Rubus idaeus</i>		4+5F	Hindbær
Agricultural land, ruderal and grassland			Agerjord, ruderater og enge
<i>Achillea millefolia</i>		1	Almindelig røllike
<i>Agrostemma githago</i>		4+6F	Klinter
<i>Aphanes arvensis</i>		1	Almindelig dværgløvefod
<i>Arnoseris minima</i>		4+4F	Svineøje
<i>Centaurea cyanus</i>		45	Kornblomst
<i>Chenopodium album</i>	102		Hvidmelet gåsefod
<i>Hyoscyamus niger</i>		1	Almindelig bulmeurt
<i>Knautia arvensis</i>		1	Almindelig blåhat
<i>Lithospermum arvense</i>		1+1	Rynket stenfrø
<i>Neslia paniculata</i>	1		Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>	18		Knudet pileurt/fersken-pileurt
<i>Polygonum aviculare</i>	26	1	Vejpileurt
<i>Papaver argemone</i>	3		Kølle-valmue
<i>Picris hieracioides</i>		1	Ru bittermælk
<i>Plantago lanceolata</i>	1		Lancet-vejbred
<i>Prunella vulgaris</i>		4	Almindelig brunelle
<i>Rumex acetosella</i>	10	1+2F	Rødknæ
<i>Solanum nigrum</i>	4		Sort natskygge
<i>Sphagnum</i> sp.		1+7F	Tørvemos
<i>Stellaria media</i>	2	3+1F	Almindelig fuglegræs
<i>Thlaspi arvense</i>	3+6F		Almindelig pengeurt
<i>Trifolium repens</i>	3		Hvid-kløver

Table 5: Stable samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1036	x2291	X-NR
Analysed sample size (ml)	200	200	Analyseret Prøvestørrelse (ml)
Marshes & shallow water			Vådbund & lavt vand
<i>Alismataceae</i>	2		skebladfamilien
<i>Caltha palustris</i>	5		Eng-kabbeleje
<i>Cyperus fuscus</i>	8		Brun fladaks
<i>Eleocharis</i> sp.	4		Sumpstrå
<i>Juncus</i> sp.	2	1	Siv
<i>Lychnis flos-cuculi</i>	6		Trævlekrone
<i>Potentilla palustris</i>		1	Kragefod
<i>Ranunculus flammula</i>	2		Kær-ranunkel
<i>Ranunculus sceleratus</i>	2		Tigger-ranunkel
<i>Rorippa palustris</i>	8		Kær-guldkarse
<i>Schoenoplectus maritimus</i>	2		Strandkogleaks
<i>Sparganium</i> sp.		4	Pindsvineknop
Heathland and acid moors			Hede og syre moser
<i>Juncus squarrosus</i>	4		Børste-siv
Unclassified			Blandet økologi
<i>Brassicaceae</i>	3		Korsblomstfamilien
<i>Bryophyta</i>		7	Mosser
<i>Carex</i> sp.	216		Halvgræsfamilien
<i>Chenopodium</i> sp.		1	Gåsefod sp.
<i>Chenopodiaceae</i>	4		Salturtfamilienfamilien
<i>Epilobium</i> sp.	2		Natlysfamilien
<i>Galeopsis</i> sp.		1	Hanekro
<i>Hieracium</i> sp.	2		Høgeurt
<i>Hypericum</i> sp.	96	16	Perikon
<i>Lamiaceae</i>		1	Læbeblomst-familien
<i>Leucanthemum</i> sp.		1	Margerit
<i>Luzula</i> sp.	4	1	Frytle
<i>Mentha</i> sp.		1	Mynte
<i>Myosotis</i> sp.		2	Forglemmigej
<i>Papaver</i> sp.	3	7+5F	Valmuefamilien
<i>Poaceae</i>	2		Græsfamilien
<i>Polygonaceae</i>		5+1F	Pileurtfamilien
<i>Prunus</i> sp.	2		Kirsebær
<i>Ranunculus</i> sp.	2+1F		Ranunkel
<i>Sagina</i> sp.	2		Firling
<i>Silene</i> sp.		15+4F	Limurt
<i>Solanum</i> sp.	4		Natskygge

Table 5: Stable samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1036	x2291	X-NR
Analysed sample size (ml)	200	200	Analyseret Prøvestørrelse (ml)
Other remains			Andre fund
Wood	xx		Træ
Charcoal	xx		Trækul
Moss		x	Mosser
Mammal bone		x	Pattedyr knogle
Insect remains	xx	x	Insekt

Table 5: Stable samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

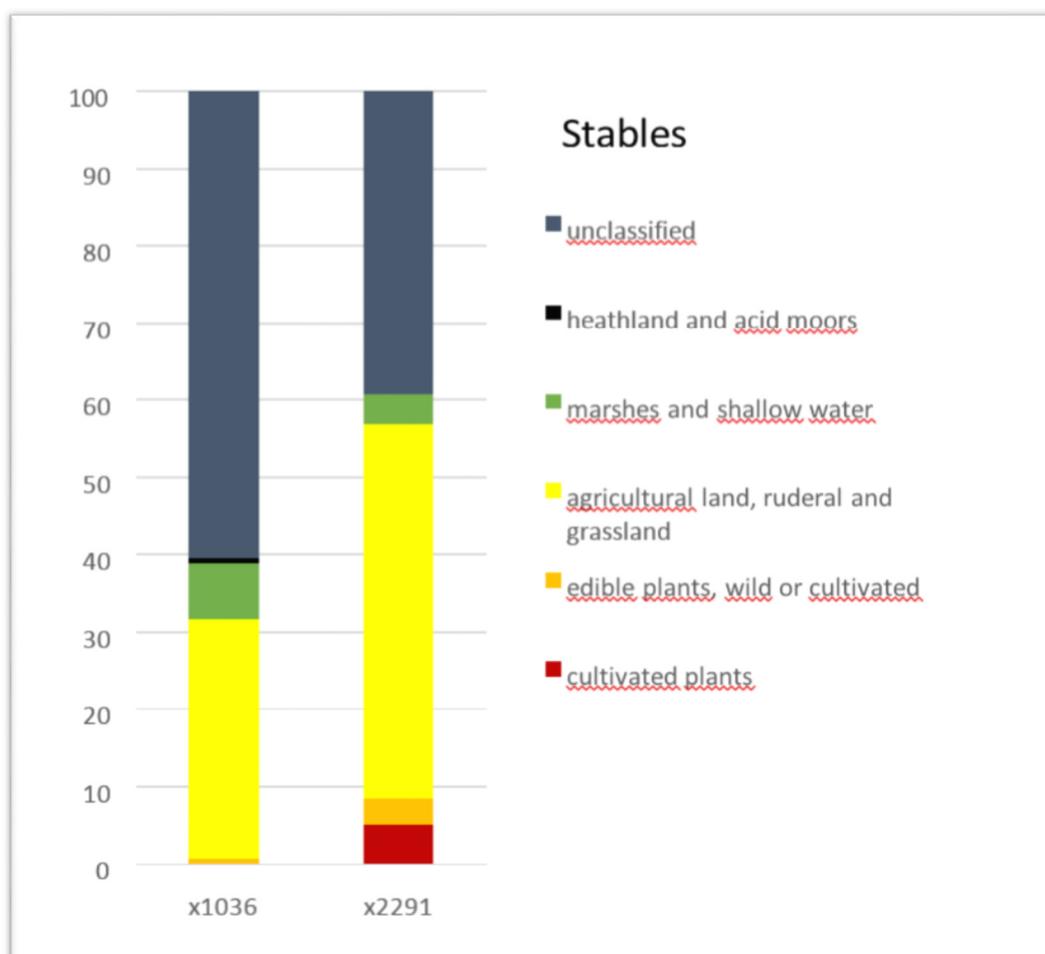


Fig. 3. Distribution of plant groups in stable samples

X-NR	x251	x484	x486	x1040	x1153	x1164	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
Cultivated plants							Dyrkede planter
<i>Avena</i> sp. charred		1	1				Havre/Flyve-havre sp.
Cerealia indet. charred	2F	9					Korn indet.
Cerealia indet. bran	xxxx				1	xxxx	Korn indet. klid
<i>Fagopyrum esculentum</i>	6						Boghvede
<i>Hordeum</i> sp. charred	1						Byg sp.
<i>Humulus lupulus</i>	7+1F	1			10	14	Humle
<i>Humulus lupulus</i> with perianth						2	Humle
<i>Secale</i> charred		14					Rug sp.
<i>Linum usitatissimum</i>						2	Almindelig hør
<i>Prunus domestica</i>						1	blomme
<i>Ficus carica</i>	1			2		21	Figner
<i>Papaver somniferum</i>	2	4	6			4	Opiumvalmue
Edible plants, collected or cultivated?							Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)				2F			Hassel (nøddeskal)
<i>Fragaria</i> sp.	13	8	8	28+2F		12	Jordbær
<i>Myrica gale</i>		1	1			3	Mose-pors
<i>Prunus</i> sp.		11+1F	11	2F		1F	Kirsebær
<i>Prunus</i> sp. mineralised			1				Kirsebær
<i>Pyrus/ Malus</i> endocarp						14	Pære/ æble endocarp
<i>Pyrus/Malus</i> seed						7	Pære/ æble frø
<i>Rubus caesius</i>						7	Korbær
<i>Rubus idaeus</i>		246	246	11			Hindbær
<i>Sambucus nigra</i>		1	17	5+7F	1 f		Almindelig hyld

Table 6: Latrine samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x251	x484	x486	x1040	x1153	x1164	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
Agricultural land, ruderal & grassland							Agerjord, ruderater og enge
<i>Agrostemma githago</i>	xx				9+xx	1+xx	Klinter
<i>Aphanes arvensis</i>		1					Almindelig dværgløvefod
<i>Arnoseria minima</i>		1F					Svineøje
<i>Brassica nigra</i>				8		2	Sort sennep
<i>Centaurea cyanus</i>	4+3F				4	2+3F	Kornblomst
<i>Chenopodium album</i>	xxx	29	52	xxx	xxx	33	Hvidmelet gåsefod
<i>Descurainia sophia</i>		2	2	2	4		Finbladet vejsennep
<i>Euphorbia helioscopia</i>	1	1		2F			Skærm-vortemælk
<i>Fallopia convolvulus</i>	2				4	1	Snerle-pileurt
<i>Hyoscyamus niger</i>	2						Almindelig bulmeurt
<i>Knautia arvensis</i>					2		Almindelig blåhat
<i>Lapsana communis</i>	5			1	12+1F		Haremad
<i>Leontodon sp.</i>	1				1		Borst
<i>Neslia paniculata</i>	1+4F	2		1+4F	1+5F		Rundskulpe
<i>Persicaria maculosa</i>	1					1	Fersken-pileurt
<i>Persicaria lapathifolium/maculosa</i>	xxx	13+4F			19	22+15F	Knudet pileurt/fersken-pileurt
<i>Polygonum aviculare</i>		2					Vejpileurt
<i>Papaver argemone</i>		2					Kølle-valmue
<i>Prunella vulgaris</i>						1+1F	Almindelig brunelle
<i>Raphanus raphanistrum</i> seed					1	1	Almindelig kiddike
<i>Raphanus raphanistrum</i>	1+8F	1		2F	11		Almindelig kiddike
<i>Rumex acetosella</i>	7	5		1	72	3	Rødknæ
<i>Scleranthus annuus</i>	2	1					Enårig knavel
<i>Silene dioica</i>				1			Dag-pragtstjerne
<i>Solanum nigrum</i>	7	5	5	3			Sort natskygge
<i>Spergula arvensis</i>	2				4	1	Almindelig spergel
<i>Stellaria graminea</i>				2			Græsbladet fladstjerne
<i>Stellaria media</i>	25	7	2	2	1	1	Almindelig fuglegræs
<i>Thlaspi arvense</i>	30+xxxF	2+3F	1+6F	4+20F	23+22F	3+9F	Almindelig pengeurt
<i>Tripleurospermum maritimum</i>		1c.					Strand-kamille
<i>Urtica urens</i>	5	22	1	4	1		Liden nælde

