

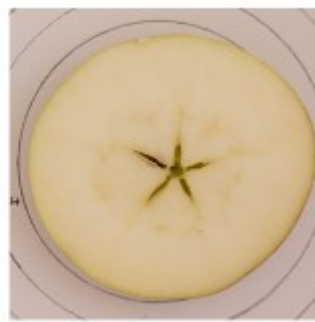
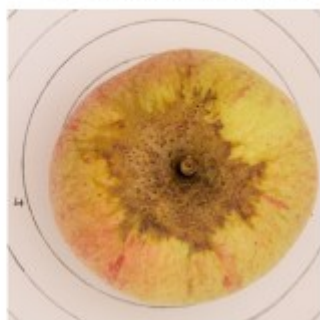
Apples on the Chase: a Chase Through Time legacy project

February 2023



Tree ID: Sample 02 D
Location: SJ 97051 19147

Date Picked : 12/10/21
Date Photographed : 17/10/21



Colin Evans and Mary Cartwright for Chase Through Time Volunteers



Contents

Section	Title	Page no.
	Executive Summary	3
	Acknowledgements	4
1	Project Background	5
2	Aims and Objectives	7
3	Method Statement	7
4	Historical Background	11
5	Results	
	5.1 Number of Trees Found	11
	5.2 DNA Testing	11
	5.3 Fruit Identification	18
	5.4 Fruit ID Database	18
	5.5 Aerial Photographs	19
	5.6 Establishing the Ages of the Trees	21
6	Discussion of Results	21
7	Conclusion	24
8	Suggestions for Further Work	24
	References	24

Appendices

No.	Title	Page no.
1	Project Brief	25
2	Project Risk Assessment	35
3	Fruit Tree Recording Form	39
4	Records for Fruit Trees Found on Brocton Camp	40
5	Records for Fruit Trees Found on Rugeley Camp	42
6	Records for Fruit Trees Found at Shoal Hill	44
7	Records of Apple Trees Found at Gentleshaw Common	45
8	DNA Results from Fruit ID	46
9	Reports for Apples sent to Brogdale for Identification	47

Executive Summary

The Apples on the Chase: a Chase Through Time Legacy Project was carried out between June 2021 and September 2022 to accurately identify the locations of apple trees on the Chase and their locations relative to the Great War archaeology, to try to identify the ages of the trees and identify any possible known apple varieties that were present. The project was funded by Cannock Chase AONB Sustainable Development Fund.

Apple tree locations in Cannock Chase Country Park and AONB were logged using hand held global positioning system (GPS) devices and the locations of the trees recorded. A total of 86 apple trees were found on the Great War Camps. Three control areas outside of the camps were also surveyed and 14 apple trees were found in these areas.

Leaf samples from two apple trees that were thought to be older than many others were submitted to Fruit ID for DNA analysis to identify whether they were a known variety. The results did not match with any known variety.

Apples from four of the trees with larger apples were submitted to the Brogdale National Fruit Collection for identification, but again no known varieties were identified. Photographs were taken of many of the apples from the trees and these were compared to known varieties on the Fruit ID website, but no matches were found.

The locations of the trees in relation to the archaeology of the Great War camps was investigated by carrying out ground surveys and plotting the apple tree locations on aerial photographs using QGIS digital mapping software. The trees were found to be growing underneath and between hut bases and in ditches and so no specific correlation with the layout of the camps was found except that most of the trees grew from the disturbed ground between the hut bases. It was also clear from close examination of aerial photographs that many trees postdate World War 2 (WW2), indeed many are not visible on the 1968 aerial photographs.

Attempts were also made to establish the ages of the trees by taking core samples from the trunks of the trees, but these were unsuccessful as it was very difficult to read the growth rings on the cores.

While the project has established the number and position of the trees growing on the Great War camp sites, establishing why they are there has been problematic. It seems most likely that they are wild trees growing from seeds dropped by animal or human activity by chance rather than design. Many trees appear to postdate WW2 and may coincide with the creation of the Area of Outstanding Natural Beauty and Staffordshire County Council Country Park and the associated increase in human activity on Cannock Chase

Some recommendations for further work are presented.

Acknowledgements

Thanks are offered to the Cannock Chase AONB Sustainable Development Fund for funding the project, Shane Kelleher, County Archaeologist for Staffordshire County Council (SCC) for his support and advice throughout the project, Suzy Blake of SCC for kindly providing the digital plans of the Great War Camps, Steve Archer of the Staffordshire County Council Ranger Service for his support with the tree coring and Friends of Cannock Chase for their support.

Thanks are also offered to the hard working volunteers who completed the project: Simon Bristow, Mary Cartwright, Brian Cooper, Carol Davies, Ned Edwards, Colin Evans, Nigel Maus, Gavin Manion, and Trevor Warburton.

1. Project background

Apples on the Chase is a legacy project arising out of the Heritage Lottery Fund funded Chase Through Time. The project was established to investigate the apple trees on Cannock Chase and was funded by Cannock Chase AONB Sustainable Development Fund. The project brief is given in Appendix 1.

The project focused on the areas of Brocton and Rugeley Great War camps within the Cannock Chase Country Park. The Forestry Commission areas were not included in the project design and so were not considered. The locations of the areas surveyed are shown in Figure 1.



Figure 1: locations of areas surveyed in the wider landscape

Brocton Camp was located mainly on either side of Chase Road, with outlying areas at Anson's Bank and Sycamore Hill, both just to the north of Camp Road. The areas surveyed around Brocton Camp are shown in Figure 2.

