# ARHEOLOOGILISED VÄLITÖÖD EESTIS

# ARCHAEOLOGICAL FIELDWORK IN ESTONIA

2004

Koostanud ja toimetanud
*Ülle Tamla*

Muinsuskaitseamet
Tallinn 2005

*Esikaas: ehtenaast Viskla II asulast.*
*Tagakaas: rihmajagaja Kämbla II asulast.*
*Cover: decorative mount from Viskla II settlement site.*
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# FOSSIL FIELDS AT SAHA-LOO, NORTH ESTONIA, AS REVEALED BY NEW INVESTIGATIONS

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## INTRODUCTION

The fossil fields of Saha-Loo near Tallinn were discovered in 1992. The field remains, *i.e.* clearance cairns and field plots surrounded with baulks, and some cattle paths, covered there an area of 22 ha, but some of the remains discovered separately outside this area indicated that the original cultivated area was even larger, maybe ca. 40–50 ha. In 1992–1993, the first fieldwork, consisting of mapping of the entire area (Fig. 1) and a few excavations, was carried out (Lang 1994a; 1994b). As a result of this work, it was concluded that the making of fields had been started here already in the early first millennium BC and terminated approx-

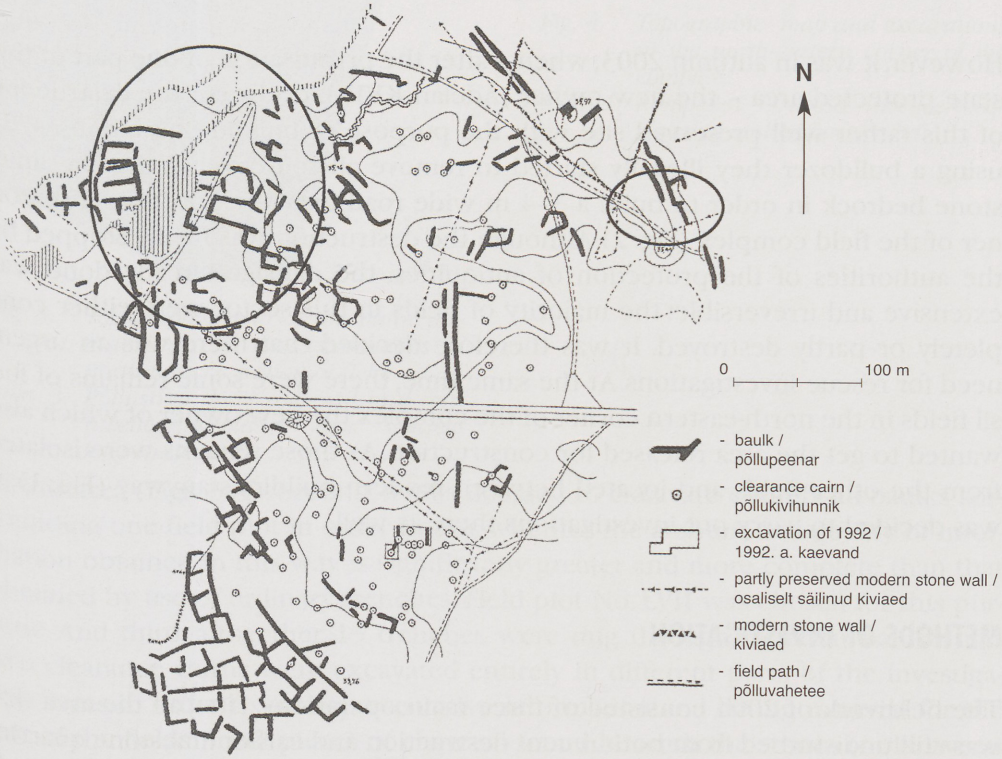


*Fig. 1. Fossil fields at Saha-Loo. Areas of investigation are surrounded with ovals.*
*Joon. 1. Fossiilsed põllud Saha-Lool. Uuritud alad on märgitud ovaalidega.*