Table 6: Latrine samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x251	x484	x486	x1040	x1153	x1164	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
<i>Galeopsis</i> sp.	6	1			34	2	Hanekro
<i>Galium</i> sp.	4+1F						Snerre
<i>Hypericum</i> sp.	1						Perikon
Lamiaceae		3	3				Læbeblomstfamilien
<i>Lamium</i> sp.	1						Tvetand
<i>Mentha</i> sp.				4			Mynte
<i>Papaver</i> sp.	1			6			Valmue
Poaceae	1	1				19	Græsfamilien
Polygonaceae	3	3+1F			8	4	Pileurfamilien
<i>Ranunculus</i> sp.	1	2				9	Ranunkel
<i>Rumex</i> sp.		3		4	7+2F	1	Skræppe
<i>Rumex</i> sp. fruit+perianth						1	Skræppe
Solanaceae		2	4				Natskyggefamilien
<i>Solanum dulcamara</i>	1	1	3				Bittersød natskygge
<i>Urtica dioica</i>	1	1	22	8		1	Stor nælde
<i>Viola</i> sp.	5			2	6		Viol
Other remains							Andre fund
Wood		xxxx	xxx	xxx	xx	xxx	Træ
Charcoal		xxxx		xxx	xx	xx	Trækul
Straw	xxx						Strå
Moss	xx				x		Mosser
Fish bones, scales, teeth	xx	x	xxx	xxx			Fiskeben/fiskeskæl
Mammal bones, teeth					x		Pattedyr knogler
Hair	xxxx			x		xxxx	Hår
Insect remains	xx	x	xxx	x	xx	xxx	Insekt rester

Table 6: Latrine samples. Unless otherwise specified all plant remains are uncarbonized. "CF" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1204	x1683	x2172	x2220	x2508	x2609	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
Cultivated plants							Dyrkede planter
<i>Avena</i> sp. charred				1			Havre/Flyve-havre sp.
Cerealia indet. charred		1	8+2F				Korn indet.
Cerealia indet. bran	7	4	xxxx	2F	xx	xxxxx	Korn indet. klid
<i>Humulus lupulus</i>	9	1	5+2F	2	2F	1	Humle
<i>Humulus lupulus</i> with perianth					9		Humle
cf. <i>Rosmarinus officinalis</i> leaf			1				Mulig rosmarin blad
<i>Linum usitatissimum</i>			4+1F	1+2F		1	Almindelig hør
<i>Leonurus cardiaca</i>				1			Almindelig hjertespend
<i>Vitis vinifera</i>			1F				Almindelig vin
Edible plants, collected or cultivated?							Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)		9F		8			Hassel (nøddeskal)
<i>Fragaria</i> sp.	9	4	xx	8		90	Jordbær
<i>Myrica gale</i>		21					Mose-pors
<i>Pyrus/ Malus</i> endocarp	8F		11+14F	1			Pære/ æble endocarp
<i>Pyrus/Malus</i> seed	6+2F		13	1		1	Pære/ æble frø
<i>Rubus caesius</i>	5						Korbær
<i>Rubus idaeus</i>			2	7		5	Hindbær
<i>Sambucus nigra</i>		1F		2		1	Almindelig hyld
Agricultural land, ruderal & grassland							Agerjord, ruderater og enge
<i>Aethusia cynapium</i>			1	1F			Hundepersille
<i>Agrostemma githago</i>	4+4	2+3F	2+xxx	5	1	xxxx	Klinter
<i>Anthemis arvensis</i>		1					Ager-gåseurt
<i>Brassica nigra</i>	11+1F		10+3F	1+3F	1	5+2F	Sort sennep
<i>Camelina sativa</i> fruit valve					1		Sæd-dodder
<i>Centaurea cyanus</i>	3		3		1+2F	1	Kornblomst
<i>Chenopodium album</i>	xxx	27	12	119+4F	4	18	Hvidmelet gåsefod
<i>Descurainia sophia</i>		10					Finbladet vejsennep
<i>Euphorbia helioscopia</i>	1					1	Skærm-vortemælk
<i>Fallopia convolvulus</i>	2	1			1		Snerle-pileurt
<i>Geum urbanum/Geum rivale</i>					1		Feber-nellikerod/eng-nellikerod

Table 7: Latrine samples, cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1204	x1683	x2172	x2220	x2508	x2609	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
<i>Hypochaeris sp.</i>					4		Kongepen
<i>Hyoscyamus niger</i>				1			Almindelig bulmeurt
<i>Knautia arvensis</i>			1				Almindelig blåhat
<i>Lapsana communis</i>				1		1	Haremad
<i>Leontodon sp.</i>	1	2	1		3		Borst
<i>Neslia paniculata</i>	1		1	1F		4F	Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>	45+2F		16+2F		9+2F	9+2F	Knudet pileurt/fersken- pileurt
<i>Plantago lanceolata</i>					1		Lancet-vejbred
<i>Plantago major</i>		2			2		Glat vejbred
<i>Polygala vulgaris</i>					1		Almindelig mælkeurt
<i>Polygonum aviculare</i>	4	1					Vejpileurt
<i>Papaver argemone</i>				4	18		Kølle-valmue
<i>Prunella vulgaris</i>	1	5	25		4	2+2F	Almindelig brunelle
<i>Raphanus raphanistrum</i>	9F		5F	3	1F	4	Almindelig kiddike
<i>Rhinanthus sp.</i>					13		Skjaller
<i>Rumex acetosella</i>	5	26	1	6+2F	xx	6	Rødknæ
<i>Scleranthus annuus</i>	1						Enårig knavel
<i>Solanum nigrum</i>		1		17		2	Sort natskygge
<i>Spergula arvensis</i>				2	3		Almindelig spergel
<i>Stellaria graminea</i>		2	1		13	18	Græsbladet fladstjerne
<i>Stellaria media</i>		18		3+3F	2	4F	Almindelig fuglegræs
<i>Thlaspi arvense</i>	1+5F	1+1F	1+3F	3+6F	4+1F	3F	Almindelig pengeurt
<i>Urtica urens</i>		98		17+4F			Liden nælde
Aquatic plants							Vandplanter
<i>Nuphar lutea</i>			4F				Gul åkande

Table 7: Latrine samples, cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1204	x1683	x2172	x2220	x2508	x2609	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
Marshes & shallow water							Vådbund & lavt vand
<i>Alismataceae</i>		2					Skebladfamilien
<i>Alisma plantago-aquatica</i>					2		Vejbred-skeblad
<i>Caltha palustris</i>					2		Eng-kabbeleje
<i>Cyperus fuscus</i>		10					Brun fladaks
<i>Eleocharis sp.</i>	28				40	4F	Sumpstrå
<i>Filipendula ulmaria</i>					3	1	Almindelig mjøddurt
<i>Juncus sp.</i>		30	4	8	28	6	Siv
<i>Linum catharticum</i>					4	2	Vild hør
<i>Lychnis flos-cuculi</i>					4		Trævlekrone
<i>Lycopus europaeus</i>		3					Sværtvæld
<i>Pedicularis palustris</i>					2+1F		Eng-troldurt
<i>Persicaria hydropiper</i>		1					Bidende pileurt
<i>Potentilla palustris</i>					3		Kragefod
<i>Ranunculus flammula</i>					5	2	Kær-ranunkel
<i>Typha sp.</i>				2			Dunhammer
Saltmarsh							Strandeng
<i>Triglochin maritima</i>	1	1			3	3	Strand-trehage
Heathland and moors							Hede og syre moser
<i>Calluna vulgaris branch/leaves</i>	3				9		Hedelyng gren/blad
<i>Calluna vulgaris flower</i>		1			1		Hedelyng blomst
<i>Sphagnum leaf</i>				3	xx		Tørvemos
Unclassified							Blandet økologi
<i>Angelica sp.</i>						1	Angelik
<i>Anchusa sp.</i>					2		Oksetunge
<i>Apium graveolens</i>		1					Selleri
<i>Apiaceae</i>		1	1			14	Skærmblostmfamilien
<i>Asteraceae</i>		1					Kurvblomstmfamilien
<i>Atriplex sp.</i>		6					Mælde
<i>Brassicaceae</i>			xxF	1+12F	1		Korsblomstmfamilien
<i>Carex sp.</i>	13	25		5	33	18+1F	Halvgræsfamilien
<i>Caryophyllaceae</i>		7			31	12	Nellikefamilien
<i>Chenopodium sp.</i>	56						Gåsefod sp.
<i>Chenopodiaceae</i>				18F			Amarantfamilien
<i>Epilobium sp.</i>					1		Natlysfamilien
<i>Fabaceae seed</i>					2		Ærteblomst-familien frø
<i>Fabaceae seed pod</i>	1		12F				Ærteblomst-familien bælgfrugter
<i>Galeopsis sp.</i>		2		1	1	1	Hanekro

Table 7: Latrine samples, cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1204	x1683	x2172	x2220	x2508	x2609	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
<i>Galium</i> sp.					1	2	Snerre
Lamiaceae		1		1			Læbeblomstfamilien
<i>Lamium</i> sp.						1	Tvetand
<i>Luzula</i> sp.					15	2	Frytle sp.
<i>Malva</i> sp.				1			Katost
<i>Mentha</i> sp.						4	Mynte
<i>Myosotis</i> sp.				2	2		Forglemmigej
<i>Odontites/Euphrasia</i>					2		Rødtop/øjentrøst
Poaceae		80	10	2	29	14	Græsfamilien
Polygonaceae	1+5F	3	1	1	1		Pileurtfamilien
<i>Ranunculus</i> sp.	7	3	2		12	7	Ranunkel
<i>Rumex</i> sp.	2	2	1F	2	2		Skræppe
<i>Rumex</i> sp. fruit+perianth					2		Skræppe
<i>Sagina</i> sp.					4		Firling
<i>Solanum dulcamara</i>	1			2			Bittersød natskygge
<i>Trifolium</i> sp. fruit with perianth	1				13		Kløver
<i>Trifolium</i> sp. perianth	6	7	5		10	4	Kløver
<i>Urtica dioica</i>		16		12			Stor nælde
<i>Viola</i> sp.	4	2				1	Viol
Other remains							Andre fund
Wood		XXXX	XXX	XX	XX	XXX	Træ
Charcoal		XX		XX	XX		Trækul
Buds		X		X			Knop
Leaves		X	X				Blade
Straw			XXX		XX		Strå
Roots			XX				Rødder
Moss		XXX	XX		XXXX	XX	Mosser
Fish bones, scales, teeth		XXX	X	XX		X	Fiskeben/fiskeskæl
Mammal bones, teeth				XX		X	Pattedyr knogler
Hair					XX	X	Hår
Feather					1		Fjer
Trichoptera					1		Vårflue
Insect remains		X	X			XX	Insekt rester
<i>Daphnia ephippium</i>					X		Dafnie ephippium
Vole incisor				1			Studsmus incisor

Table 7: Latrine samples, cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x2643	x5388	x5422	x5885	x5914	x5959	x5962	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
Cultivated plants								Dyrkede planter
<i>Avena sp. charred</i>							1	Havre/Flyve-havre sp.
<i>Cannabis sativa</i>	2							Almindelig hamp
Cerealia indet. mineralised			46					Korn indet.
Cerealia indet. bran			xxx	13		xxxx	xx	Korn indet. klid
Cerealia indet rachis fgt.				1				Korn indet. rachis
<i>Humulus lupulus</i>	17	1+2F		2		4F		Humle
<i>Humulus lupulus with perianth</i>		1						Humle
<i>Linum usitatissimum</i>			47+1F	1+2F	1F	4f	2	Almindelig hør
<i>Prunus domestica</i>			2F			3		blomme
<i>Ficus carica</i>			1		1			Figner
<i>Leonurus cardiaca</i>	2							Almindelig hjertespond
<i>Papaver somniferum</i>			2+2F	2				Opiumvalmue
Edible plants, collected or cultivated?								Spiselige plante, vild og dyrket
<i>Betula sp.</i>	2			1				Birk
<i>Corylus avellana</i> (nutshell)		5F		6F	3		4F	Hassel (nøddeskal)
<i>Fragaria fruit F. with seeds</i>			1					Jordbær, frugt med frø
<i>Fragaria sp.</i>			xxx	12	1000+	42	29	Jordbær
<i>Myrica gale</i>		1	1	2		2	4	Mose-pors
<i>Prunus cerasus</i>		1						Kirsebær
<i>Prunus domestica</i>		1						blomme
<i>Prunus sp.</i>		3F			1F			Kirsebær
<i>Prunus spinosa</i>					2			Slåen
<i>Pyrus/ Malus endocarp</i>			11		1	26		Pære/ æble endocarp
<i>Pyrus/Malus seed</i>						6+4F	1f	Pære/ æble frø
<i>Ribes sp.</i>		1						Ribsslægten
<i>Rosasp.</i>						1		Rose
<i>Rubus idaeus</i>	2	8	2	1	42	3	15	Hindbær
<i>Sambucus nigra</i>	4	1				1	1+1F	Almindelig hyld
<i>Vaccinium sp.</i>					4			Bølle-slægten