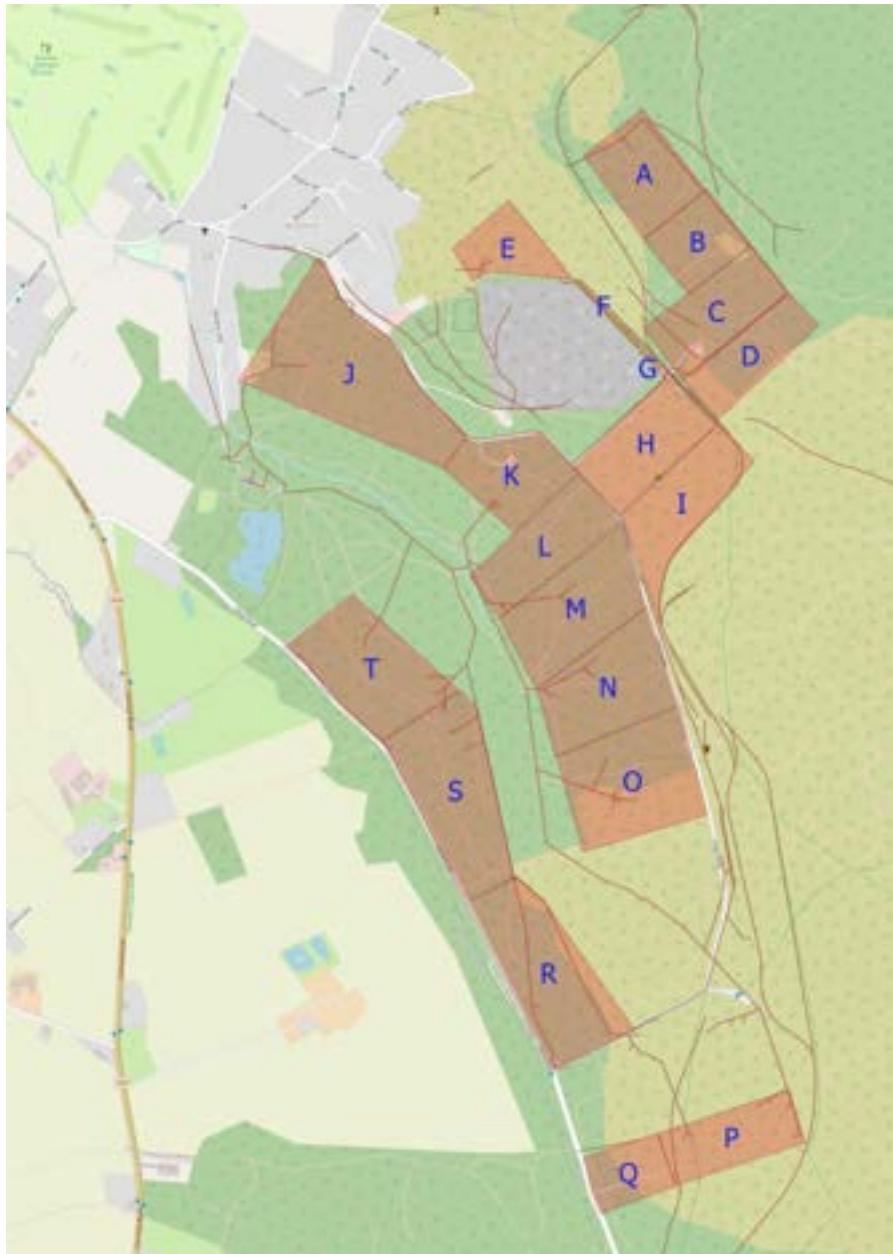


Figure 2: Brocton Camp showing areas surveyed and battalion lines

Rugeley Camp was located approximately 1 km to the south east on either side of Penkridge Bank Road. The site at Rugeley is more compact, it is set on level terrain in contrast to Brocton Camp where the site is spread out to take account of the undulating terrain. The areas surveyed around Rugeley Camp are shown in Figure 3.

The apple trees on the former camp sites are interspersed between the self-seeded hawthorn, birch and willow that have recolonised the former Great War camps. This is clear in Spring and Autumn from the displays of blossom and fruit, particularly at Rugeley Camp. In 2016 Staffordshire County Council (SCC) commissioned a survey of part of Rugeley camp close to the Whitehouse at Penkridge Bank. The resulting report identified that 13 apple trees were growing there. Apple trees would not normally be expected in such numbers on lowland heathland.



Figure 3: Rugeley Camp showing areas surveyed and battalion lines

2. Aim and Objectives

The principal aim of the project was to provide a better understanding of why the apple trees are growing on the former Great War Camps. This aim will contribute towards the following objectives:

- To accurately record the location of the apple trees growing on the Great War camps.
- To try to establish the age of the trees.
- To relate the position of the trees to the camp archaeology.
- To try to establish the diversity of the apple varieties growing on the camps.
- To identify any unusual varieties or local cultivars and establish their culinary use.

3. Method Statement

A risk assessment complying with the Health and Safety at Work Act (1974) was undertaken before commencement of the work and health and safety regulations were adhered to at all times. The risk assessment is given in Appendix 2.

Leaf samples from two trees identified in the SCC report as possibly predating the Great War were submitted for DNA testing.

Apple Tree locations in Cannock Chase Country Park and AONB were recorded using hand held global positioning system (GPS) devices. Forestry England land was not surveyed. GPS accuracy ranged from 2m to 9m.

Fieldwork began on 6 June 2021 and was completed in September 2022.

The trees were recorded by battalion line using the camp plans and the LIDAR (Figure 4) produced by the Chase through Time Project. Rugeley Lines are numbered 1-20, Brocton Lines alphabetically A-T. The areas surveyed are shown above in figs. 1 & 2, only five lines at Rugeley camp fell within the remit of the project, the remainder being within Forestry England land.



Figure 4: LIDAR image from Chase Through Time Project of 2 Lines, Rugeley Camp overlaid on map

Each tree was given a reference number, photographed and where possible foliage and fruit samples were photographed and collected. Information was recorded in the field

using a proforma record sheet. The record form used is given in Appendix 3. This fieldwork was completed between 1 September and 25 October 2021. The records for Brocton Camp are given in Appendix 4 and those for Rugeley Camp in Appendix 5

Three control areas were also surveyed, these were at Shoal Hill (Figure 5), at F, G and H rifle ranges (Figure 6) and Gentleshaw Common (Figure 7). These areas were chosen as in common with the Great War main camp areas they are criss-crossed with footpaths and are popular with walkers. The survey at Gentleshaw Common was carried out during the breeding season for ground nesting birds and was therefore carried out from paths. The visibility from the paths varied between approximately 20 and 200 metres, depending on tree cover. The records for the apple trees found at Shoal Hill are given in Appendix 6 and those for Gentleshaw Common in Appendix 7.