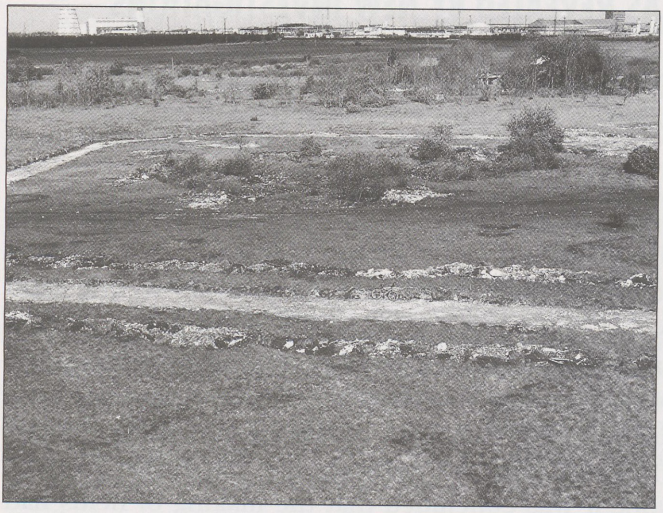

*Fig. 2. View on destroyed area.*
*Joon. 2. Vaade lõhutud alale.*

imately in the third quarter of the same millennium; later on this area was turned into pasture land. Thus the Saha-Loo fields turned out to be the oldest known fields in Estonia and they generated great interest among the researchers both at home and abroad (Lang 1994c; 1995a; 1995b). After the initial fieldwork the site was not investigated further in order to wait for better possibilities of investigation.

However, it was in autumn 2003, when – after the privatisation of one part of this state protected area – the new owner (Adelan KVH Ltd.) began the destruction of this rather well preserved site with the purpose of building new houses. By using a bulldozer they illegally started to remove all soil cover above the limestone bedrock in order to build a 3–4 m wide road over the north-western corner of the field complex (Fig. 2). Although the destruction was finally stopped by the authorities of the protection of antiquities, the damage already done was extensive and irreversible: the majority of fields in this sector were either completely or partly destroyed. It was therefore decided that there was an urgent need for rescue investigations. At the same time, there were some remains of fossil fields in the north-eastern corner of the complex the new owner of which also wanted to get the area released for construction. As those remains were isolated from the other fields and located between modern buildings anyway (Fig. 1), it was decided to carry out investigations there as well.

## METHODS OF INVESTIGATION

The fieldwork of 2004 consisted of three main operations. First, all the area that was still undisturbed from both recent destruction and earlier limestone quarries was measured, with elevations read with a level at 1 m intervals. Using the computer program MapInfo, it was then easily possible to produce topographic maps

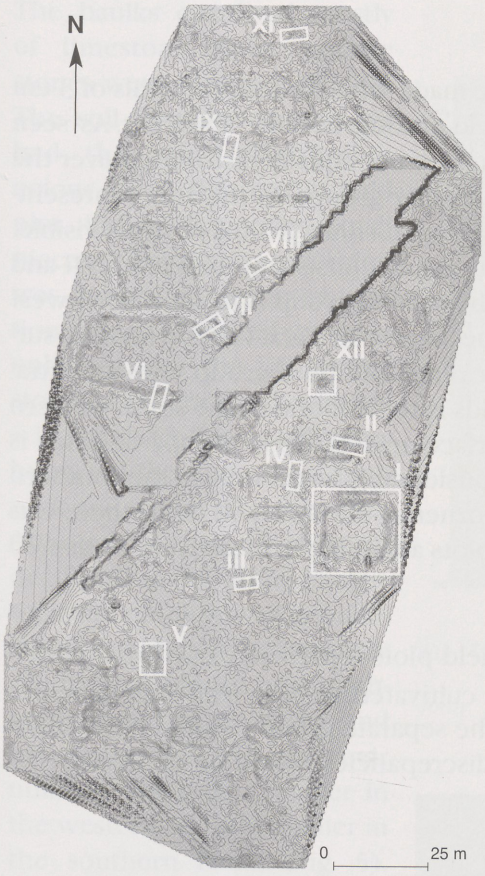


*Fig. 3. Topographic map of the main undisturbed area and excavations in north-western section of fields.*
*Joon. 3. Põllustiku loodeosa säilinud ala nivelleerimisplaan koos sealsete kaevanditega.*