Table 8: Latrine samples, cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x2643	x5388	x5422	x5885	x5914	x5959	x5962	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
Agricultural land, ruderal & grassland								Agerjord, ruderater og enge
<i>Achillea millefolia</i>							2	Almindelig røllike
<i>Aethusia cynapium</i>						1F		Hundepersille
<i>Agrostemma githago</i>			1+xxx	2F	1000+	1+xxx	1+9	Klinte
<i>Anthemis arvensis</i>						1		Ager-gåseurt
<i>Brassica nigra</i>	1		4+2F	1				Sort sennep
<i>cf. Briza media</i>			1					Almindelig hjertegræs
<i>Centaurea cyanus</i>			1F	6	3+8F	1+6F		Kornblomst
<i>Chenopodium album</i>	103	xx	5	40	23+2F	26+1F	11+1F	Hvidmelet gåsefod
<i>Daucus carota</i>				1				Vild gulerod
<i>Descurainia sophia</i>	8						9	Finbladet vejsennep
<i>Euphorbia helioscopia</i>	2F							Skærm-vortemælk
<i>Fallopia convolvulus</i>	1			1				Snerle-pileurt
<i>Hyoscyamus niger</i>	1	1						Almindelig bulmeurt
<i>Knautia arvensis</i>		1	1	2				Almindelig blåhat
<i>Lapsana communis</i>					3			Haremad
<i>Leontodon sp.</i>					1	1		Borst
<i>Leucanthemum vulgare</i>				2			1	Hvid okseøje
<i>Neslia paniculata</i>	1							Rundskulpe
<i>Persicaria maculosa</i>			1					Fersken-pileurt
<i>Persicaria lapathifolium/maculosa</i>	8+2F	9	13	5	5	7	2+1F	Knudet pileurt/fersken-pileurt
<i>Plantago lanceolata</i>				1				Lancet-vejbred
<i>Plantago major</i>						2		Glat vejbred
<i>Polygonum aviculare</i>	5	4		2	2			Vejpileurt
<i>Papaver argemone capsule</i>							1F	Vej-pileurt
<i>Papaver argemone</i>				41	4			Kølle-valmue
<i>Prunella vulgaris</i>	2	2	1	7	1			Almindelig brunelle
<i>Raphanus raphanistrum seed</i>	3							Almindelig kiddike
<i>Raphanus raphanistrum</i>	3	2	3+1F	1		2F		Almindelig kiddike
<i>Rumex acetosella</i>	3	5+1F	2	17	9	4+1F	2	Rødknæ
<i>Scleranthus annuus</i>	2	3				1		Enårig knavel
<i>Solanum nigrum</i>	112	10				2	4	Sort natskygge
<i>Sonchus asper</i>	166							Ru svinemælk
<i>Spergula arvensis</i>		3	1		1	5	1	Almindelig spergel
<i>Stellaria media</i>	12+6F	1			1	2+2F	26	Almindelig fuglegræs
<i>Thlaspi arvense</i>	9	2+6F	2	4F	1F	9	1	Almindelig pengeurt
<i>Urtica urens</i>	41	14			3	1	51+1F	Liden nælde
Aquatic plants								Vandplanter
<i>Menyanthes trifoliata</i>		1						Bukkeblad

Table 8: Latrine samples, cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x2643	x5388	x5422	x5885	x5914	x5959	x5962	X-NR
Analysed sample size(ml)	200	200	200	200	200	200	200	Analyseret Prøvestørrelse (ml)
<i>Brassica</i> sp.	1		4+xx					Kål
Brassicaceae		1			2			Korsblomstfamilien
<i>Carex</i> sp.	7	29	2	38	7		4	Halvgræsfamilien
Caryophyllaceae		5F						Nellikefamilien
<i>Chenopodium glaucum/rubrum</i>		2						Blågrøn gåsefod/rød gåsefod
Chenopodiaceae				4		1		Amarantfamilien
<i>Galeopsis</i> sp.	1	2		1		1		Hanekro
<i>Galium</i> sp.		1		1				Snerre
Lamiaceae	2	1				2	1	Læbeblomstfamilien
<i>Lamium</i> sp.	1						2	Tvetand
<i>Luzula</i> sp.		1						Frytle sp.
<i>Malva</i> sp.	3							Katost
<i>Mentha</i> sp.							1	Mynte
<i>Odontites/Euphrasia</i>				1				Rødtop/øjentrøst
<i>Papaver</i> sp.	1							Valmue
Poaceae		1		13	5		4	Græsfamilien
Polygonaceae	5F	1			1	3	1	Pileurtfamilien
<i>Ranunculus</i> sp.	2	2		5	1	2+1F	1	Ranunkel
<i>Rumex</i> sp.			1	3	1			Skræppe
<i>Rumex</i> sp. fruit+perianth				1				Skræppe
<i>Trifolium</i> sp. fruit with perianth				4				Kløver
<i>Trifolium</i> sp. perianth						3		Kløver
<i>Urtica dioica</i>	10	2	2	11	3		1	Stor nælde
<i>Viola</i> sp.		1		2				Viol
Other remains								Andre fund
Wood	xxx			xxx	xxx	xx	xx	Træ
Charcoal				xx		x	xxx	Trækul
Branch with spines					x			Grene med torne
Leaves							x	Blade
Straw				xxxx				Strå
Roots							xx	Rødder
Moss		xx		xx	xx	xx		Mosser
Fish bones, scales, teeth	x	xx			xx	xx	xx	Fiskeben/fiskeskæl
Mammal bones, teeth	x				x	xx		Pattedyr knogler
Hair					xxx		x	Hår
Insect remains	x	xx				x	xx	Insekt rester

Table 8: Latrine samples, cont. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

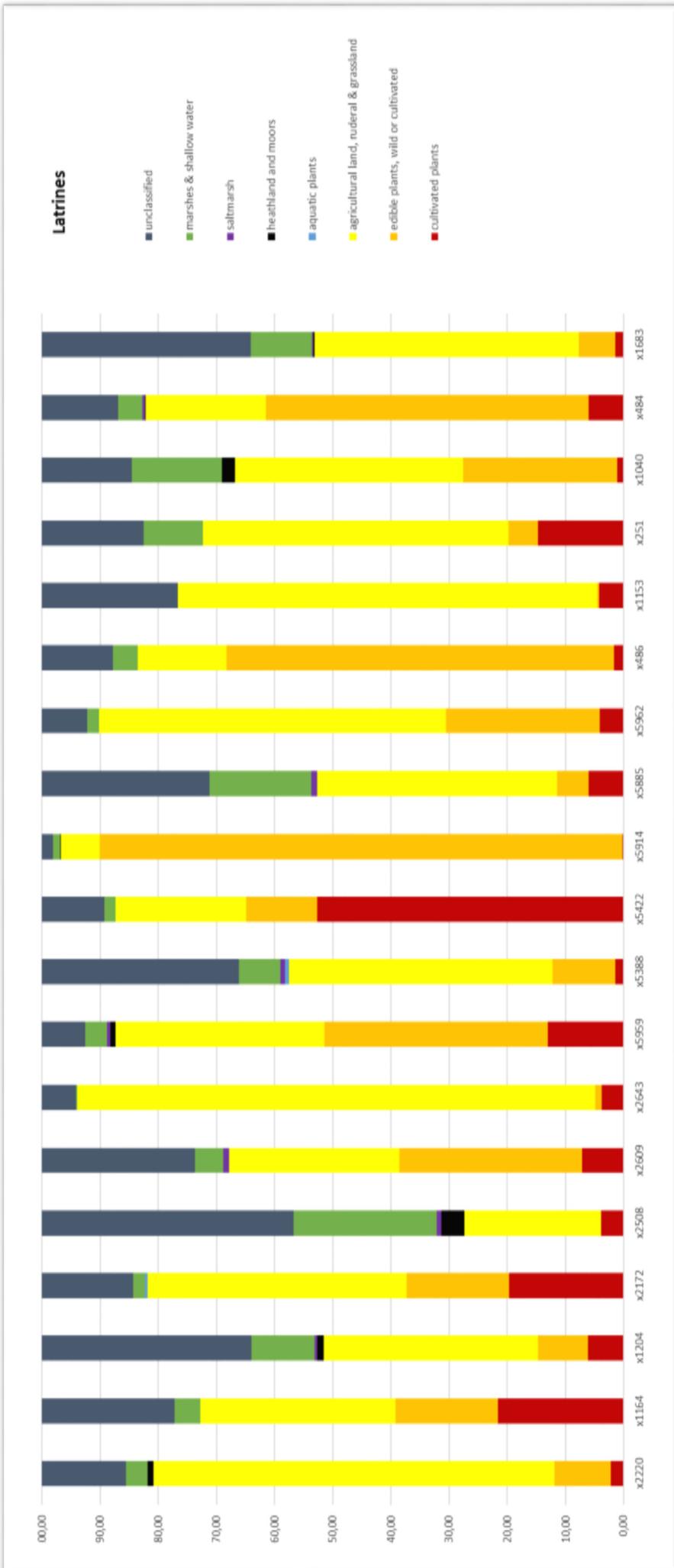


Fig. 4. Distribution of plant groups in latrine samples

X-NR	x4870	x5809	X-NR
analysed sample size (ml)	1000	200	analyseret prøvestørrelse
Cultivated plants			Dyrkede planter
<i>Avena sativa</i> , charred		1	Dyrket havre, forkullet
<i>Avena</i> sp. charred	1		Havre/Flyve-havre sp.
Cerealia indet, charred		1+1F	Ubestemt korn, forkullet
<i>Hordeum vulgare</i> , charred		2	Byg, forkullet
<i>Linum usitatissimum</i>	1		Almindelig Hør
<i>Triticum</i> sp., charred		1	Hvede sp., forkullet
Edible plants, collected or cultivated?			Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	448	8F	hassel (nøddeskal)
<i>Fragaria</i> sp.		2	Jordbær sp.
<i>Myrica gale</i>	7		Mose-Pors
<i>Rubus</i> sp.	4		Brombær
<i>Sambucus nigra</i>	3		Almindelig Hyld
Agricultural land, ruderal & grassland			Agerjord, ruderater og enge
<i>Aphanes arvensis</i>		4	Almindelig dværgløvefod
<i>Chenopodium album</i>	50+1F	73	Hvidmelet gåsefod
<i>Hyoscyamus niger</i>	1		Almindelig bulmeurt
<i>Neslia paniculata</i> complete fruit	2		Rundskulpe
<i>Papaver argemone</i>		16	Kølle-valmue
<i>Persicaria lapathifolium/maculosa</i>	25	7+1F	Knudet pileurt/fersken-pileurt
<i>Polygonum aviculare</i>	7	7	Vejpileurt
<i>Raphanus raphanistrum</i>	7+4F		Almindelig kiddike
<i>Raphanus raphanistrum</i> seed	1		Almindelig kiddike
<i>Rumex acetosella</i>	6	19	Rødknæ
<i>Stellaria media</i>	1	3	Almindelig fuglegræs
<i>Thlaspi arvense</i>	4	9	Almindelig pengeurt
<i>Urtica urens</i>	1		Liden nælde
Aquatic			Vandplanter
<i>Potamogeton</i> sp.	1		vandaks