Figure 5: Shoal Hill showing area surveyed



Figure 6: Rifle Ranges F, G and H showing areas surveyed



Figure 7: Gentleshaw Common showing route walked during survey

4. Historical Background

- Cannock Chase was used for military training in the 19th and early 20th centuries, notably the Autumn Manoeuvres of 1871.
- Plans to create a northern Aldershot on the Chase were drawn up in 1890s then shelved.
- These plans were used to build Brocton and Rugeley Camps in 1914/15 creating the largest military training camp in UK, up to forty thousand troops were stationed at the camps at any one time, each for a period of three months training.
- After the war the camp buildings were sold by auction, much of Brocton camp was cleared for the restoration of Lord Lichfield's grouse moor. By contrast the remains of Rugeley Camp are more intact as much of the camp was transferred to the Forestry Commission in the early 1920s.
- In WW2 Rugeley 12 Lines and part of 16 Lines became part of RAF Hednesford. At the end of the war the RAF buildings in these and other areas were occupied by squatters until the mid 1950s.
- Part of Brocton Camp was used for tank testing during WW2 and evidence of this can be clearly seen on aerial photographs of the period (Figure 14).

5. Results

5.1 Number of trees found

A total of 86 apple trees were found on the Great War Camps: 58 were found at Brocton Camp and 28 at Rugeley Camp.

Four apple trees were found in the control survey at Shoal Hill, but none were found on rifle ranges F, G and H. Ten apple trees were found at Gentleshaw Common.

The locations of the apple trees found on Brocton and Rugeley Camps are shown with the battalion lines in Figures 8 and 9. The locations of the apple trees found at Shoal Hill are shown in Figure 10 and those at Gentleshaw Common in Figure 11.

The locations of the apple trees found at the two Great War Camps are shown overlaid on plans of the camps in Figures 12 and 13.

5.2 DNA Testing

Leaf samples were submitted to FruitID for DNA testing from two trees (R/L12/4 and R/L12/7), both having been identified as likely to be one hundred years old in the 2016 SCC Whitehouse report. The result from FruitID was 'No match found', meaning that the samples did not match any known apple variety. The DNA report is given in Appendix 8. The following clarification of the results was received by email from Peter Laws, Administrator, FruitID, 3 May 2022:

‘As every pip in every apple is a new individual (exactly like children), there is often a scattering of seeding apple trees in public open spaces, hedgerows, picnic areas, railway embankments, roadsides and these are readily visible at blossom time. Amenity and landscape planting from apples from pips arising from the juicing industry are similar too, but deliberately planted seedlings ...

Looking for parentage is difficult in DNA results - the parents might include crab apples or other seedling varieties not in the national collections. I had a look for both of your samples using our DNA Explorer tool but unfortunately no parentage pairings jumped out.’