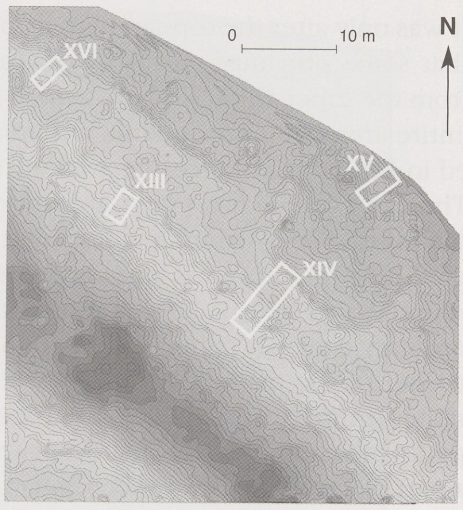


*Fig. 4. Topographic map and excavations in the north-eastern corner of the complex.*
*Joon. 4. Kompleksi kirdeosa nivelleerimisplaan ja sealsed kaevandid.*

of this area (Figs. 3–4). Second, it was decided to excavate entirely all baulks surrounding one field plot in order to test whether the amount and quality of information obtained in this way is significantly greater and more complete than that obtained by use of ordinary trenches. Field plot No. LVII was chosen for this purpose. And third, altogether 13 trenches were dug through different baulks, and two clearance cairns were excavated entirely in different parts of the investigation areas in order to get representative information and dating material for the rest of the fields. Small pieces of charcoal found beneath the stones (or between the lowermost stones), indicating the first land clearing before the cultivation and gathering of stones, were used for dating purposes.

## RESULTS FROM TOPOGRAPHY

It was only after the topographic maps were made with contour intervals of 3 cm that some previously invisible traces of field-making became apparent. As seen from the topographic maps, the field remains are not equally distributed over the entire area but are located in a number of smaller groups. In the area represented in Fig. 3, for instance, there are three clear and distinct groups of fields visible. The first of these has a central eastern position and consists of field plot LVII and ten more plots surrounding it at all sides. The second group is located northwest of the former: there is one large field (the largest at Saha-Loo), which is surrounded by 6–7 smaller and more irregular plots. The third group with an extraordinary irregular pattern of 9–10 small fields is to be found in the south-western corner of the mapped area. The whole surface area of these groups of fields is rather similar – ca. 5,000–6,000 m$^2$, being considerably larger only in the southern part of the complex. In the north-eastern corner of the Saha-Loo fields there was a part of a cattle path and some small field plots adjoining it; these were measured during the fieldwork (Fig. 4).

One can think that these small groups of field plots represent those areas which either were contemporaneously in use, *i.e.* cultivated, or belonged simultaneously to different farmers. In the former case the separate groups should have different dates, in the latter – no chronological discrepancies would be observed.

## FIELD LVII

Field LVII, located in the first group of field plots mentioned above, was slightly trapezoidal, almost rectangular in shape (Fig. 5). The dimensions of the plot once cultivated (*i.e.* the area between the baulks) were 15–16 x 13–19 m, the surface area being ca. 275 m$^2$. The width of the stony baulks varied between 3 and 5 m; the height – between 10 and 30 cm. The baulks, however, were not uniform in appearance: there occurred smaller or larger sections – one or two in each baulk – which were slightly higher than the rest of the baulk. Taking into account also the earlier results of the investigations at Saha-Loo (Lang 1995a, 207), there is not much doubt that one is dealing here with initial single clearance cairns, while the baulks – as we see them today – were formed stepwise between these cairns as a result of long-term cultivation. The baulks were lowest at the corners of the field, where one can presume the existence of gates for entering with ploughing tools and animals; at least in the north-western and south-eastern corners the 2.5–3 m wide gates were rather obvious.

The baulks consisted mostly of limestone slabs, granite stones were very rare (Fig. 6). The soil between the stones had the same dark-brown colour as on the nearby field plot. Except for seven small pieces of animal bone, nothing was found during the excavation. Charcoal started to occur only between the lowermost stones and beneath the stones – in a thin (3–5 cm) soil layer between the limestone bedrock and stones of the baulks. Although pieces of charcoal occurred in all four baulks, their distribution was not similar everywhere. The majority of charcoal pieces were gathered from the northern and eastern baulks, whereas their number was much smaller in the western and still smaller in the southern baulk (Fig. 5). Four radiocarbon dates available so far indicate that the first slash-and-burn took place here already in the 8th–6th centuries BC (initial clearance cairn in the area of the northern baulk; Fig. 9: 8), but the other baulks were probably not formed before the 4th–3rd centuries BC (Fig. 9: 9–10). The fourth date (the northern baulk, Fig. 9: 11) seems to be too late for this field, as it belongs to the period when the entire area had already been turned into a pasture.