Table 9: Market stall samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x4870	x5809	X-NR
analysed sample size (ml)	1000	200	analyseret prøvestørrelse
Marshes & shallow water			Vådbund & lavt vand
<i>Eleocharis</i> sp.	20		Sumpstrå
<i>Juncus</i> sp.		39	Siv
<i>Menyanthes trifoliata</i>	3		Bukkeblad
<i>Persicaria hydropiper</i>	1		Bidende pileurt
<i>Ranunculus flammula</i>	3		Kær-ranunkel
<i>Typha</i> sp.		4	dunhammer
Unclassified			Blandet økologi
<i>Asteraceae</i>	1		Kurvblomstfamilien
<i>Atriplex</i> sp.	1	1	Mælde
<i>Brassicaceae</i>		1	Korsblomstfamilien
<i>Carex</i> sp.	47	8+1F	Halvgræsfamilien
<i>Chenopodiaceae</i>	2	27	Amarantfamilien
<i>Galeopsis</i> sp.	6		Hanekro
<i>Lamiaceae</i>	1	1F	Læbeblomstfamilien
<i>Polygonaceae</i>	3	2	Pileurttfamilien
<i>Ranunculus</i> sp.	35		Ranunkel
<i>Polygonaceae</i>		2	Pileurttfamilien
<i>Rumex</i> sp.		5	Skræppe
<i>Solanum dulcamara</i>	1		Bittersød natskygge
<i>Trifolium</i> sp. perianth	1		Kløver
<i>Urtica dioica</i>	2		Stor Nælde
Other remains			Andre fund
Wood	xxx		Træ
Charcoal	xxx	xx	Trækul
Roots		xxxx	Rødder
Moss	xxx		Mosser
Fish bones, scales, teeth	xxx	xx	Fiskeben/fiskeskæl/tænder
Mammal bones	xxx		Pattedyr knogler
Eggshell (bird)		xx	Fugl æggeskæl
Insect remains (beetles, insect pupae)	xxx	xx	Insekt rester

Table 9: Market stall samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

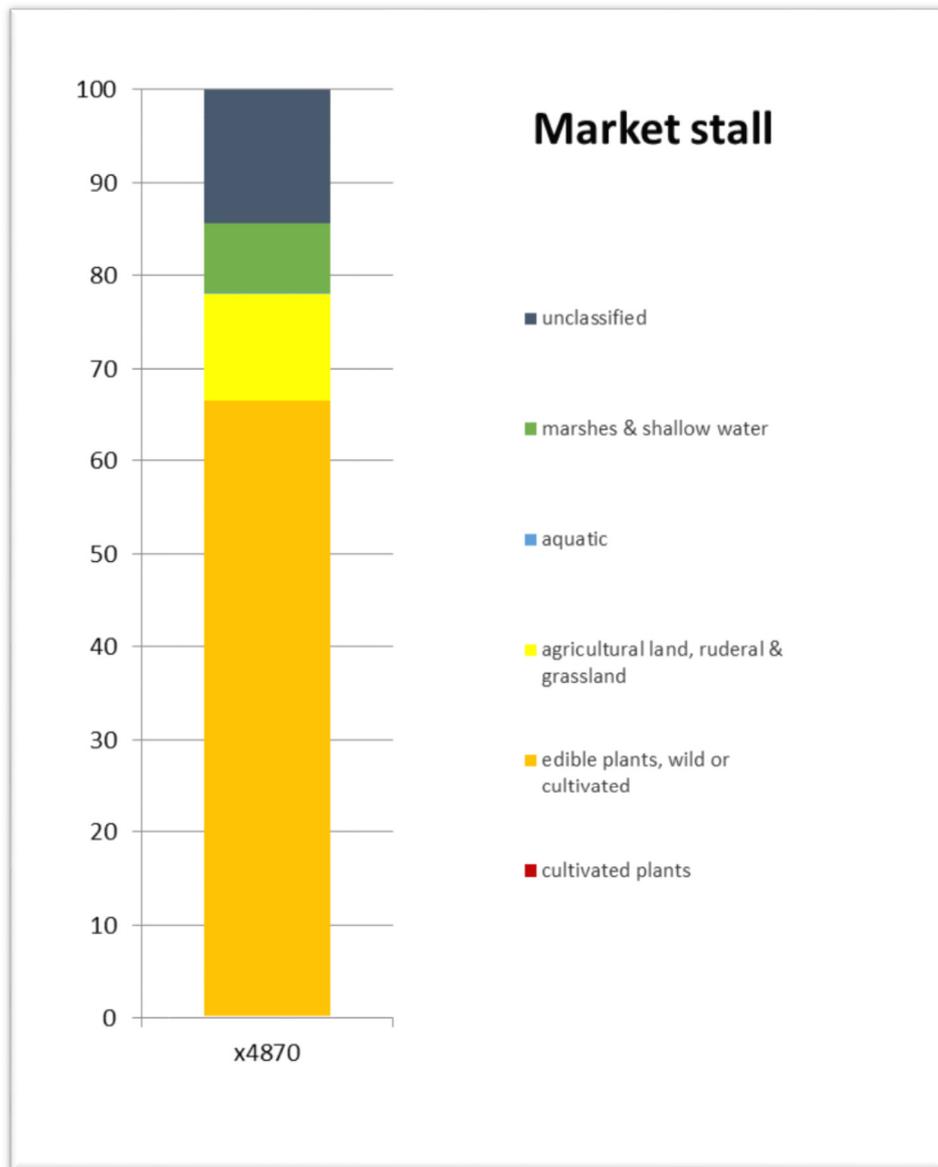


Fig. 5. Distribution of plant groups in Market stall sample x4870.

X-NR	x1896	x1910	x3790	x4177	x4189	x4201	x4207	X-NR
Analysed sample size (ml)	200	200	200	200	200	200	200	Analyseret prøvestørrelse (ml)
Cultivated plants								Dyrkede planter
<i>Avena</i> sp. charred					1			Havre/Flyve-havre
<i>Beta vulgaris</i>							1	Rødbede
Cerealia indet. mineralised							1	Korn ubestemt mineraliseret
Cerealia indet. bran	9	xx	1	xxx		1	xxx	Korn ubestemt klid
<i>Humulus lupulus</i>	2	2	3	4		1		Humle
<i>Hordeum</i> sp. charred					1			Byg forkullet
<i>Ribes</i> sp.							2	Ribs
<i>Secale cereale</i> charred					1			Rug forkullet
<i>Linum usitatissimum</i>	1	1		6		1	9	Hørfrø
<i>Prunus domestica</i>							1	Blomme
<i>Ficus carica</i>	3			4				Figner
<i>Papaver somniferum</i>	2				1		4	Opiumvalmue
Edible plants, collected or cultivated?								Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	5F	1F	3F		2F			Hassel (nøddeskal)
<i>Fragaria</i> sp.	9	1		xxx	18	28	xx	Jordbær
<i>Pyrus/ Malus</i> endocarp						1		Pære/ Æble endocarp
<i>Pyrus/Malus</i> seed				1	1		1F	Pære/ Æble frø
<i>Rubus caesius</i>					7		1	Korbær
<i>Rubus fruticosus</i>							3	Almindelig Brombær
<i>Rubus idaeus</i>		1		xx		1	6	Hindbær
<i>Rubus</i> sp.							1	Brombær
<i>Sambucus nigra</i>			1+1F		2	1F		Almindelig Hyld
<i>Vaccinium</i> sp.							2	Bølle-slægten
Agricultural land, ruderal & grassland								Agerjord, ruderater og enge
<i>Agrostemma githago</i>	3+9F	4+xxx	8				xx	Klinter
<i>Brassica nigra</i>	2	6			2	1		Sort Sennep
<i>Centaurea cyanus</i>	1	1+1F	1+1F	2+6F		1+1F	2	Kornblomst
<i>Chenopodium album</i>	12	xxx			40	7	7	Hvidmelet Gåsefod
<i>Descurainia sophia</i>						2		Finbladet Vejsennep
<i>Euphorbia helioscopia</i>	2F	1	1		1			Skærm-vortemælk
<i>Fallopia convolvulus</i>	1+3F	5					1	Snerle-Pileurt
<i>Hyoscyamus niger</i>			7		19			Bulmeurt
<i>Knautia arvensis</i>		1						Blåhat
<i>Lapsana communis</i>	1	2						Almindelig haremad
<i>Leontodon</i> sp.							1	Borst

Table 10: Midden samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1896	x1910	x3790	x4177	x4189	x4201	x4207	X-NR
Analysed sample size (ml)	200	200	200	200	200	200	200	Analyseret prøvestørrelse (ml)
<i>Neslia paniculata</i>		3+9F				1F		Rundskulpe
<i>Polygonum aviculare</i>		1	1	2				Vejpileurt
<i>Persicaria maculosa</i>		3	1	1				Fersken-pileurt
<i>Persicaria lapathifolium/maculosa</i>	7+1F	13+xx	6	32+9F	2	6+2F	7+12F	Knudet pileurt/fersken-pileurt
<i>Papaver argemone</i>	4							Kølle-valmue
<i>Prunella vulgaris</i>		1		1				Almindelig brunelle
<i>Raphanus raphanistrum</i>	1	xxxF	2F	1F		1F	4F	Almindelig kiddike
<i>Rumex acetosella</i>	10	41+2F	1	1	1	3	2	Rødknæ
<i>Silene dioica</i>		7						Dag-pragtstjerne
<i>Solanum nigrum</i>	1		5+2F	1			2	Sort natskygge
<i>Spergula arvensis</i>	8+2F	3+24F	2				2	Almindelig spergel
<i>Stellaria graminea</i>	1				1			Græsbladet fladstjerne
<i>Stellaria media</i>		41+2F	2	14			6	Almindelig fuglegræs
<i>Thlaspi arvense</i>	2F	32+xx	5+4F		2	1	1	Almindelig pengeurt
<i>Urtica urens</i>	1		23+1F			12	4	Liden nælde
Marshes & shallow water								Vådbund & lavt vand
Alismataceae					2			Skeblad-familien
<i>Cyperus fuscus</i>			1		2			Brun fladaks
<i>Eleocharis sp.</i>	4	1	2		14	2	2	Sumpstrå
<i>Juncus sp.</i>	60	40	4	4	24	1	18	Siv
<i>Linum catharticum</i>	1							Vild Hør
<i>Lycopus europaeus</i>						1		Sværtevæld
<i>Persicaria hydropiper</i>	1	1		2		1	1	Bidende pileurt
<i>Ranunculus flammula</i>	2							Kær-ranunkel
<i>Typha sp.</i>		4						Dunhammer
Heathland, moors								Hede og syre moser
<i>Sphagnum leaf</i>			2					Tørvemos blad
Unclassified								Blandet økologi
<i>Anchusa sp.</i>		5		1				Oksetunge
<i>Apium graveolens</i>				1			1	Selleri
Apiaceae			3F	1				Skærdblomstfamilien
Asteraceae		1			1			Kurvblomstfamilien
<i>Atriplex sp.</i>		3	1			1	1	Mælde
<i>Bidens sp.</i>		1						Brøndsel
<i>Brassica sp.</i>				2				Kål
Brassicaceae		1+5F	3F		3	2F	12F	Korsblomstfamilien
<i>Carex sp.</i>	9	9	8		42	3	4	Halvgræsfamilien

Table 10: Midden samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x1896	x1910	x3790	x4177	x4189	x4201	x4207	X-NR
Analysed sample size (ml)	200	200	200	200	200	200	200	Analyseret prøvestørrelse (ml)
<i>Caryophyllaceae</i>	6	4				1F	2	Nellikefamilien
<i>Chenopodium</i> sp.			19+2F	8	40	1		Gåsefod
Chenopodiaceae	12	xxF	2			1		Amarantfamilien
<i>Fragaria/Potentilla</i>		2f						Jordbær/Potentil
<i>Galeopsis</i> sp.	1	6+1F		2				Hanekro
<i>Galium</i> sp.		4					1	Snerre
<i>Hypericum</i> sp.					4	1		Perikon
Lamiaceae		2			2	1		Læbeblomstfamilien
<i>Malva</i> sp.	1							Katost
<i>Mentha</i> sp.					1			Mynte
<i>Myosotis</i> sp.	2							Forglemmigej
<i>Papaver</i> sp.						1		Valmuefamilien
Poaceae	3	2						Græsfamilien
Polygonaceae	3F	5+10F	3F				4	Pileurtfamilien
<i>Ranunculus</i> sp.	1	3		1	1			Ranunkel
<i>Rumex</i> sp.	4	7+1F	14+6F				1	Skræppe
<i>Rumex</i> sp. fruit+perianth	16							Skræppe
<i>Silene</i> sp.		1			1			Limurt
Solanaceae						1F		Natskygge
<i>Solanum dulcamara</i>		1						Bittersød natskygge
<i>Trifolium</i> sp. perianth	1			1			4	Kløver
<i>Urtica dioica</i>	2	4		4	6	4	4	Stor nælde
<i>Viola</i> sp.		5	1		2			Viol
Other remains								Andre fund
Wood	xxx	xxx			xx	xx		Træ
Charcoal	xxx				xxx		xxx	Trækul
Straw	xxx	xx		xxxx			xxx	Strå
Branch with thorn roots		xx				x		Grene med torne
Fish bones, scales, teeth	x		xxx	x	xxx		xx	Fiskeben/fiskeskæl
Mammal bones		xx	xx			x		Pattedyr knogler
Hair				x				Hår
Eggshell (bird)	x				x			Fugl æggeskæl
insect remains (beetles, insect pupae)	xx	xx	x	xxx		xxx	xxx	Insekt rester
<i>Mytilus edulis</i>	xF							Blåmuslinger
Bryophyta	xx		xx	xxx		xx	xx	Mosser