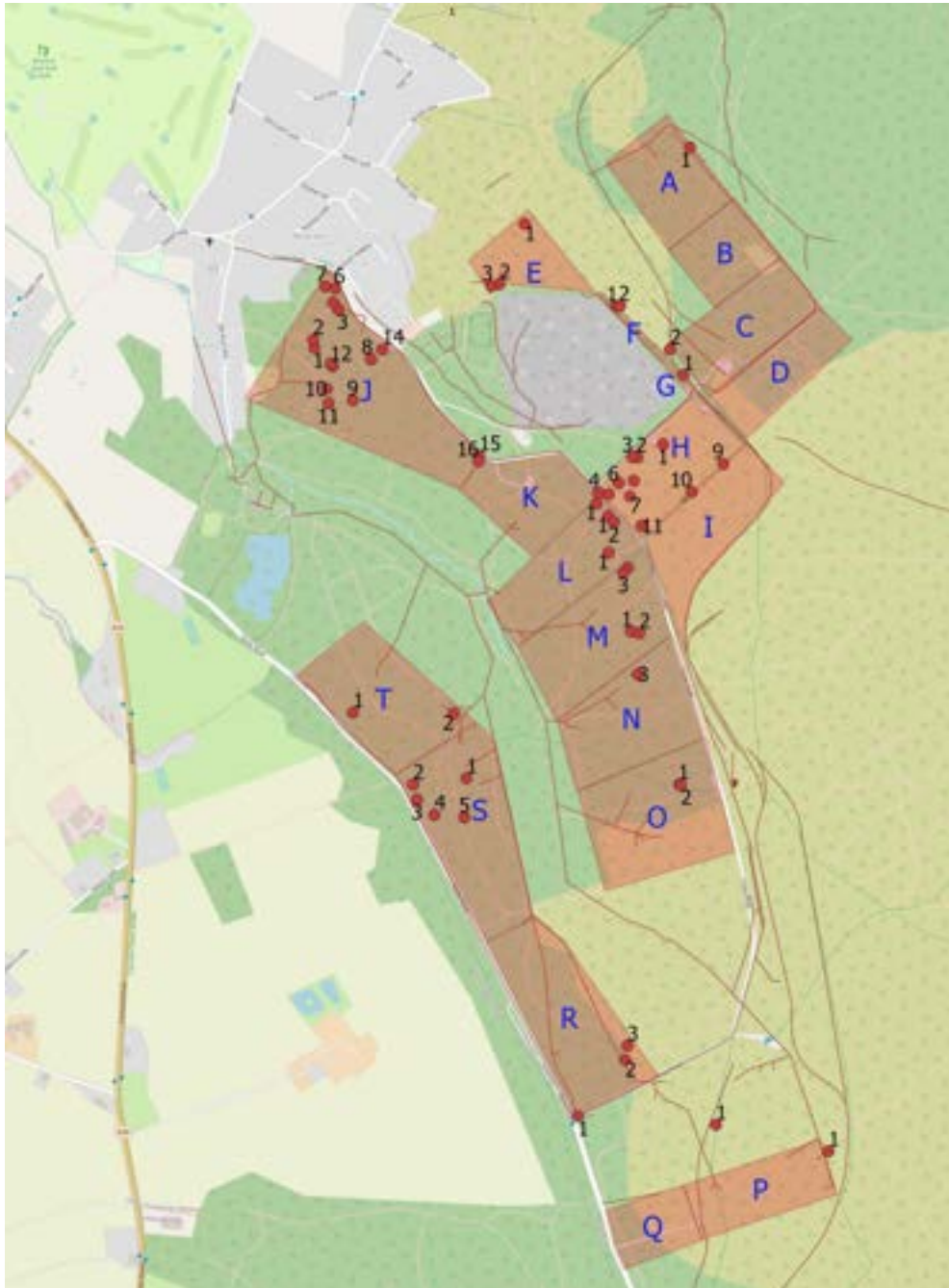


Figure 8: Brocton Camp showing apple trees by battalion line



Figure 9: Rugeley Camp showing apple trees and by battalion lines

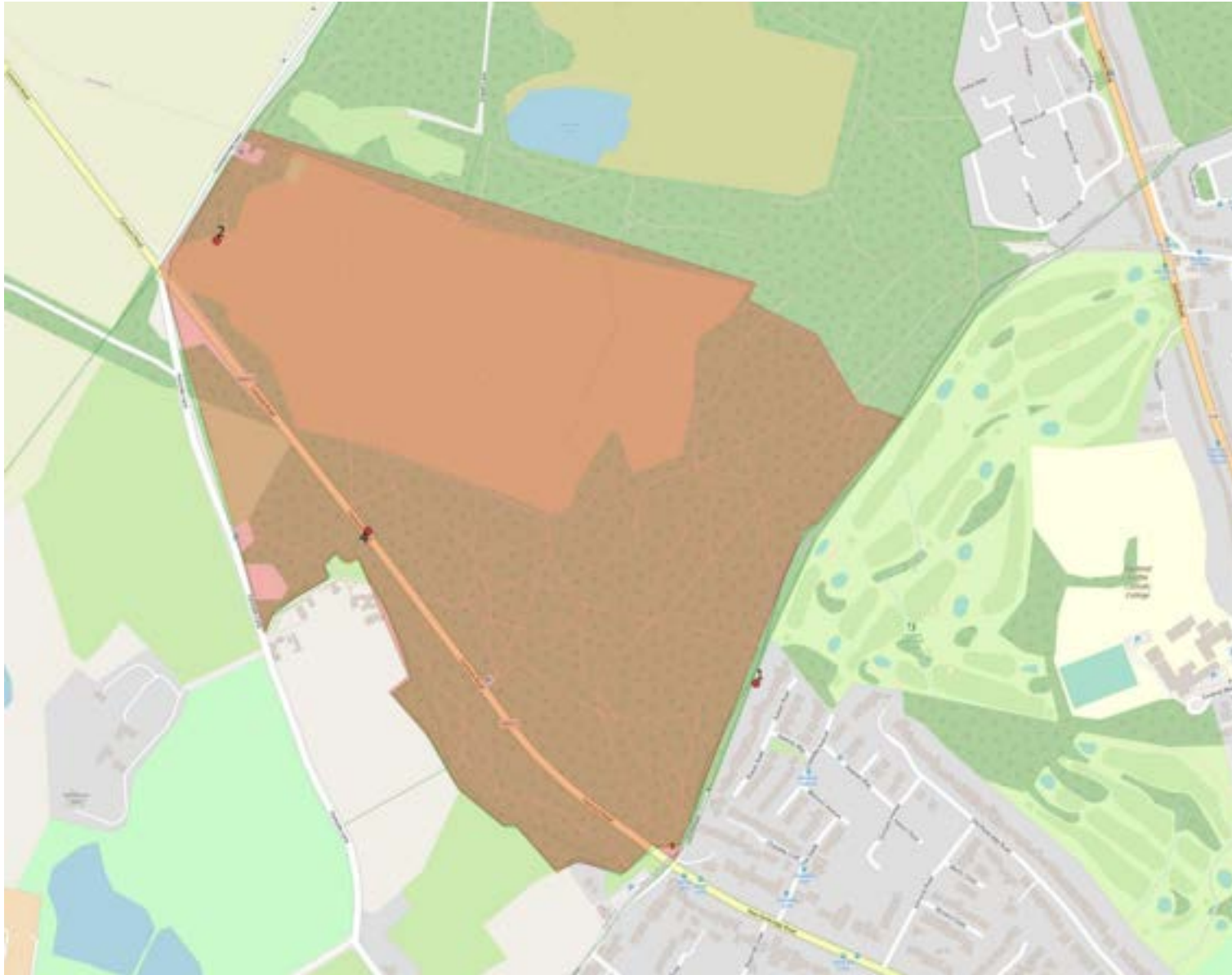


Figure 10: Area Surveyed at Shoal Hill showing apple trees



Figure 11: Area Surveyed at Gentleshaw Common showing apple trees and route walked



Figure 12: Brocton Camp showing apple trees overlaid on camp plans



Figure 13: Rugeley Camp showing apple trees overlaid on camp plans

5.3 Fruit Identification

Fruit and foliage from trees L12/3 and L2/2 from Rugeley Camp and J/12 and J/13 from Brocton Camp were submitted to the Brogdale National Fruit Collection for identification. Again the result was 'not an established named variety'. The reports are given as Appendix 9. The submission form noted that the trees were sited on open heathland, the findings were as follows:

'... (The setting does) not suggest these are planted in ordered rows in an orchard setting, where one would expect to find established varieties.'

L12/3: very sharp and also astringent, suggesting that this is a chance seedling and not an established variety

L2/2: firm and sharp, good size in largest one. Keeping well, but fairly sharp, it could be worth keeping an eye on this.

J/12: This seems to be a seedling not an established named variety. The taste is very sharp and astringent as far as I can judge'

J/13: This may be another chance seedling rather than an established named variety, although fruit reasonable size, sharp not unpleasant'

If apple blossom is pollinated with pollen from another apple variety any trees grown from the seeds of the fruit will be a new 'hybrid' variety. These may be improvements or inferior to the original variety. This may be why it has not been possible to identify specific apple varieties from the trees found. Many of the apples from the trees found on the Chase were very small and this may also be an indication that they are trees that have grown from seeds.

5.4 FruitID database

The apples collected and photographed were compared to those on the FruitID website using the database questionnaire. No definite matches were identified, for each one the result was 'no match'. Record forms were prepared for each tree from which apples were collected and an example is given in Figure 14.



Figure 14: Example of apple and foliage record sheet

It is important to note that finding ripe fruit for the identification process was often difficult as Cannock Chase deer often tend to strip trees of apples before they are fully ripe. There was evidence of deer activity under most of the trees, usually trampled ground, deer slots and droppings, in some cases deer were seen eating the fruit.