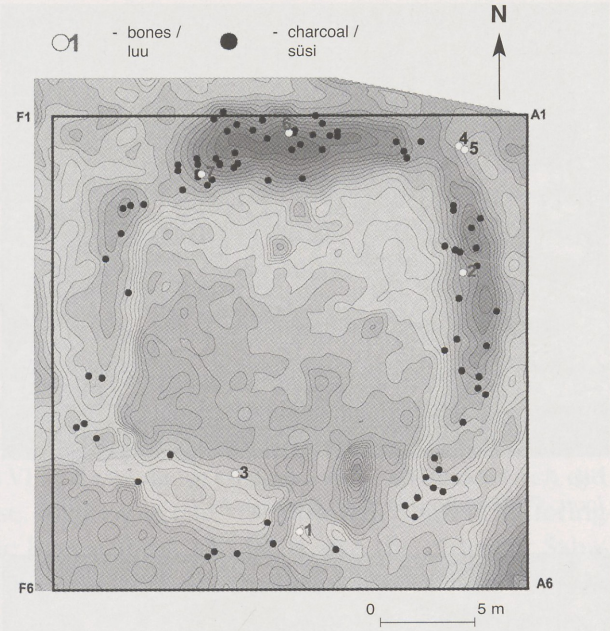


*Fig. 5. Topographic map of field LVII and the occurrence of charcoal and animal bones.*
*Joon. 5. Põllu LVII nivelleerimisplaan koos luude ja söetükikeste leiukohtadega.*

*Fig. 6. Stony baulks of field LVII, after the removal of turf cover.*
*Joon. 6. Põllu LVII peenrad pärast mättakihi eemaldamist.*

*Fig. 7. Trench VIII, uppermost layer of stones.*
*Joon. 7. Pealmine kivikiht tranšees VIII.*

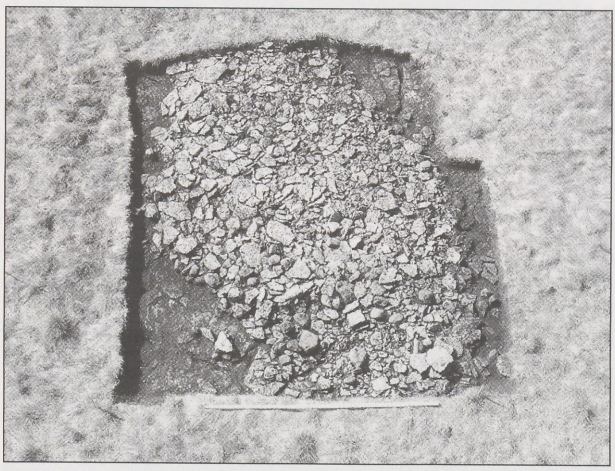

*Fig. 8. Clearance cairn p-20, uppermost stone cover.*
*Joon. 8. Põllukivihunniku p-20 pealmine kivikiht.*

As demonstrated by the excavations, the amount of information obtained by the digging of entire baulks does not differ very much from that of 2-m wide trenches. Of course, the number of charcoal samples is larger but this fact alone cannot compensate the enormous amount of work needed for the excavation of entire baulks. However, the number of animal bones found from all fences of this field was almost the same as, for instance, from single trench II. No other finds (e.g. pottery) were discovered despite the large area of excavation.

## OTHER EXCAVATIONS

As mentioned above, the other parts of the area in question were examined by (2-m wide) trenches into baulks and excavations of some clearance cairns. Near field LVII (first group of field plots) there were located excavations nos. II–IV: these were trenches into baulks nos. 95, 100 and 91. All these baulks were rather similar to each other (and to those surrounding field LVII), consisting mostly of limestone slabs and a few small granite stones; the width of the baulks was 4–5 m and the height 15–25 cm. Six fragments of animal bone (one was burned) were discovered in trench II and one in trench III, while nothing was found in trench IV. Charcoal was observed in all trenches; nevertheless, only samples from trenches II and III were large enough for the radiocarbon dating. Both these dates (Fig. 9: 12–13) similarly indicate the land clearance of the 9$^{th}$–7$^{th}$ (6$^{th}$) centuries BC, *i.e.* more or less contemporaneously

with the area of field LVII. One may thus conclude that the first slash-and-burn and clearance of stones into heaps and baulks took place in the area of the first group during the Late Bronze Age, in the 9th-6th (5th) centuries BC, and that field cultivation continued here until, at least, the 4th-3rd centuries BC.