Table 10: Midden samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

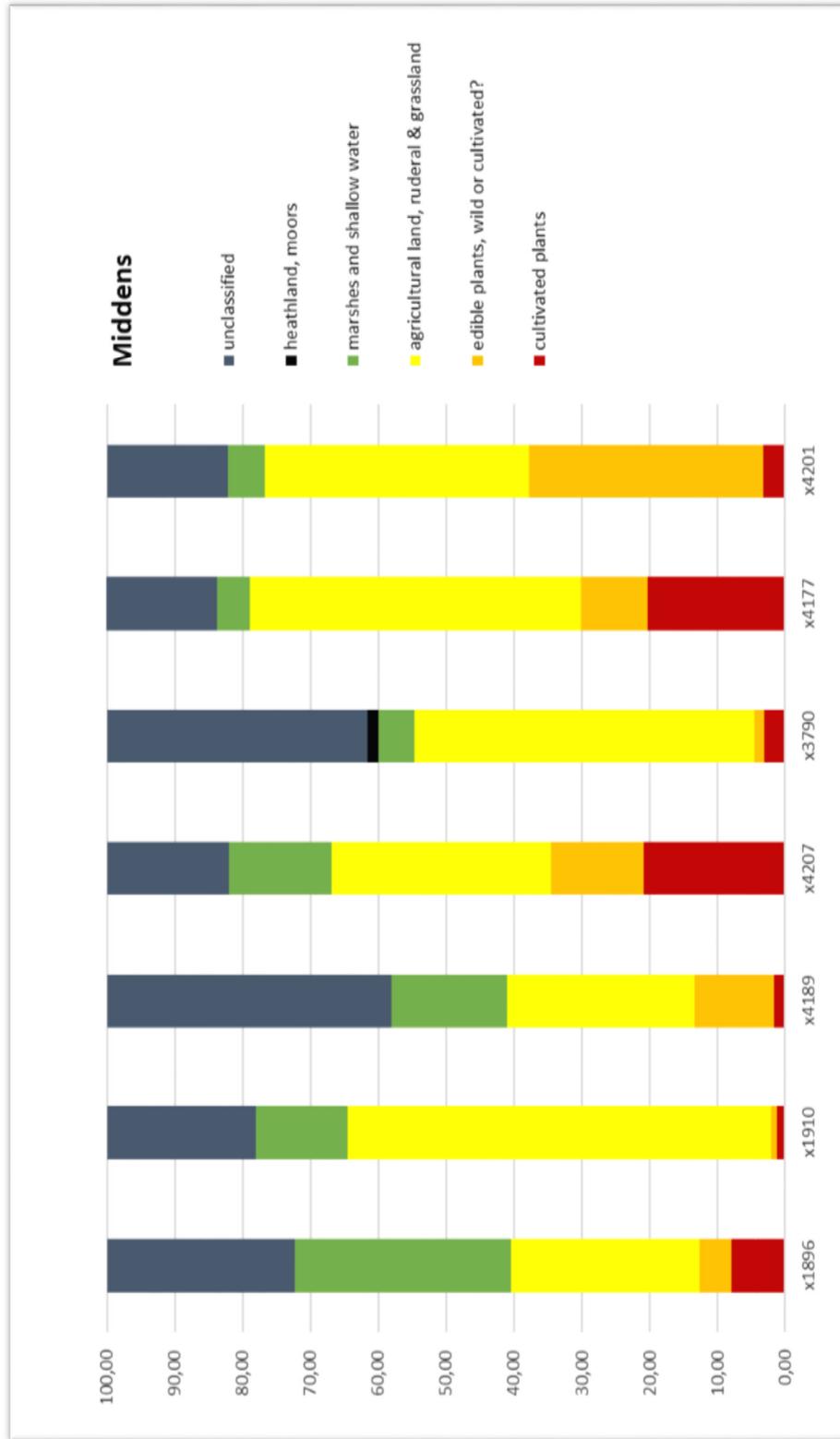


Fig. 6. Distribution of plant groups in midden samples.

X-NR	x2167	x2279	x2408	x2433	x2572	X-NR
Analysed sample size	200	200	200	200	200	analyseret Prøvestørrelse (ml)
Cultivated plants						Dyrkede planter
<i>Avena</i> sp. charred		1	3	3+1F		Havre/flyve-havre
Cerealia indet. charred	1		2F		2	Korn ubestemt
Cerealia indet. mineralised			2F			Korn ubestemt mineraliseret
<i>Hordeum</i> sp. charred		1	1			Byg forkullede
<i>Secale cereale</i> charred			1			Rug forkullede
<i>Linum usitatissimum</i>					1	Hørfrø
Edible plants, collected or cultivated?						Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)		4	4F	11	2F	Hassel (nøddeskal)
<i>Corylus avellana</i> nutshell charred			2F			Hassel (nøddeskal) forkullet
<i>Fragaria</i> sp.		2			1	Jordbær
<i>Myrica gale</i>	1			2+2F	1	Mose-pors
<i>Sambucus nigra</i>		1+1	1			Almindelig hyld
Agricultural land, ruderal & grassland						Agerjord, ruderater og enge
<i>Agrostemma githago</i>	1F					Klinte
<i>Brassica nigra</i>					1F	Sort sennep
<i>Centaurea cyanus</i>			1	1+1F	2	Kornblomst
<i>Chenopodium album</i>	110	60	12	16	66	Hvidmelet gåsefod
<i>Descurainia sophia</i>		2				Finbladet vejsennep
<i>Euphorbia helioscopia</i>					3	Skærm-vortemælk
<i>Fallopia convolvulus</i>					1	Snerle-pileurt
<i>Lapsana communis</i>				1		Almindelig haremad
<i>Neslia paniculata</i>	1			1+1F	2F	Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>	6		9	12+1F	10+2F	Bleg/fersken-pileurt
<i>Persicaria maculosa</i>	1	3+1F	1			Fersken- pileurt
<i>Polygonum aviculare</i>		1				Vejpileurt
<i>Papaver argemone</i>					2	Kolle-valmue
<i>Prunella vulgaris</i>	4					Almindelig brunelle
<i>Raphanus raphanistrum</i>	4	1	2	9	5	Almindelig kiddike
<i>Rumex acetosella</i>	1	22	15		8	Rødknæ
<i>Solanum nigrum</i>		1	1		3	Sort natskygge
<i>Silene dioica</i>					1	Dag-pragtsjerne
<i>Sinapis arvensis</i>					1	Agersennep
<i>Spergula arvensis</i>	2					Almindelig spergel
<i>Stellaria media</i>	1F	2	10		4	Almindelig fuglegræs
<i>Thlaspi arvense</i>	5+14F	1	1F		3+1F	Almindelig pengeurt
<i>Urtica urens</i>		1		1	1	Liden nælde

Table 11: House AEH samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x2167	x2279	x2408	x2433	x2572	X-NR
Analysed sample size	200	200	200	200	200	analyseret Prøvestørrelse (ml)
Marshes & shallow water						Vådbund & lavt vand
<i>Cyperus fuscus</i>		2				Brun fladaks
<i>Eleocharis sp.</i>	2+2F	1	4		2	Sumpstrå
<i>Ranunculus flammula</i>	2					Kær-ranunkel
<i>Typha sp.</i>					1	Dunhammer
Unclassified						Blandet økologi
<i>Anchusa sp.</i>		1			1	Oksetunge
<i>Apiaceae</i>	1	1	3		2	Skærmpilte-familien
<i>Asteraceae</i>			1			Kurvblomst-familien
<i>Brassicaceae</i>	2					Korstblomstfamilie
<i>Carex sp.</i>	12	13	17	6	3	Halvgræsfamilie
<i>Caryophyllaceae</i>			2			Nellikefamilien
<i>Chenopodium sp.</i>			2			Gåsefod
<i>Juncus sp.</i>	369	8	18	4	2	Siv
<i>Lamiaceae</i>					2	Læbeblomstfamilien
<i>Luzula sp.</i>		4				Frytle
<i>Malva sp.</i>		1				Katost
<i>Polygonaceae</i>	2F				1	Pileurtfamilien
<i>Ranunculus sp.</i>	1F	1	1	3	2	Ranunkel
<i>Rumex sp.</i>	1					Skræppe
<i>Silene sp.</i>	2+2F					Limurt
<i>Urtica dioica</i>		4				Stor Nælde
Other remains						Andre fund
Wood		xxx	xxxxx	xxxx	xxx	Træ
Charcoal	xxxxx	xxx	xxxxx	xxxxx	xxx	Trækul
Fish bones, scales, teeth		xx	x	xx	xx	Fiske rester
Mammal bones		xx			xx	Pattedyr knogler
Claw of medium-sized bird				1	x	Klo af mellemstore fugle
Eggshell (bird)			x	x		Fugl æggeskæl
Bryophyta			x	x		Mosser

Table 11: House AEH samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

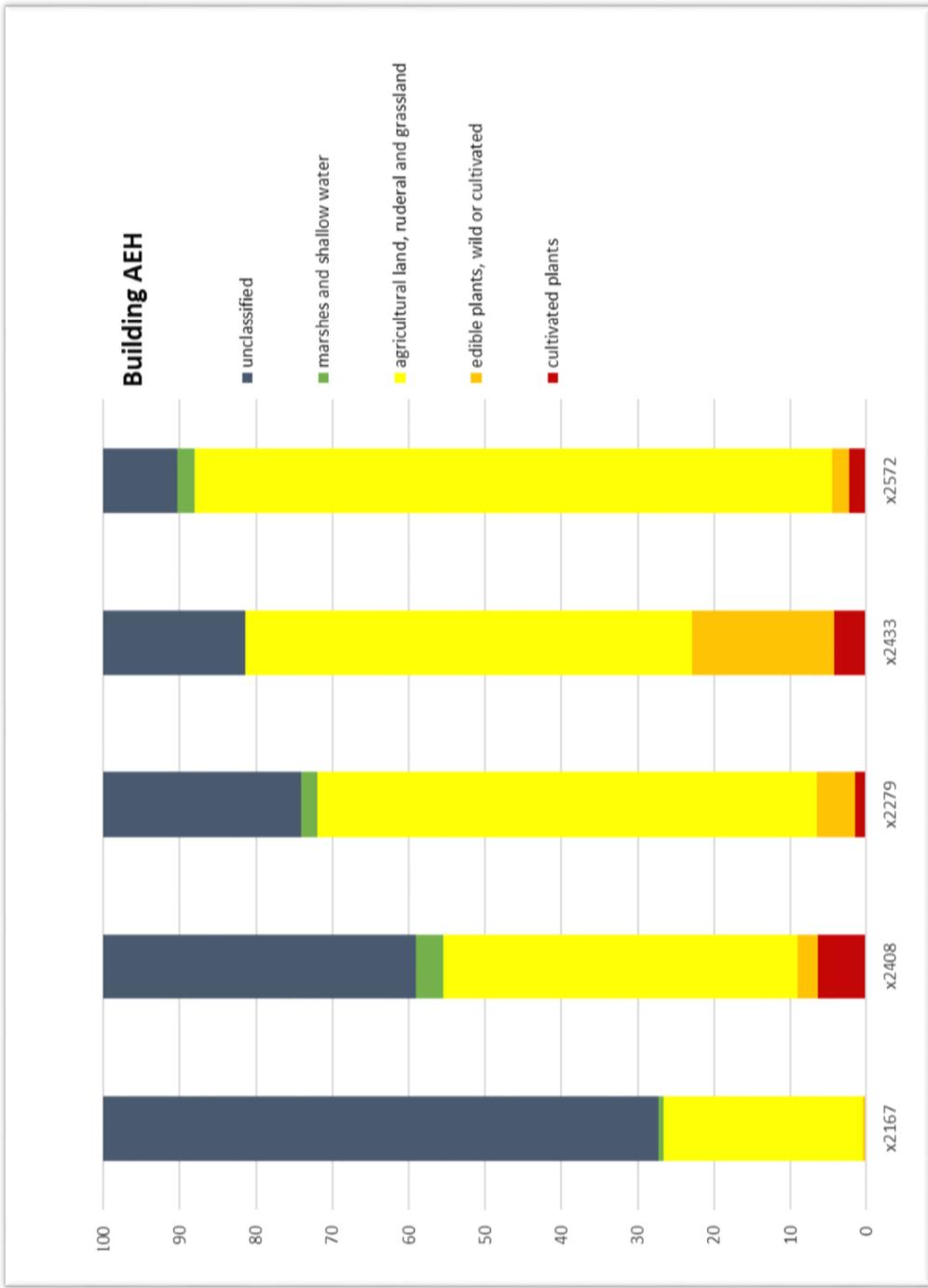


Fig. 6. Distribution of plant groups in midden samples.