5.5 Aerial photographs

Digital copies of the 1946 and 1968 series aerial photographs from Brocton and Rugeley were obtained from Stafford Record Office. Careful examination of the 1946 Rugeley Camp Line 12 photograph show no sign of the apple trees recorded in the 2021 survey, demonstrating they all postdate WW2. Figure 15 shows the 1946 aerial photograph overlaid on the map together with the apple trees. This includes the two trees previously thought could predate the Great War. Brocton Camp was used for tank training in WW2 as shown in Figure 16.



Figure 15: Rugeley Camp 12 Lines with 1946 aerial photograph and apple trees overlaid on map

The same applies to Brocton S and T lines where the 1946 aerial photographs clearly show the extensive ground disturbance and damage of the landscape by tank training but no sign of the seven trees recorded there in 2021. From the aerial photographs of the rest of the Great War sites on Cannock Chase the evidence is not always so clear.



Figure 16: 1946 Aerial photograph showing tank tracks overlaid on map with Apple trees

5.6 Establishing the age of the trees

In December 2021 and February 2022 tree boring was carried out on sample trees at Rugeley Camp to try to establish their age. The cores obtained did not show any visible age rings even after drying, sanding and polishing. Another attempt was made in August 2022 as it was thought that the sap may be more stable and produce a drier core. Although more rings were visible after drying and polishing, there was not enough clarity to establish the age of any of the trees.

A close analysis of tree positions on Rugeley Camp Line 2, 3 and 14 shows an almost random scattering of trees in relation to the archaeology. This showed that more than half of the trees recorded were growing from Camp drainage ditches or from within or on hut perimeters. The remainder were growing in the spaces between the huts.

6. Discussion of results

While tree positions on the survey areas at both camps were accurately located and recorded, establishing the age of the trees has proved more difficult. Further research on Line 12 established its use by the RAF in WW2, then for ten years by squatters families (Hutment Communities, Mick Drury). While it is clear that the trees on Line 12 do not predate 1946, (the date of the aerial photograph, see Figure 15) it may be that some of the trees date to the later 1940s or 1950s and this period of occupation. Regrettably in most other cases apart from S and T Lines at Brocton, the digital photographs are not quite clear enough to establish definitively whether the trees are there. Examination of the originals when Stafford Record Office reopens in 2024 may be worthwhile.

Looking at overall apple distribution on both Brocton and Rugeley camps, the trees seem to follow the lines of the footpaths which in many cases follow those laid down in the Great War and by tank testing in WW2 (Figures 16, 17 and 18). The difference between the camps and the control area at Shoal Hill, where there are very few trees, could be the previous human habitation of the camps. The resulting soil disturbance and enrichment may have created more favourable conditions for germination when apple cores were dropped. However significantly more apple trees were found at Gentleshaw Common, an area not believed to have been used for military activity in either World Wars. This may indicate that some of the apple trees found on Cannock Chase are likely to have grown from discarded apple cores.

To date dendrochronology has been unsuccessful in establishing tree ages of the trees. Cores extracted in August were marginally clearer than those extracted earlier in the year, but not sufficiently to provide accurate ages for the trees. Measuring the circumference of the tree trunks was tried but results were unreliable as trees growing in a heathland setting competing with birch and low growing scrub are likely to be smaller than trees grown in an orchard or garden setting.

Establishing the diversity of apple varieties growing on the camps created a learning curve for the project. DNA results from Brogdale and FruitID identification results showed that as the Chase apples trees were growing in a heathland setting the assumption is that they are wild trees growing from seed (seedlings or wildings) rather than cultivated trees. As apples do not 'breed true from seed', the fruit and foliage can give little clue to the parentage. A few trees growing at Brocton and Rugeley Camps (approximately eight) have larger fruit and some of these were picked and cooked in Autumn 2022 to carry out cooking and storage trials. If the apples are good for culinary

uses or as eating apples the parent tree could be considered to create a new cultivar, see comments from Brogdale above.

One problem which may affect the research into culinary uses of apples on the Chase is as mentioned above, not being able to access ripe fruit as the deer strip the trees before the apples are ready. According to *The New Book of Apples* (p10), 'in both animals and humans ... their gastric juices help break down the dormancy of the seeds which encourages germination'. So the deer eat the apples, excrete the seed and may at least in part be responsible for the spread of the trees across the area.