Still much earlier dates were obtained from the second group of field plots. Trenches nos. VI and VII were dug into the opposite, *i.e.* the southern and northern baulks (nos. 32 and 33) of field XXVIII - the largest one at Saha-Loo (measured 43 x 12-18 m). One more trench (VIII) was made into baulk no. 37, which bordered the neighbouring field plot XXIX (Fig. 7). All these baulks were 3.5-4.5 m wide and 20-25 cm high, and they consisted predominantly of limestone slabs just as the other field remains at Saha-Loo. Only one small piece of animal bone was found from trench VI, the others had no finds. Three radiocarbon samples were analysed - one from trench VI and two from trench VII. The third trench did not yield enough charcoal. These surprising dates - although slightly differing from each other - prove that the largest field, XXVIII, is also the oldest at Saha-Loo, as it was established already in the late 2nd millennium, *i.e.* in the 14th-11th centuries BC (Fig. 9: 14-16).

As the major part of the third group of field plots remained outside the area of investigation, only one excavation was made there. The excavated feature was a round-shaped clearance cairn, p-20, together with 2-m wide strips of two baulks which branched away from it (Fig. 8). The diameter of the cairn reached 5 m, the width of the baulks - 3 m. It was observed during the excavations that the higher (up to 25 cm) cairn consisted of much bigger stones than the lower (5-15 cm) baulks, whereas the former was probably thrown together before the baulks. Charcoal occurred mostly in small pieces beneath the cairn, except for one place where it was found in the form of larger fragments of burned wood. The latter was radiocarbon dated to the 8th-5th centuries BC (Fig. 9: 17).

Excavations nos. IX-XII were carried out in different parts of the north-western sector of the destroyed area, outside the groups mentioned above. Three of them were 2-m wide trenches into baulks nos. 39, 11 and 42; the fourth was the excavation of clearance cairn p-14. Except for one animal bone found from trench X and two pieces of bone discovered in the cairn (XII), nothing else was found in these features. The amounts of charcoal were also too small for radiocarbon dating in these excavations and thus nothing can be said about their age. It is worth mentioning, however, that a trench into baulk no. 12 (excavated in 1993), located next to trench X of 2004, yielded a sample of charcoal that was dated to the 2780±50 b.p. (10th-9th centuries BC) (Lang 1994c, 206). One can conclude that

this group of ca. ten small field plots on the north-western edge of the complex is the second oldest area of cultivation at Saha-Loo.

In the north-eastern corner of the Saha-Loo field complex four trenches (XIII–XVI) were excavated into baulk nos. 67, 68 and 70. The first two of these baulks were long, low (less than 20 cm in height) and relatively narrow (2.5–3.5 m) fences, which were located parallel to each other, forming something like a cattle path; this path was 2.4–3.4 m wide. The baulks consisted of limestone slabs. Pieces of charcoal occurred beneath the baulks; however, the amount was too small for radiocarbon dating. The section of the cattle path excavated in 1993 was then dated to the turn of our era (2020±55 b.p.; Lang 1994c, 206) – this period of time is probably suitable also for this path. Only two pieces of animal bone were found in the excavation of the path.

Short baulk no. 70 bordered a field plot (LXXVI), which was located at the side of the cattle path (the shared fence was baulk no. 68). Judging by the location of this field and path it seems that the former is older than the latter, as the long baulk no. 68 was not straight but formed small angles at the corners of the field. Baulk no. 70 consisted of limestone slabs like all other fences at Saha-Loo. Charcoal was not numerous here either; nevertheless it was possible to date the sample to the 5$^{th}$–2$^{nd}$ centuries BC (Fig. 9: 18).