X-NR	x5121	x5140	x5141	x5590	x5591	x5976	X-NR
analysed sample size (ml)	200	200	200	200	200	200	analyseret prøvestørrelse (ml)
cultivated plants	ARA	ARA	ARA	APL	APL	APL	dyrkede planter
<i>Avena sativa</i> with chaff			1				Dyrket havre
<i>Avena</i> sp. charred		15+8F	24+2F				Havre/Flyve-havre forkullet
Cerealia indet. charred	5 F	17+55F	15+88F			1F	Korn ubestemt forkullede
<i>Hordeum</i> sp. charred	1	4	223+38F				Byg
<i>Humulus lupulus</i>						1	Humle
<i>Secale cereale</i> charred		1	1				Rug
<i>Leonurus cardiaca</i>			2				Almindelig Hjertespad
Edible plants, collected or cultivated							Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)						3F	Hassel (nøddeskal)
<i>Corylus avellana</i> (nutshell) charred		2	9F				Hassel (nøddeskal)
<i>Sambucus nigra</i>				1F			Almindelig hyld
Agricultural land, ruderal & grassland							Agerjord, ruderater og enge
<i>Agrostemma githago</i>			1F c.				Klinte
<i>Centaurea cyanus</i>			1 c.				Kornblomst
<i>Chenopodium album</i>		2 c.		1	7	3	Hvidmelet gåsefod
<i>Fallopia convolvulus</i>		35 c.	38 c.				Snerle-pileurt
<i>Persicaria lapathifolium/maculosa</i>		1 c.	1 c.		2	2	Knudet pileurt/fersken-pileurt
<i>Polygonum aviculare</i>		1 c.					Vejpileurt
<i>Raphanus raphanistrum</i>		10	8F c.				Almindelig kiddike
<i>Rumex acetosella</i>					1		Rødknæ
<i>Spergula arvensis</i>			2 c.				Almindelig spergel
<i>Stellaria graminea</i>				2			Græsbladet fladstjerne
<i>Thlaspi arvense</i>			1 c. F	1			Almindelig pengeurt
Aquatic							Vandplanter
Characeae				1			Kransalge-familien
Marshes & shallow water							Vådbund & lavt vand
<i>Juncus</i> sp.	16	16		3	2	3	Siv
<i>Typha</i> sp.				1		1	dunhammer

Table 12: House ARA and APL samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

X-NR	x5121	x5140	x5141	x5590	x5591	x5976	X-NR
analysed sample size (ml)	200	200	200	200	200	200	analyseret prøvestørrelse (ml)
Unclassified							Blandet økologi
Apiaceae				1			Skærblomstfamilien
Asteraceae			1 c.				Kurvblomstfamilien
Brassicaceae		3 c.	9 c.		1		Korsblomstfamilien
Carex sp.	3	1				2	Halvgræsfamilien
Chenopodium sp.				2			Gåsefod
Chenopodiaceae		6 c.	24 c.	1	2+4	5	Salturtfamilien
Fabaceae			1 c. F			1	Ærteblomst-familien
Hypericum sp.	1			1			Perikon
Mentha sp.					1		Mynte
Papaver sp.						1	Valmuefamilien
Poaceae		1 c.					Græsfamilien
Polygonaceae		22 c.	64 c.				Pileurtfamilien
Ranunculus sp.	1			1			Skræppe
Rumex sp.		2 c.			1		Skræppe
Rumex sp. fruit+perianth		1 c.					Skræppe
Urtica dioica		2				1	Stor Nælde
Other remains							Andre fund
Wood					xx		Træ
Charcoal	xxxxx	xxxx	xxxxx	xx	xx		Trækul
Roots							Rødder
Fish bones, scales, teeth	xxx	xx		x	x	x	Fiske rester (ben/skæl/tænder)
European plaice						1	Rødspætte
Perch	1						Aborre
Mammal bones	xx	x			xx		Pattedyr knogle
Eggshell (bird)	xx	x	x		x		Fugl æggeskæl
Insect remains					x		Insekt rester
Clay with plant material imprint		xx	x				Ler med aftryk af plantemateriale
Amber bead	1						Ravperle

Table 12: House ARA and APL samples. Unless otherwise specified all plant remains are uncarbonized. "CP" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

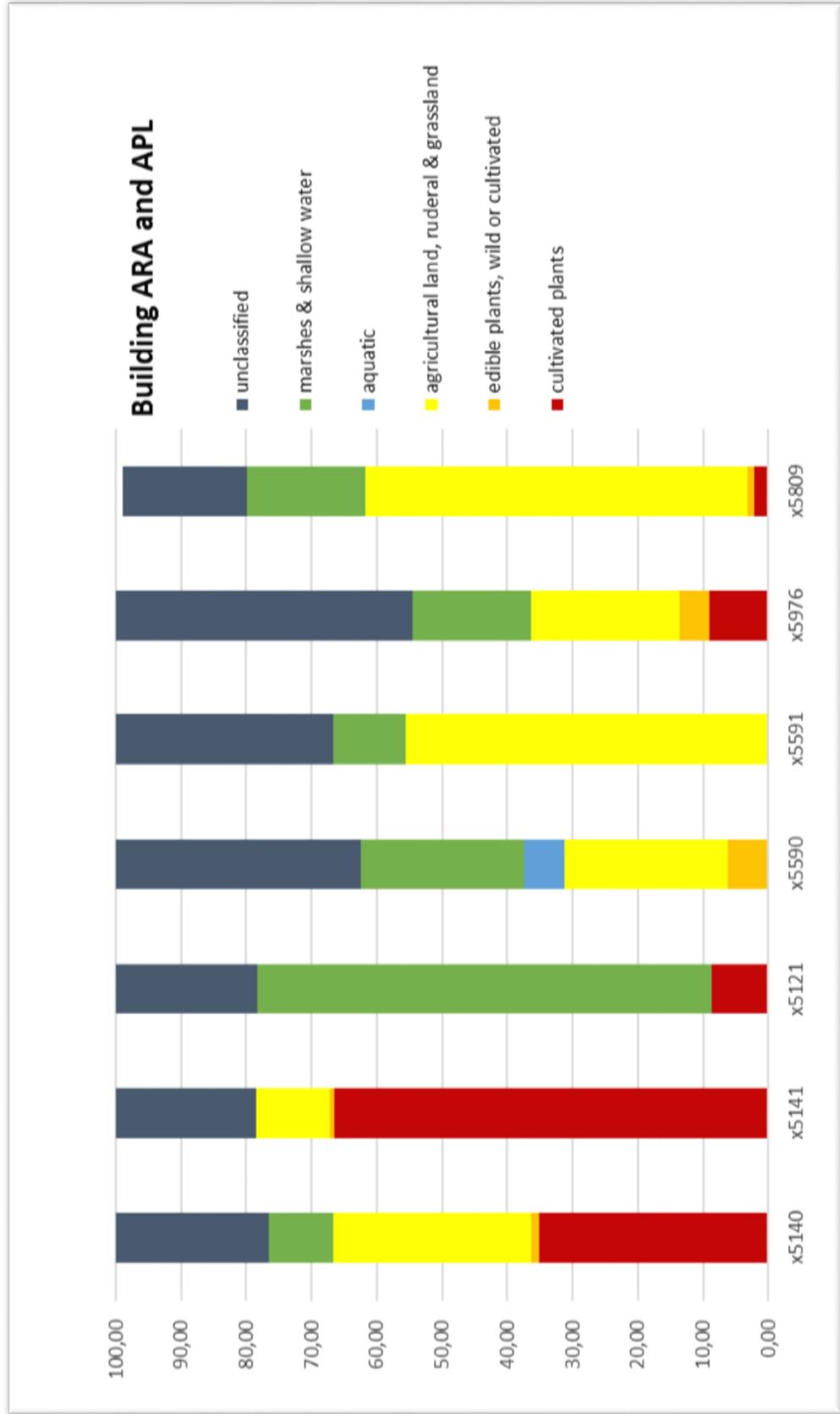


Fig. 7. Distribution of plant groups in midden samples.

X-NR	x1908	X-NR
Analysed sample size (ml)	200	Analyseret Prøvestørrelse (ml)
Cultivated plants		Dyrkede planter
<i>Cerealia</i> indet. bran	xF	Korn ubestemt klid
<i>Humulus lupulus</i>	1	Humle
Edible plants, collected or cultivated?		Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	1F	hassel (nøddeskæl)
<i>Myrica gale</i> fruit	1	Mosepors frugt
<i>Myrica gale</i> catkin stalk	1	Mosepors rakkell
<i>Sambucus nigra</i>	2F	Almindelig hyld
Agricultural land, ruderal & grassland		Agerjord, ruderater og enge
<i>Agrostemma githago</i>	xxF	Klinter
<i>Centaurea cyanus</i>	1	Kornblomst
<i>Chenopodium album</i>	13+11F	Hvidmelet gåsefod
<i>Fallopia convolvulus</i>	1	Snerle-pileurt
<i>Lapsana communis</i>	3	Almindelig haremød
<i>Neslia paniculata</i>	3	Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>	4+4F	Bleg/fersken-pileurt
<i>Raphanus raphanistrum</i>	2F	Almindelig kiddike
<i>Rumex acetosella</i>	12	Rødknæ
<i>Stellaria graminea</i>	2	Græsbladet fladstjerne
<i>Solanum nigrum</i>	1	Sort natskygge
<i>Thlaspi arvense</i>	2F	Almindelig pengeurt
<i>Urtica urens</i>	2	Stor nælde
Marshes & shallow water		Vådbund & lavt vand
<i>Caltha palustris</i>	1	Eng-kabbeleje
<i>Eleocharis</i> sp.	4	Sumpstrå
<i>Filipendula ulmaria</i>	1	Mjødurt
Heathland and acid moors		Hede og syre moser
<i>Calluna vulgaris</i> branch/leaves	3	Hedelyng gren/blad
<i>Juncus squarrosus</i>	8	Børste-siv
Unclassified		Blandet økologi
Brassicaceae	3	Korsblomstfamilien
<i>Carex</i> sp.	21+2F	Halvgræsfamilien
<i>Fragaria</i> sp.	4	Jordbær
<i>Luzula</i> sp.	1	Frytle
Poaceae	2	Græsfamilien
Polygonaceae	3	Pileurfamilien
<i>Ranunculus</i> sp.	3	Ranunkel
<i>Urtica dioica</i>	2	Stor nælde
Other remains		Andre fund
Wood	xx	Træ
Charcoal	xx	Trækul
Fish bones, scales, teeth	x	Fiske rester
Insect remains (beetles, insect pupae)	xx	Insekt rester
Bryophyta	xx	Mosser

Table 13: Packing layer sample x1908. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount.