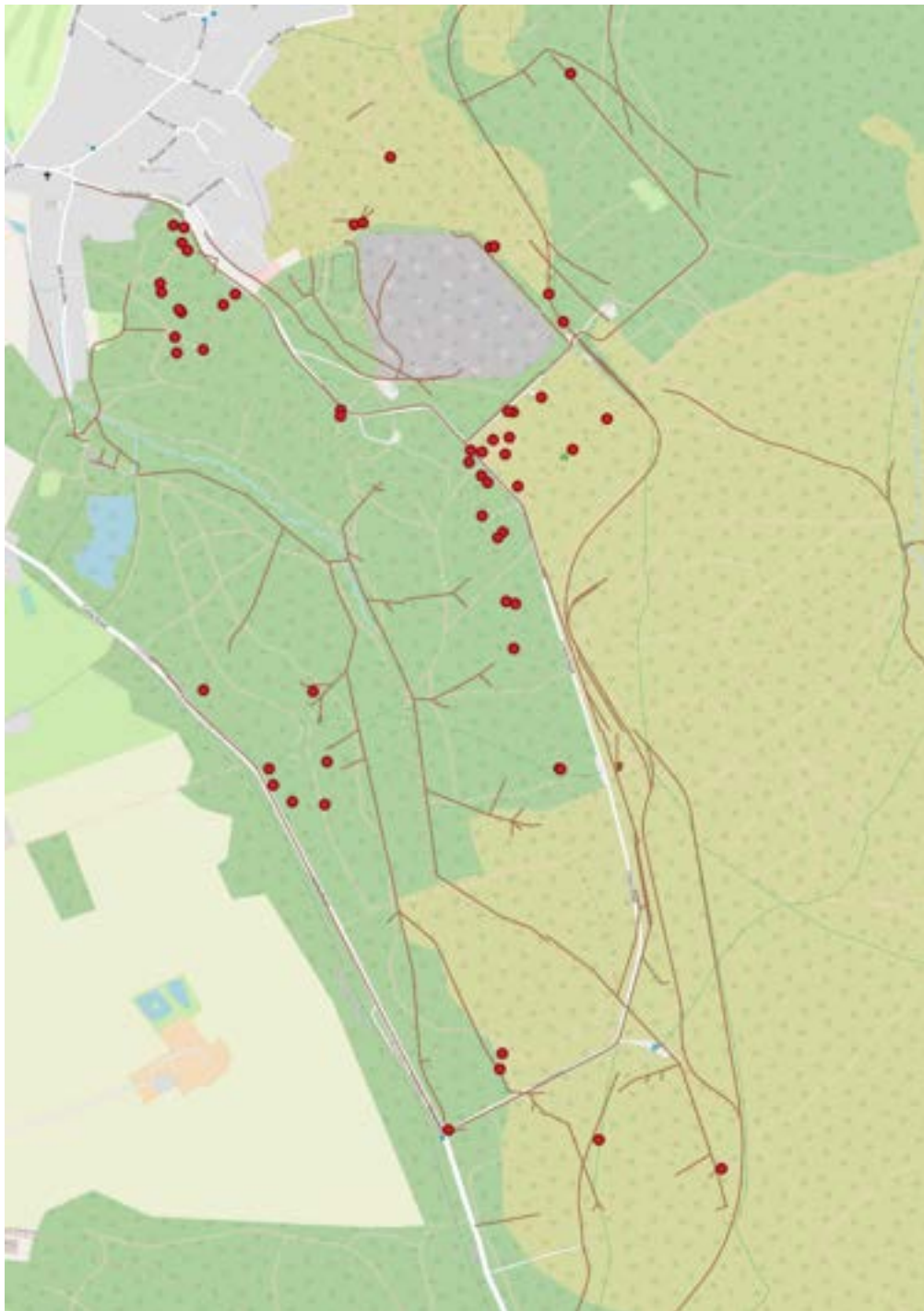


Figure 17: Brocton Camp showing only apple trees



Figure 18: Rugeley Camp showing only apple trees

7. Conclusion

Establishing the reasons why so many apple trees are growing on the sites of the WW1 Camps is problematic. It seems likely that a combination of human and animal activity is responsible as discussed above.

The suggestion that the trees may have been planted during the Great War appears to have been disproved for Rugeley Camp as the trees were found to be under and between huts and in drainage ditches. Also few if any of the trees seem to be present on the 1946 aerial photographs. This is also true for S and T lines at Brocton Camp. The proximity of many of the trees close to existing footpaths, including those not shown in the mapping, may also indicate post war origins from public use of the area particularly following the creation of the AONB and SCC Country Park.

8. Suggestions for Further Work

The following are options that may be considered for further work:

- Look at original aerial photographs using a magnifier when Staffordshire Record Office re-opens
- Test cooking, eating and storing the apples submitted to Brogdale
- Consider registering one of trees sent for DNA analysis if suitable for cooking/eating.
- Consider planting a 'Cannock Chase variety' apple tree in the grounds of the Great War Hut.

References

Aerial photographs 1946 and 1968 series, Stafford Record Office

AppleID website, www.fruitid.com

An Archaeological Walkover Survey at The Whitehouse, Penkridge Bank, Staffordshire, Antony Brown MclfA, ARS Services Ltd, 2015/16

Brogdale website, <https://brogdalecollections.org>

Chase Through Time LIDAR mapping at <https://historicengland.org.uk/research/current/discover-and-understand/landscapes/cannock-chase/>

The Hutment Communities, Mick Drury, Cannock Chase Mining Historical Society

The New Book of Apples, Morgan and Richards, Random House (2002)

Staffs Past Tracks website www.staffspasttracks.ac.uk

A Town for Four Winters, CJ and GP Whitehouse, privately published, 1987

Appendix 3

FRUIT TREE RECORDING FORM

Date of Survey :

Names of Surveyors:

Camp Surveyed:

Line Surveyed:

OS Coordinates at Start of Survey:

Direction of travel on first traverse: t

Tree Ref	Type of Fruit	Location				Approx. Height (M)	Tree on Photo (Y/N)	Fruit		Leaf Photo (Y/N)	No. of Apples Collected
		Sheet	E	N	Acc (M)			Dir	tree Photo		

Notes

Appendix 4

Apple Tree Records for Brocton Camp

Line	Tree No	Sheet	E	N	Accu- racy (M)	Approx Height (M)	Tree Photo	Direc- tion	No. of Apples	Survey Date	Comments
A	1	SJ	97894	19653	4	6	Y	SEE	0	12/10/2021	Small green apples
E	1	SJ	97506	19474	5	10	Y	E	0	12/10/2021	Small green apples
E	2	SJ	97447	19333	5	6	Y	SW	0	12/10/2021	Small green apples
E	3	SJ	97428	19329	5	10	Y	W	0	12/10/2021	Small green apples
F	1	SJ	97721	19281	3	8	Y	NE	0	12/10/2021	
F	2	SJ	97730	19282	4	8	Y	NW	0	12/10/2021	
G	1	SJ	97878	19120	3	5	Y	E	0	12/10/2021	Small red/green ap- ples
G	2	SJ	97847	19180	3	5	Y	E	0	12/10/2021	Small green apples
H	1	SJ	97831	18958	6	9	Y	E	0	13/10/2021	Apple Wilding
H	2	SJ	97770	18927	8	7	Y	E	0	13/10/2021	Apple
H	3	SJ	97759	18928	8	8	Y	E	0	13/10/2021	Apple Wilding
H	4	SJ	97679	18844	6	6	Y	NE	0	13/10/2021	Apple no fruit
H	5	SJ	97703	18841	8	8	Y	NE	0	13/10/2021	Apple Wilding
H	6	SJ	97727	18867	8	7	Y	NW	0	13/10/2021	Pear
H	7	SJ	97753	18836	6	7	Y	SE	0	13/10/2021	Apple Wilding
H	8	SJ	97762	18872	8	9	Y	N	0	13/10/2021	Apple Wilding
H	9	SJ	97972	18912	6	7	Y	N	0	13/10/2021	Apple
H	10	SJ	97898	18846	6	8	Y	NE	0	13/10/2021	Apple
H	11	SJ	97780	18767	5	6	Y	NW	0	13/10/2021	Apple
J	1	SJ	97013	19184	4.5	8	Y	SE	0	12/10/2021	Apple Wilding
J	2	SJ	97010	19203	2.2	10	Y	N	0	12/10/2021	Apple Wilding
J	3	SJ	97069	19274	2.3	12	Y	E	0	12/10/2021	Apple Wilding
J	4	SJ	97069	19274	1.3	12	Y	E	0	12/10/2021	Apple Wilding
J	5	SJ	97057	19290	1.6	2.5	Y	NE	0	12/10/2021	Apple
J	6	SJ	97062	19323	2.3	8	Y	E	0	12/10/2021	Apple Wilding
J	7	SJ	97039	19328	2	8	Y	SE	0	12/10/2021	Apple Wilding
J	8	SJ	97146	19157	2.3	10	Y	S	0	12/10/2021	Apple Wilding
J	9	SJ	97103	19061	3	6	Y	E	0	12/10/2021	Apple