## CONCLUSIONS

The investigations at Saha-Loo in 2004 revealed new important information about the oldest fossil fields in Estonia. It became evident that the field plots are located in small groups that probably correspond to the areas which were contemporarily in use. The surface area of these groups (0.5–0.6 ha) was rather similar all over the complex, except only for its southern part. As indicated by radiocarbon dates, those groups of fields were not formed simultaneously; rather they represent consecutive steps in the spread of tillage and land clearance at this site. The field making had been started in the central part of the north-western section already in the late 2$^{nd}$ millennium BC, *i.e.* in the Early Bronze Age. This date might seem surprisingly old, but it is confirmed by three radiocarbon dates from one group of fields. Next, the field making moved from that place to the western edge of the complex (10$^{th}$–9$^{th}$ centuries BC) and then in the south-eastern direction, to the area around the field LVII (9$^{th}$–6$^{th}$ centuries BC). The majority of radiocarbon dates, both from the excavations of 2004 and 1992–1993, based on samples collected from different parts of the complex, indicate cultivation in the 8$^{th}$–5$^{th}$ cen-

turies BC, while some are also from the 4th–3rd (2nd) centuries BC. At the turn of our era, the previously cultivated area had been left fallow and turned to pasture land.

Thus, the results of the investigations have demonstrated that the cultivation of the Saha-Loo fields lasted at least one thousand years. Such a long duration of land use at one and the same place helps one to understand better the very nature of a pre-industrial agrarian society, its attitude to the landscape, ownership of land and cultivation techniques.

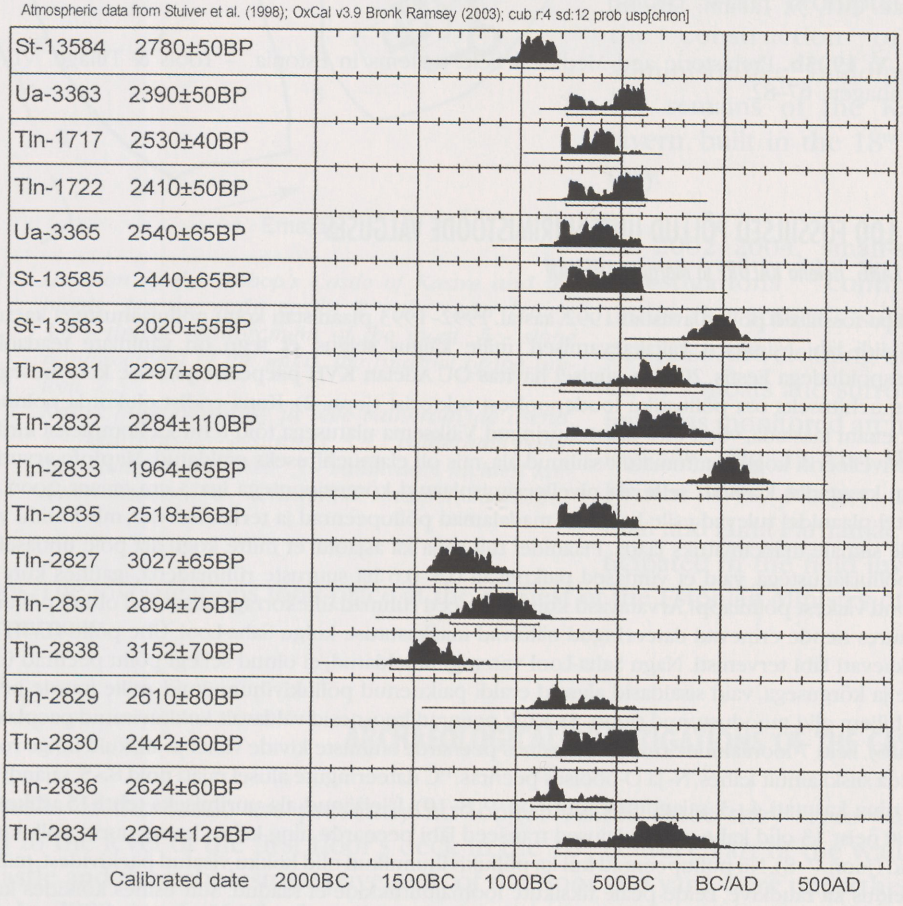


*Fig. 9. Radiocarbon dates from Saha-Loo (dates nos. 1–7 were obtained from the excavations in 1992–1993).*
*Joon. 9. Radiosüsiniku dateeringud Saha-Loolt (dateeringud nr. 1–7 on saadud 1992.–1993. a kaevamistelt).*

## References

**Lang, V. 1994a.** Fossil fields at Saha-Loo. – TATÜ, 43: 1, 22–26.

**Lang, V. 1994b.** Excavations in ancient fields of Saha-Loo and Proosa near Tallinn. – TATÜ, 43: 4, 379–382.

**Lang, V. 1994c.** Celtic and Baltic fields in North Estonia. Fossil field systems of the Late Bronze Age and Pre-Roman Iron Age at Saha-Loo and Proosa. – Acta Archaeologica, 65. Copenhagen, 203–219.