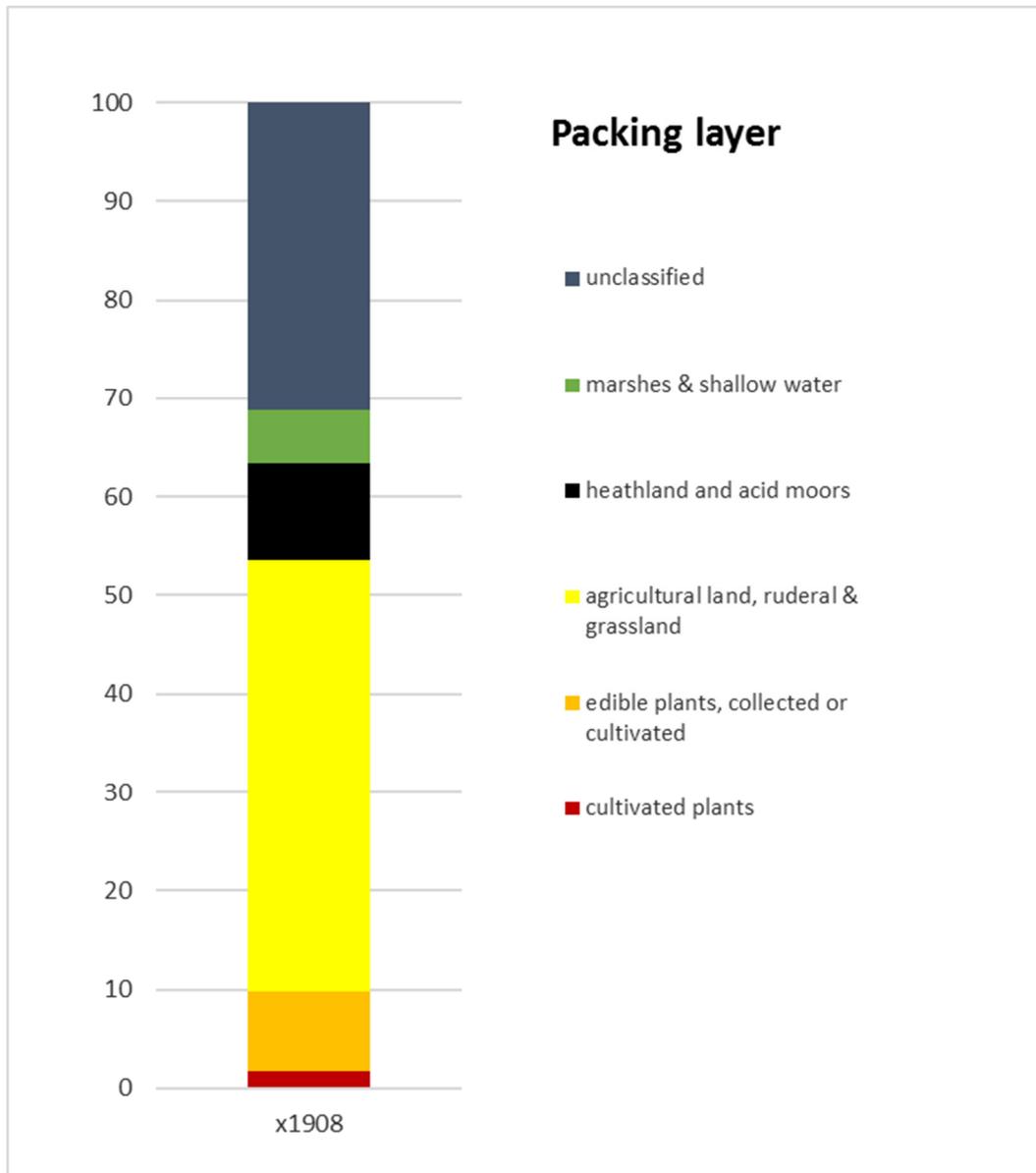


Fig. 8. Distribution of plant groups in packing layer sample x1908.

X-NR	x487	x531	x2358	X-NR
Analysed sample size	100*	200	200	Analyseret Prøvestørrelse (ml)
Cultivated plants				Dyrkede planter
<i>Cerealia</i> indet. charred			1F	Korn ubestemt, forkullet
<i>Humulus lupulus</i>		17+4F		Humle
Edible plants, collected or cultivated?				Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	2F	2F	1F	hassel (Nøddeskæl)
<i>Fragaria</i> sp.		14	15	Jordbær
<i>Prunus</i> sp.			2F	Blomme
<i>Pyrus/Malus</i> seed		1		Pære/ æble frø
<i>Rubus idaeus</i>			11	Hindbær
<i>Sambucus nigra</i>			4+3F	Almindelig hyld
Agricultural land, ruderal & grassland				Agerjord, ruderater og enge
<i>Agrostemma githago</i>		1+6F	1	Klinter
<i>Aphanes arvensis</i>			1	Almindelig løvefod
<i>Centaurea cyanus</i>		2F		Kornblomst
<i>Chenopodium album</i>	xx	xx	xx	Hvidmelet gåsefod
<i>Euphorbia helioscopia</i>		4F		Skærm-vortemælk
<i>Fallopia convolvulus</i>		1		Snerle-pileurt
<i>Hyoscyamus niger</i>	6		1	Bulmeurt
<i>Lapsana communis</i>		2		Almindelig haremad
<i>Leontodon</i> sp.		3		Borst
<i>Neslia paniculata</i>		5F		Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>	4	xx	4	Bleg/fersken-pileurt
<i>Persicaria maculosa</i>		1F	1	Fersken-pileurt
<i>Plantago lanceolata</i>			1	lancetbladet vejbred
<i>Polygonum aviculare</i>		1		Vejpileurt
<i>Papaver argemone</i>	10	2	1	Kolle-valmue
<i>Prunella vulgaris</i>		10		Almindelig brunelle
<i>Raphanus raphanistrum</i>		13F	1	Almindelig kiddike
<i>Rumex acetosella</i>		26		Rødknæ
<i>Solanum nigrum</i>		4	11	Sort natskygge
<i>Stellaria graminea</i>		4	1	Græsbladet fladstjerne
<i>Stellaria media</i>		4		Almindelig fuglegræs
<i>Thlaspi arvense</i>	2	4+10F		Almindelig pengeurt
<i>Urtica urens</i>	2		10	Liden nælde
Marshes & shallow water				Vådbund & lavt vand
Alismataceae	2			Skebladfamilie
<i>Cyperus fuscus</i>			4	Brun Fladaks
<i>Eleocharis</i> sp.	6	4	1	Sumpstrå
<i>Filipendula ulmaria</i>		2		Mjødurt
<i>Juncus</i> sp.	24	12	1	Siv
<i>Linum catharticum</i>		6		Vild Hørfrø
<i>Lychnis flos-cuculi</i>		20	1	Trævekrone
<i>Lycopus europaeus</i>			1	Sværtvæld
<i>Ranunculus flammula</i>		4		Kær-Ranunkel
<i>Typha</i> sp.	2			Dunhammer

Table 14: Levelling layer samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount. * amount of seeds is multiplied by 2, to compare it to other samples.

X-NR	x487	x531	x2358	X-NR
Analysed sample size	100*	200	200	Analyseret Prøvestørrelse (ml)
Heathland and acid moors				Hede og syre moser
<i>Calluna vulgaris</i> branch/leafs		6		hedelyng gren/blad
Unclassified				Blandet økologi
cf. <i>Anagallis</i>			1	mulig Arve
Asteraceae		5		Kurvblomstfamilien
Brassicaceae		xxF	1F	Korsblomstfamilien
<i>Carex</i> sp.	6	28	10	Står
Caryophyllaceae		9		Nellikfamilien
Chenopodiaceae		xx		Salturtfamilien
cf. <i>Cornus</i>	1			cf. Kornel
<i>Galeopsis</i> sp.		1		Hanekro
<i>Galium</i> sp.		1		Snerre
<i>Hypericum</i> sp.	4	12		Perikon
Lamiaceae	6	4	1	Læbeblomst-Familie
<i>Luzula</i> sp.		4		Frytle
<i>Myosotis</i> sp.		2		Forglemmigej
Poaceae		7	1	Græsfamilie
Polygonaceae	2	2		Pileurtfamilien
<i>Ranunculus</i> sp.		3	1	Ranunkel
<i>Rumex</i> sp.	4	2	1	Skræppe
<i>Rumex</i> sp. fruit+perianth		1		Skræppe
<i>Silene</i> sp.	4			Limurt
<i>Solanum dulcamara</i>			1	Bittersød natskygge
<i>Trifolium</i> sp. perianth		1		Kløver
<i>Valeriana</i> sp.		1		Baldrian
<i>Urtica dioica</i>		2	19	Stor nælde
<i>Viola</i> sp. seed capsule		1		Viol
<i>Viola</i> sp.		1		Viol
Other remains				Andre fund
Wood		xx	xx	Træ
Charcoal	xxx	x	xx	Trækul
Straw		xx		Strå
Fish bones, scales, teeth	x	x	xx	Fiske rester
Mammal bones			xx	Pattedyr knogler
Insect remains (beetles, insect pupae)	x	xxx		Insekt rester
Bryophyta		xxx	xx	Mosser
Felt		x		Filt

Table 14: Levelling layer samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount. * amount of seeds is multiplied by 2, to compare it to other samples.

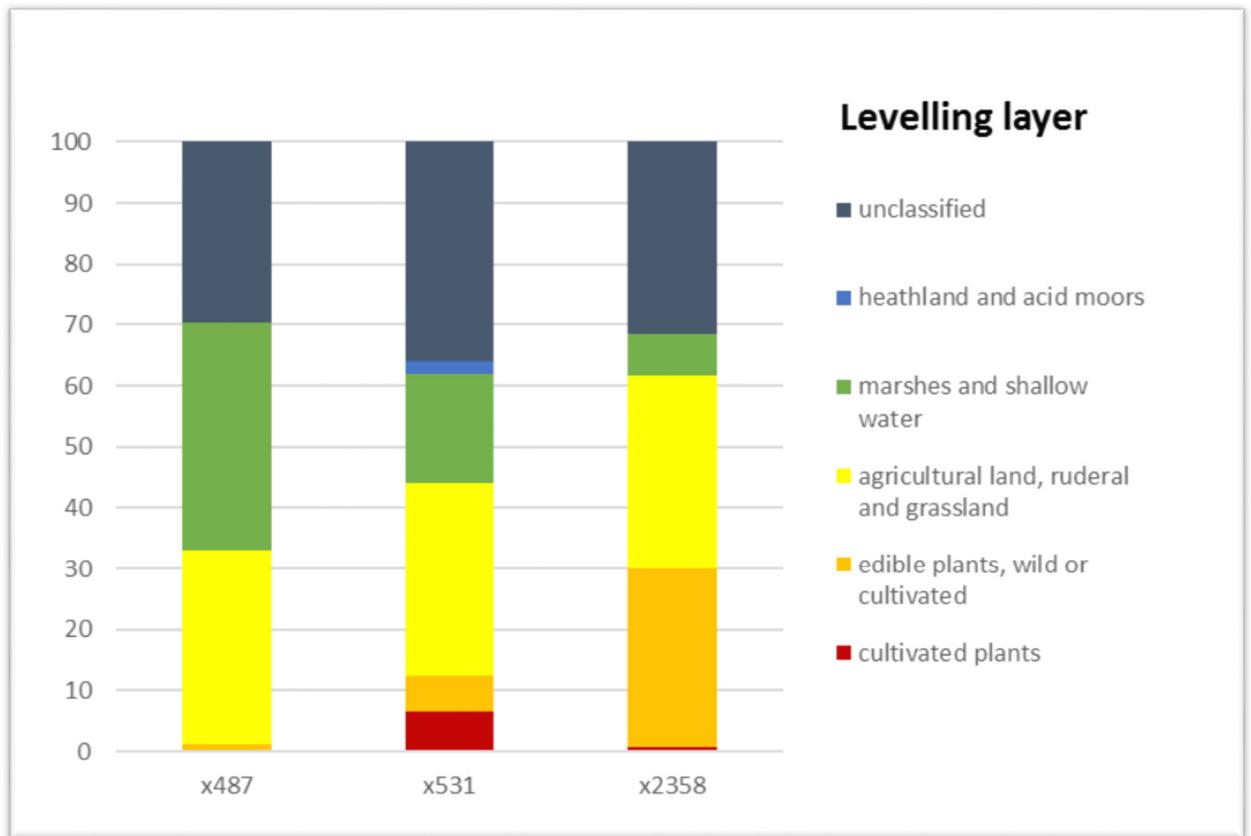


Fig. 9. Distribution of plant groups in Levelling layer samples.