Line	Tree No	Sheet	E	N	Accu- racy (M)	Approx Height (M)	Tree Photo	Direc- tion	No. of Apples	Survey Date	Comments
J	10	SJ	97042	19088	3	6	Y	SW	0	12/10/2021	Apple Wilding
J	11	SJ	97046	19054	2.5	7	Y	NE	0	12/10/2021	Apple
J	12	SJ	97056	19141	2.4	7	Y	S	5	12/10/2021	7cm
J	13	SJ	97051	19147	2	5	Y	E	5	12/10/2021	7cm
J	14	SJ	97172	19180	2.7	12	Y	NE	0	12/10/2021	Apple Wilding
J	15	SJ	97399	18931	2.3	5	Y	SE	0	12/10/2021	Apple Wilding
J	16	SJ	97398	18918	3	12	Y	SE	0	12/10/2021	Apple Wilding
K	1	SJ	97675	18819	3.4	8	Y?	SE	0	13/10/2021	Apple Wilding
L	1	SJ	97702	18790	3.3	7	Y	E	0	13/10/2021	Apple Wilding
L	2	SJ	97715	18775	4.2	8	Y	E	0	13/10/2021	Apple Wilding
M	1	SJ	97703	18704	2.8	11	Y	SE	0	13/10/2021	Apple Wilding
M	2	SJ	97748	18669	3.3	10	Y	NNE	0	13/10/2021	Apple Wilding
M	3	SJ	97737	18657	2.5	10	Y	SSE	0	13/10/2021	Apple Wilding
N	1	SJ	97755	18520	8	12	Y	SE	0	13/10/2021	Apple Wilding
N	2	SJ	97775	18515	2.8	6	Y	SE	0	13/10/2021	Apple Wilding
N	3	SJ	97771	18419	3.1	7	Y	NNE	0	13/10/2021	Apple Wilding
O	1	SJ	97869	18161	2.3	10	y	SSE	0	13/10/2021	Apple Wilding
O	2	SJ	97872	18160	3.1	11	Y	SSE	0	13/10/2021	Apple Wilding
P	1	SJ	98218	17302	2.6	12	Y	E	0	21/10/2021	Apple Wilding
Q	1	SJ	97954	17364	2.7	12	Y	NW	0	21/10/2021	Apple Wilding
R	1	SJ	97630	17385	1.8	12	Y	S	0	21/10/2021	Apple
R	2	SJ	97741	17516	2	6	Y	SE	0	21/10/2021	Apple Wilding
R	3	SJ	97746	17549	1.3	6	Y	N	0	21/10/2021	Apple Wilding
S	1	SJ	97369	18176	6	7	Y	NW	0	21/10/2021	Pear ? No fruit left
S	2	SJ	97244	18161	8	6	Y	NW	0	21/10/2021	Apple? No fruit left
S	3	SJ	97253	18126	7	6	Y	N	0	21/10/2021	Apple
S	4	SJ	97294	18090	8	10	Y	NE	0	21/10/2021	Multi trunk tree seems very old
S	5	SJ	97364	18084	6	8	Y	N	0	21/10/2021	Multi trunk tree seems old, no ap- ples
T	1	SJ	97103	18330	6.5	8	Y	NE	0	21/10/2021	Probable apple no fruit
T	2	SJ	97339	18327	7.5	10	Y	E	0	21/10/2021	Small green apples

Appendix 5

Apple Tree Records for Rugeley Camp

Line	Tree No	Sheet	E	N	Accu- racy (M)	Approx Height (M)	Tree Photo	Direc- tion	No. of Apples	Survey Date	Comments
2	1	SK	00064	17134	6	7	Y	NE	4	22/09/2021	7 cm
2	2	SK	00071	17104	6	5	Y	NE	5	22/09/2021	6 cm
2	3	SK	00094	17061	6	6	Y	N	5	22/09/2021	4cm
2	4	SK	00104	16902	8	10	Y	S	5	22/09/2021	5cm
2	5	SK	00161	17080	6	5	Y	N	4	22/09/2021	5cm
2	6	SK	00138	17128	6	5	Y	E	5	22/09/2021	5cm
2	7	SK	00154	17135	6	6	Y	E	5	22/09/2021	6cm
2	8	SK	00159	17137	5	5	Y	E	5	22/09/2021	
2	9	SK	00163	17130	5	6	Y	E	0	22/09/2021	5cm
2	10	SK	00169	17143	3.2	5	Y	N	4	22/09/2021	6cm
2	11	SK	00186	17132	2.4	7	Y	E	4	22/09/2021	5cm
2	12	SK	00197	17085	1.6	3	Y	N	0	22/09/2021	
2	13	SK	00160	17081	1.2	4	Y	E	5	22/09/2021	6cm
3	1	SK	00217	17127	2.8	7	Y	NNE	4	22/09/2021	5cm
3	2	SK	00242	17132	2.3	5	Y	NNW	4	22/09/2021	6cm
3	3	SK	00259	17138	2.8	5	Y	N	4	22/09/2021	6cm
3	4	SK	00259	17073	2.1	4	y	NNW	4	22/09/2021	7cm
3	5	SK	00220	17087	2.5	6	Y	N	1	22/09/2021	6cm
3	6	SK	00247	17039	1.7	6	Y	N	0	22/09/2021	
3	7	SK	00358	17016	2.9	6	Y	N	?	22/09/2021	7cm
12	3	SJ	99239	16266	5	6	Y	NE	5	29/09/2021	5cm
12	4	SJ	99293	16273	5	6	Y	NE	5	29/09/2021	5cm
12	5	SJ	99308	16300	5	7	Y	NE	4	29/09/2021	7cm
12	7	SJ	99327	16309	5	7	Y	NE	4	29/09/2021	5cm
12	8 (west tree)	SJ	99390	16275	5	4	Y	N	4	29/09/2021	5cm