**Lang, V. 1995a.** Varane maaviljelus ja maaviljelusühiskond Eestis: ääremärkusi mõningate arengutendentside kohta. – Eesti arheoloogia historiograafilisi, teoreetilisi ja kultuuriajaloolisi aspekte. (MT, 3). Tallinn, 116–181.

**Lang, V. 1995b.** Prehistoric and Medieval field systems in Estonia. – Tools & Tillage, VII: 2–3. Copenhagen, 67–82.

## SAHA-LOO FOSSIILSED PÕLLUD UUTE UURIMISTÖÖDE VALGUSES

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Saha-Loo fossiilsed põllud avastati 1992. aastal. 1992–1993 plaanistati kogu põllujäänustega kaetud ala ning viidi läbi esimesed väljakaevamised, mille käigus selgus, et tegu on vanimate teadaolevate muinaspõldudega Eestis. 2003. a. sügisel hävitas OÜ Adelan KVH paepealse pinnase koorimisega tee- ja elamuehituseks osa põllustiku loodepoolsest sektorist (joon. 2). Kuna endist olukorda polnud võimalik enam taastada, võeti ette päästeuuringud. Väiksema ulatusega töid tehti ka kompleksi kirdenurgas. Nivelleeriti kogu puutumatult säilinud ala, mis oli elamuehituseks eraldatud. MapInfo arvutiprogrammi kasutades koostati selle ala nivelleerimisplaanid kõrgusjoontega iga 3 cm tagant (joon. 3–4). Sellistel plaanidel tulevad esile ka kõige madalamad põllupeenrad ja terrassiservad, mis muidu võivad paljale silmale märkamatuks jääda. Plaanidel tuli välja ka asjaolu, et mitte kogu ala pole ühtlaselt kaetud põllujäänustega, vaid et viimased paiknevad 0,5–0,6 ha suuruste rühmadena, igaühes kuni kümmekond väikest põllulappi. Arvatavasti kujutasid need rühmad ühekorraga kasutusel olnud põllumaad, kusjuures nende erinevad dateeringud näitavad maakasutuse kulgu Saha-Lool. Ühe põllu (LVII) peenrad kaevati läbi tervenisti. Nagu Saha-Lool varemgi täheldatud, ei olnud sellegi põllu peenrad ühtlase laiuse ja kõrgusega, vaid sisaldasid algseid eraldi paiknenud põllukivihunnikuid, mille juurde peenrad alles hiljem olid moodustunud (joon. 5). Kõik peenrad koosnesid valdavalt kokkuvisatud paeplaatidest (joon. 6). Leiti 7 loomaluude tükki. Sütt esines peenarde alumiste kivide vahel ja all, kuid kõige rohkem oli seda siiski ainult kahes, N- ja O-poolses peenras. $^{14}$C dateeringute alusel rajati põld 8.–5. sajandi paiku e.Kr. ning kasutati 4.–3. sajandini e.Kr. (joon. 9: 8–10). Ülejäänud ala uurimiseks tehti 15 väikest kaevandit: neist 13 olid kahe meetri laiused tranšeed läbi peenarde ning kahes kohas uuriti põllukivihunnikuid (joon. 7–8). Nii põllupeenrad kui ka põllukivihunnikud olid kokku visatud paekividest, mille hulgas leidus ka raudkive. Leide peale üksikute loomaluutükkide ei saadud. Sütt esines kõikides kaevandites. Saadud dateeringute hulgas on kolm teistest selgelt vanemad: need saadi põllu XXVIII peenardest ja kuuluvad 2. a.t. teise poolde e.Kr. (joon. 9: 14–16). Ülejäänud pärinevad 9.–5. sajandist ja üks 5.–2. sajandist e.Kr. Seega võib maaharimise ja põllutegemise kestvust Saha-Lool hinnata vähemalt tuhande aastaga, s.o vanemast pronksiajast kuni eelrooma rauaaja keskpaigani.