X-NR	x534	x1702	x3843	*x4338	
Analysed sample size (ml)	200	200	200	2150ml	Analyseret Prøvestørrelse (ml)
Cultivated plants					Dyrkede planter
<i>Avena</i> sp. charred		7+1F		3	Havre/Flyve-havre
Cerealia indet. charred				2	Korn ubestemt
Cerealia indet. bran			9		Korn ubestemt klid
<i>Hordeum</i> sp. charred		1	1	4	Byg
<i>Hordeum/ Secale</i> charred				3	Byg/rug
<i>Humulus lupulus</i>	2			3	Humle
<i>Linum usitatissimum</i>			1F		Hørfrø
<i>Apium graveolens</i>		1		1	Selleri
Edible plants, collected or cultivated?					Spiselige plante, vild og dyrket
<i>Corylus avellana</i> (nutshell)	8F		3	9F	Hassel (nøddeskal)
<i>Myrica gale</i>			67	1	Mose-Pors
<i>Fragaria</i> sp.	8			13	Jordbær
<i>Pyrus/ Malus</i> endocarp	1		1		Pære/ æble endocarp
<i>Rubus fruticosus</i>	1				Almindelig brombær
<i>Rubus idaeus</i>	10			9	Hindbær
<i>Sambucus nigra</i>	3	1	1+1F	35+4F	Almindelig hyld
Agricultural land, ruderal & grassland					Agerjord, ruderater og enge
<i>Aethusia cynapium</i>	1			1	Hundspersille
<i>Agrostemma githago</i>	1		1F		Klinter
<i>Aphanes arvensis</i>	2				Almindelig løvefod
<i>Arnoseris minima</i>		2			Svineøjle
<i>Brassica nigra</i>			4		Sort sennep
<i>Centaurea cyanus</i>			2		Kornblomst
<i>Centaurea cyanus</i> charred			1		Kornblomst
<i>Chenopodium album</i>	55	2	xxx	xx	Hvidmelet gåsefod
<i>Descurainia sophia</i>		8			Finbladet vejsennep
<i>Euphorbia helioscopia</i>			3	1	Skærm-vortemælk
<i>Fabaceae</i> seed charred		1		1	Ærteblomst-familien
<i>Fabaceae</i> seed uncharred				1	Ærteblomst-familien
<i>Fallopia convolvulus</i>			1F		Snerle-pileurt
<i>Hyoscyamus niger</i>	1		4+1F	43	Bulmeurt
<i>Lapsana communis</i>			1		Almindelig haremød
<i>Neslia paniculata</i>	2F		2+8F	4+1F	Rundskulpe
<i>Persicaria lapathifolium/maculosa</i>	7		21+23F	4	Bleg/fersken-pileurt
<i>Polygonum aviculare</i>	2		2	3	Vejpileurt
<i>Papaver argemone</i>		2			Kolle-valmue
<i>Raphanus raphanistrum</i>		1F	14	2F	Almindelig kiddike
<i>Rumex acetosella</i>	10	14	43+3F	1	Rødknæ
<i>Scleranthus annuus</i>	2+2F			2	enårig knavel
<i>Silene dioica</i>	22		1		Dag-pragtstjerne
<i>Sinapis arvensis</i>			3		Sort sennep
<i>Solanum nigrum</i>	4		1	16	Sort natskygge
<i>Spergula arvensis</i>			9+3F		Almindelig spergel
<i>Stellaria media</i>	2	5	3		Almindelig fuglegræs
<i>Thlaspi arvense</i>	5+6F	2	4+1F	8+1F	Almindelig pengeurt
<i>Trifolium repens</i>				1	Kløver
<i>Urtica urens</i>	29	15	2		Liden nælde

Table 15: Levelling layer samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount. * amount of seeds is multiplied by 2, to compare it to other samples. *X4338 is a fine sieved and dried sample.

X-NR	x534	x1702	x3843	*x4338	
Analysed sample size (ml)	200	200	200	2150ml	Analyseret Prøvestørrelse (ml)
Marshes & shallow water					Vådbund & lavt vand
<i>Cyperus fuscus</i>	2				Brun fladaks
<i>Eleocharis sp.</i>	5		1	5	Sumpstrå
<i>Juncus sp.</i>	14	52			Siv
<i>Lycopus europaeus</i>		2			Sværtøvæld
<i>Hydrocotyle vulgaris</i>				1	Vandnavle
<i>Ranunculus flammula</i>				2	kær-ranunkel
<i>Typha sp.</i>	8				dunhammer
Heathland and acid moors					Hede og syre moser
<i>Juncus squarrosus</i>	2				Børste-siv
<i>Sphagnum leaf</i>	2		2	xxxx	Tørvemos blad
Unclassified					Blandet økologi
cf. <i>Anagallis</i>				1	Arve
<i>Anchusa sp.</i>				1	Oksetunge
Apiaceae	2		1F		Skærmblostmfamilien
Asteraceae			5	2	Kurvblomstmfamilien
<i>Atriplex sp.</i>		3		1	Mælde
<i>Brassica sp.</i>	1F				kål
Brassicaceae		2	8	1	Korsblomstmfamilien
<i>Carex sp.</i>	11	14	2	66	Halvgræsfamilien
<i>Carex sp. charred</i>				2	Halvgræsfamilien
Caryophyllaceae	2	2F			Nellikefamilien
Chenopodiaceae	9	12			Salturtfamilien
<i>Galeopsis sp.</i>	1+1F		1		Hanekro
Lamiaceae				1	Læbeblomstmfamilien
<i>Lamium sp.</i>			2	2	Tvetand
<i>Luzula sp.</i>	2	2			Frytle
<i>Myosotis sp.</i>	2				Forglemmigej
Poaceae	2	3	1		Græsfamilien
Polygonaceae	1+1F	1	6+5F	2	Pileurtfamilien
<i>Ranunculus subg. Ranunculus</i>	4	2	1	15+2F	Ranunkel
<i>Rumex sp.</i>			3		Skræppe
<i>Solanum dulcamara</i>	2				Bittersød natskygge
<i>Urtica dioica</i>		4	40	2	Stor nælde
<i>Stachys sp.</i>	1				Galtetand
<i>Viola sp.</i>	2			5	Viol
Other remains					Andre fund
Wood	xxxx	xxx	xx		Træ
Charcoal	xxx	xx	xxx	xxxx	Trækul
Buds	x				Knop
Roots				xx	Rødder
Fish bones, scales, teeth	xx	x	x	xxx	Fiske rester
Mammal bones	xx			xxx	Pattedyr knogler
Eggshell (bird)	x		x		Fugl æggeskæl
Insect remains (beetles, insect pupae)	xxx	x	x	xx	Insekt rester
Bryophyta			x		Mosser

Table 15: Levelling layer samples. Unless otherwise specified all plant remains are uncarbonized. "Cf" indicates likely determinations while "Sp" indicates overall determinations to Genus but not to species. "F" indicates fragments. Plant names separated by "/" indicates several possible determinations. Some presences are indicated by 1-5 X's". These represent subjective evaluations with "X" indicating a very low amount while "XXXXX" indicates a very high amount. * amount of seeds is multiplied by 2, to compare it to other samples. *X4338 is a fine sieved and dried sample.

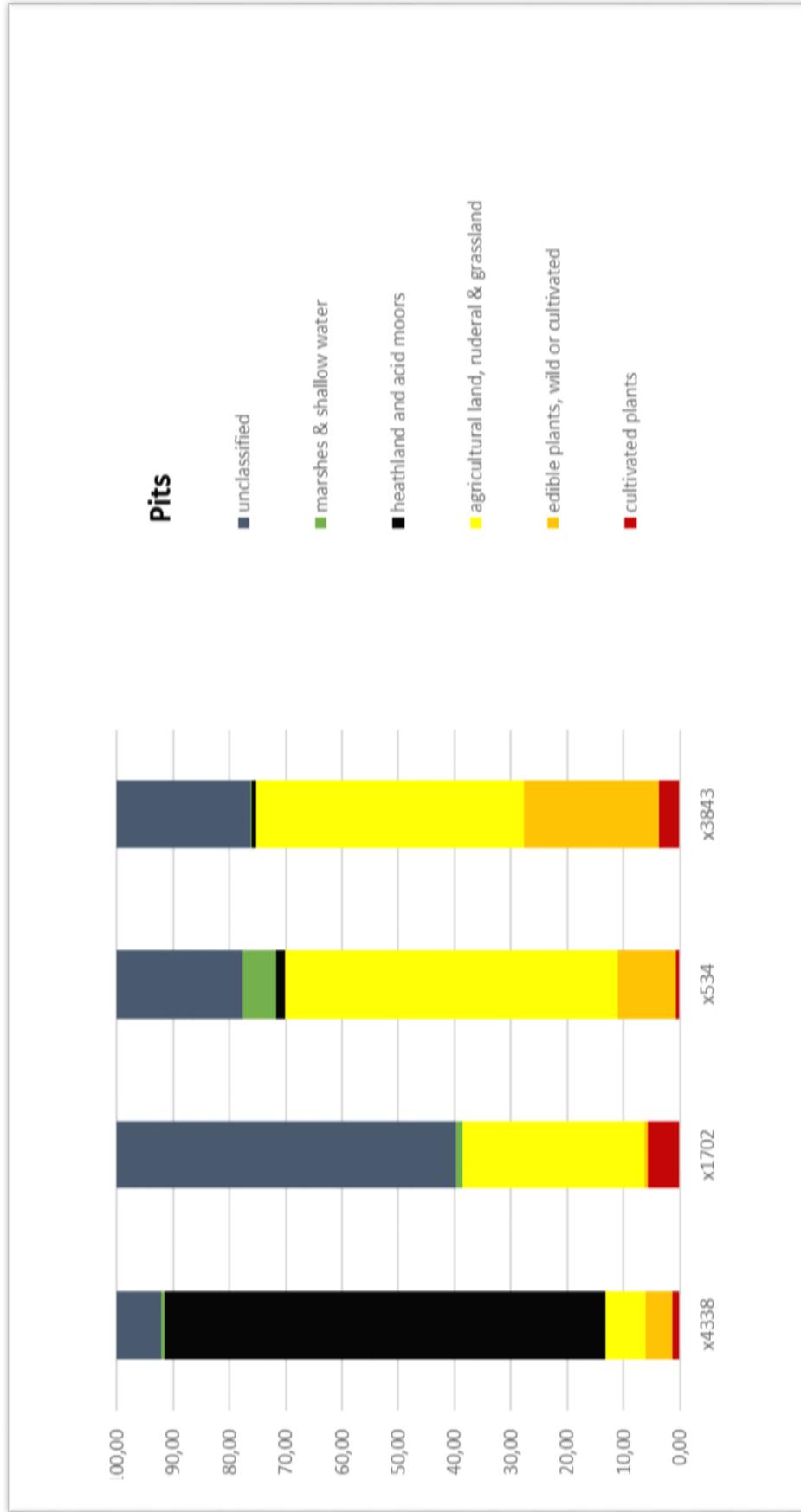


Fig. 10. Distribution of plant groups in pit samples.



Rapporterne fra Afdeling for Konservering og Naturvidenskab, Moesgaard Museum fremlægger resultater i forbindelse med specialundersøgelser af arkæologisk genstandsmateriale.

Hovedvægten er lagt på undersøgelser med en naturvidenskabelig tilgangsvinkel. Heriblandt kan nævnes arkæobotaniske undersøgelser, vedanatominiske undersøgelser, antropologiske undersøgelser af skeletter samt zooarkæologiske undersøgelser.

Der optræder også andre typer dokumentationsfremlæggelser, som f.eks. besigtigelse af marinarkæologiske lokaliteter og metodebeskrivelser af konserveringsteknik karakter.

Alle rapporter kan downloades fra Moesgaard Museums hjemmeside.

Eftertryk med kildeangivelse tilladt.