Line	Tree No	Sheet	E	N	Accu- racy (M)	Approx Height (M)	Tree Photo	Direc- tion	No. of Apples	Survey Date	Comments
12	9 (east tree)	SJ	99390	16275	5	5	Y	N	1	29/09/2021	6cm
12	10	SJ	99375	16218	5	7	Y	S	1	29/09/2021	6cm
12	1	SJ	99374	16189	5	13	Y	N	0	29/09/2021	
12	2	SJ	99281	16233	5	10	Y	N	0	29/09/2021	
12	6	SJ	99346	16257	5	6	Y	NW	0	29/09/2021	
14	1	SK	00359	17197	1.4	5	Y	E	5	02/09/2021	4cm
14	2	SK	00393	17206	1.8	10	Y	E	5	02/09/2021	5cm
14	3	SK	00400	17208	2.4	10	Y	SE	5	02/09/2021	3cm

Appendix 6

Apple Tree Records for Shoal Hill

Line	Tree No	Sheet	E	N	Accu- racy (M)	Approx Height (M)	Tree Photo	Direc- tion	No. of Apples	Survey Date	Comments
N/A	1	SJ	96999	10986	5	5	Y	W		20/04/2022	
N/A	2	SJ	96202	11640	10	3.5	Y	N		20/04/2022	
N/A	3	SJ	96425	11211	10	4	Y	NE		20/04/2022	
N/A	4	SJ	96425	11211	10	4	y	NE		20/04/2022	

Appendix 7

Locations of Apple Trees on Gentleshaw Common

Line	Tree No	Sheet	E	N	Accu- racy (M)	Approx Height (M)	Tree Photo	Direc- tion	No. of Apples	Survey Date	Comments
N/A	1	SK	05019	11869	3	6	N			17/08/2022	
N/A	2	SK	05024	11811	3	5	N			17/08/2022	
N/A	3	SK	05025	11769	3	4	N			17/08/2022	
N/A	4	SK	05016	11755	3	3	N			17/08/2022	
N/A	5	SK	04924	11061	3	3	N			17/08/2022	
N/A	6	SK	05248	10712	3	5	N			17/08/2022	
N/A	7	SK	05253	10716	3	6	N			17/08/2022	
N/A	8	SK	05219	10768	3	3	N			17/08/2022	
N/A	9	SK	05201	10815	3	4	N			17/08/2022	
N/A	10	SK	05064	11242	3	3	N			17/08/2022	

Appendix 8

DNA Report from Fruit ID

APPLE samples – fruitID 2021 DNA Scheme - Results

This sheet shows your sample results. Feedback is welcome and should be sent to peter_laws@msn.com The results for the whole scheme are on the DNA Help page of www.fruitID.com

Year	Sample Number	Org. Acronym	Org. Seq. No.	Site /Orchard Name	Cultivar known as (leave blank if unknown)	Result	Preliminary Finding	Suggested follow-up action
2021	A4916	CNCH	1	Cannock Chase SJ99292 16269 R/L12/4		No match found		As no other match, consider accreditation of this fingerprint through Register of Local Cultivars scheme.
2021	A4917	CNCH	2	Cannock Chase SJ99326 16313 R/L12/7		No match found		As no other match, consider accreditation of this fingerprint through Register of Local Cultivars scheme.

Explorer P2P Apple v7.33 UK and Europe	106	112	0	0	88	115	0	0	117	125	0	0	117	122	0	0	178	191	0	0	136	160	0	0	147	148	0	0	131	152	0	0	173	0	0	0	228	230	0	0	215	233	0	0	250	256	0	0
A4916	106	112	0	0	88	115	0	0	117	125	0	0	117	122	0	0	178	191	0	0	136	160	0	0	147	148	0	0	131	152	0	0	173	0	0	0	228	230	0	0	215	233	0	0	250	256	0	0
A4917	112	114	0	0	88	96	0	0	115	129	0	0	110	116	0	0	178	204	0	0	136	170	0	0	147	150	0	0	139	152	0	0	173	216	0	0	254	0	0	0	213	225	0	0	232	244	0	0

Appendix 9

Apple identification Reports from Brogdale

Apple A is Rugeley L12/3 and Apple B is Rugeley L2/2

17 January 2024
Fruit ID Number: 053

Dear Mr Evans

Your fruit has been examined and identified as:

A: very sharp and also astringent, suggesting that this is a chance seedling and not an established variety

B: firm and sharp, good size in largest one. Keeping well, but fairly sharp, it could be worth keeping an eye on this.

It is up to you whether you pursue these apples. A is very sharp, too small to be a useful cooker and whether it has any potential as a cider apple is unknown. B has some size and sharpness as a cooker, but really it's all up to you.

As a very valuable source of knowledge and information we recommend "The New Book of Apples" & "The Book of Pears" by J. Morgan and A. Richards 2002. It is also the basis for the information above.

Thank you for using our service and supporting our charity. All proceeds go towards keeping the National Fruit Collection open for public access and resources.

Kind regards

The Brogdale Team

T: 01795 536 250

E: office@brogdalecollections.co.uk

W: brogdalecollections.co.uk

A: Brogdale Collections, Brogdale Farm, Brogdale Road, Faversham, Kent, ME13 8XZ

Appendix 9 Continued

Apple identification Reports from Brogdale

Apple 82 C is Brocton J/12 and Apple 82 D is Brocton J/13

13th December 2021
Fruit ID Number: 082

Dear Mr Evans

Your fruit has been examined and identified by Dr Joan Morgan and her findings are as follows:

“I do not quite understand the notes, which suggest that these are chance seedlings that have sprung up randomly from discarded apple cores, pips etc. The notes do not suggest these are planted in ordered rows in an orchard setting, where one would expect to find established varieties.”

82 C: this seems to be a seedling not an established named variety. The taste is very sharp and astringent as far as I can judge.

82D : this may be another chance seedling rather than an established named variety, although fruit reasonable size , sharp and not unpleasant.

As a very valuable source of knowledge and information we recommend “The New Book of Apples” & “The Book of Pears” by J. Morgan and A. Richards 2002. It is also the basis for the information above.

Thank you for using our service and supporting our charity. All proceeds go towards keeping the National Fruit Collection open for public access and resources.

Kind regards

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