

USE OF CADASTRAL PLAN IN DIGITAL FORM AND THE DATABASES INFORMATIONS SYSTEM FOR THE NATIONAL VINEYARD LANDSURVEY

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Abstract

Getting vineyard cadastre database in the unitary system of technical, economical and legal will be done according to Law vine and wine No.67/1997, by identifying, recording, delineation and mapping of all land and cadastral plans of the national vineyard property and other real estate related, irrespective of their destination and owners.

Making a modern cartographic database compatible with those from the European Union, involves continuous improvement of methods of measurement. Based on new technologies to ensure performance of terrestrial measurements it will be determined surface and size configuration by destinations, categories of use and owners.

To achieve the technical and specialized vineyard landsurvey it was made the collection, processing and management of primary database from a vineyard with a total area of 111.06 hectares.

The case study was done for a unit of 111.06 hectares vineyard, located in the North-West of terrain City, framed by 2 trapezes lifting map scale 1: 5000, lifting the 4 trapezes scale 1: 2000 and 10 trapezes lifting scale 1: 1000.

The vineyard unit of the year 2004, when it was made its first cadastral register, consisting of 270 parcels was distributed to 51 owners of 97 parcels of vines which occupy 75.59% of total area.

Because fragmentation tendency the vineyard unit currently has 387 parcels, instead 270, this means a growth of 43.33%.

To have a clear picture of the situation on the ground level of a parcel, cadastral file must include basic and specialized data on vineyard land, the owner and cadastral records of real estate.

Key words: agricultural land, flat land, cadastral parcels

In the first step of the research it has been accomplished the collection, processing and management of the technical data base for a viticulture area in the North-West of the outside of the City of Iasi (Huțanu, C., 2010).

In this paper we elaborated a technical evidence and specialty system of viticulture cadastre, which can be organized also for a natural unit of the viticulture heritage.

MATERIAL AND METHOD

By overlapping a cartographic scale of the lifting in plan trapezium on the scales presented in *Table 1* with the viticulture unit outline, the territory fits in the next trapeziums (*table 1*).

According to the legal provisions regulated by general cadastre introduction technical normative for the vineyard unit situated outside of Iasi it has been made the identification of the use categories of the

Table 1

Cartographic framing on the lifting in plan trapeziums of the vineyard unit

Location	Representation scale	Trapezium no.	Trapezium nomenclature
Vineyard unit	1 : 10 000	1	L-35-32-A-c-3
	1 : 5 000	2	L-35-32-A-c-3-II
			L-35-32-A-c-3-IV
	1 : 2 000	4	L-35-32-A-c-3-II-3
			L-35-32-A-c-3-II-4
			L-35-32-A-c-3-IV-1
	1 : 1 000	10	L-35-32-A-c-3-IV-2
			L-35-32-A-c-3-II-3-a
			L-35-32-A-c-3-II-3-b
			L-35-32-A-c-3-II-3-c
			L-35-32-A-c-3-II-3-d
			L-35-32-A-c-3-II-4-c
			L-35-32-A-c-3-IV-1-a
			L-35-32-A-c-3-IV-1-b
	L-35-32-A-c-3-IV-1-d		
L-35-32-A-c-3-IV-2-a			
L-35-32-A-c-3-IV-2-c			

land and constructions, the gathering of the basic data and the temporary cadastral numbering of the plots composing the property. And so, at the level of the year 2004, when was made the first land register, were identified 270 plots, from which 97 were vine plots that means 75.59% from the total area.

By eliminating the 141 non-agricultural plots, which has a surface of 13.08 ha representing an

occupation percentage of 11.78, in the *Table 2* and *Figure 1*, it is wanted to be obtained an overview of the distribution of the 131 agricultural plots depending by the surface's size, whose surface of 97.98 ha represents an occupation percentage of 88.22 from a total of 111.06 ha of the vineyard unit that makes the object of the case study.

Table 2

The distribution of the plots by agricultural use by the surface for the vineyard unit

No.	Land utility	Classification of the plots by agriculture use by the surface								Agricultural use TOTAL	
		0.00 – 0.10		0.11 – 0.50		0.51 – 1.00		1.10 – 5.00		ha	%
		ha	%	ha	%	ha	%	ha	%		
1	Arable (A)	0.21	0.19	3.27	2.94	0.82	0.74	5.77	5.20	10.07	9.07
2	Pasture (P)	0.09	0.08	0.59	0.53	–	–	–	–	0.68	0.61
3	Hay (F)	0.18	0.16	0.38	0.34	0.58	0.52	1.78	1.61	2.92	2.63
4	Noble vine (VN)	0.20	0.18	8.70	7.83	33.89	30.52	41.16	37.06	83.95	75.59
5	Orchard (L)	–	–	0.36	0.32	–	–	–	–	0.36	0.32
TOTAL		0.68	0.61	13.30	11.96	35.29	31.78	48.71	43.87	97.98	88.22

RESULTS AND DISCUSSIONS

In order to obtain the current data necessary for the vineyard land register were checked in the Iasi's Cadastre and Land Registration Office (O.C.P.I.) data base all the works of introduction and maintenance of the general cadastre that also included the study area.

For updating the cadastral emplacement and delimitation plan, made for the vineyard unit in 2004, the plots that resulted from the dismemberment documentations until the present time are presented in *Figure 2*. So, by the dismemberment of the 20 plots of noble vine from the Land Register documentation in 117 plots (*tab. 3*), the 270 plots had became 387 plots in 2010.

Table 3

The situation of the plots from the desmemberment documentation until 2010 for the vineyard unit

The plot from the Land Register		No .of plots from desmem-berment	No. of plots and the area from the dismemberment documentation								TOTAL AREA (ha)	
Use category	Plot no.		0.00 – 0.10		0.11 – 0.50		0.51 – 1.00		1.10 – 5.00			
			no.	ha	no.	ha	no.	ha	no.	ha		
VN	2532	3	–	–	2	0.56	–	–	1	1.86	2.42	
VN	2502/1	18	18	1.19	–	–	–	–	–	–	1.19	
VN	2504/1	12	11	0.75	1	0.44	–	–	–	–	1.19	
VN	2504/2	13	11	0.83	2	0.26	–	–	–	–	1.09	
VN	2506/1	7	6	0.49	–	–	1	0.69	–	–	1.18	
VN	2506/2	7	6	0.50	–	–	1	0.75	–	–	1.25	
VN	1494/2	4	4	0.31	–	–	–	–	–	–	0.31	
VN	1499/2	5	5	0.38	–	–	–	–	–	–	0.38	
VN	1502/2	5	5	0.38	–	–	–	–	–	–	0.38	
VN	1508/2	5	5	0.37	–	–	–	–	–	–	0.37	
VN	2511	6	5	0.25	–	–	1	0.93	–	–	1.18	
VN	2513	5	4	0.28	–	–	1	0.94	–	–	1.22	
VN	2515	6	5	0.46	–	–	1	0.89	–	–	1.35	
VN	2517	7	6	0.42	–	–	1	0.76	–	–	1.18	
VN	2483	3	–	–	2	0.34	–	–	1	1.34	1.68	
VN	2485	8	–	–	8	1.22	–	–	–	–	1.22	
VN	2415	5	4	0.21	–	–	1	0.69	–	–	0.90	
VN	2352	6	–	–	6	1.80	–	–	–	–	1.80	
VN	2400	8	8	0.69	–	–	–	–	–	–	0.69	
VN	2403	4	–	–	4	0.66	–	–	–	–	0.66	
TOTAL		20	137	103	7.51	25	5.28	7	5.65	2	3.20	21.64

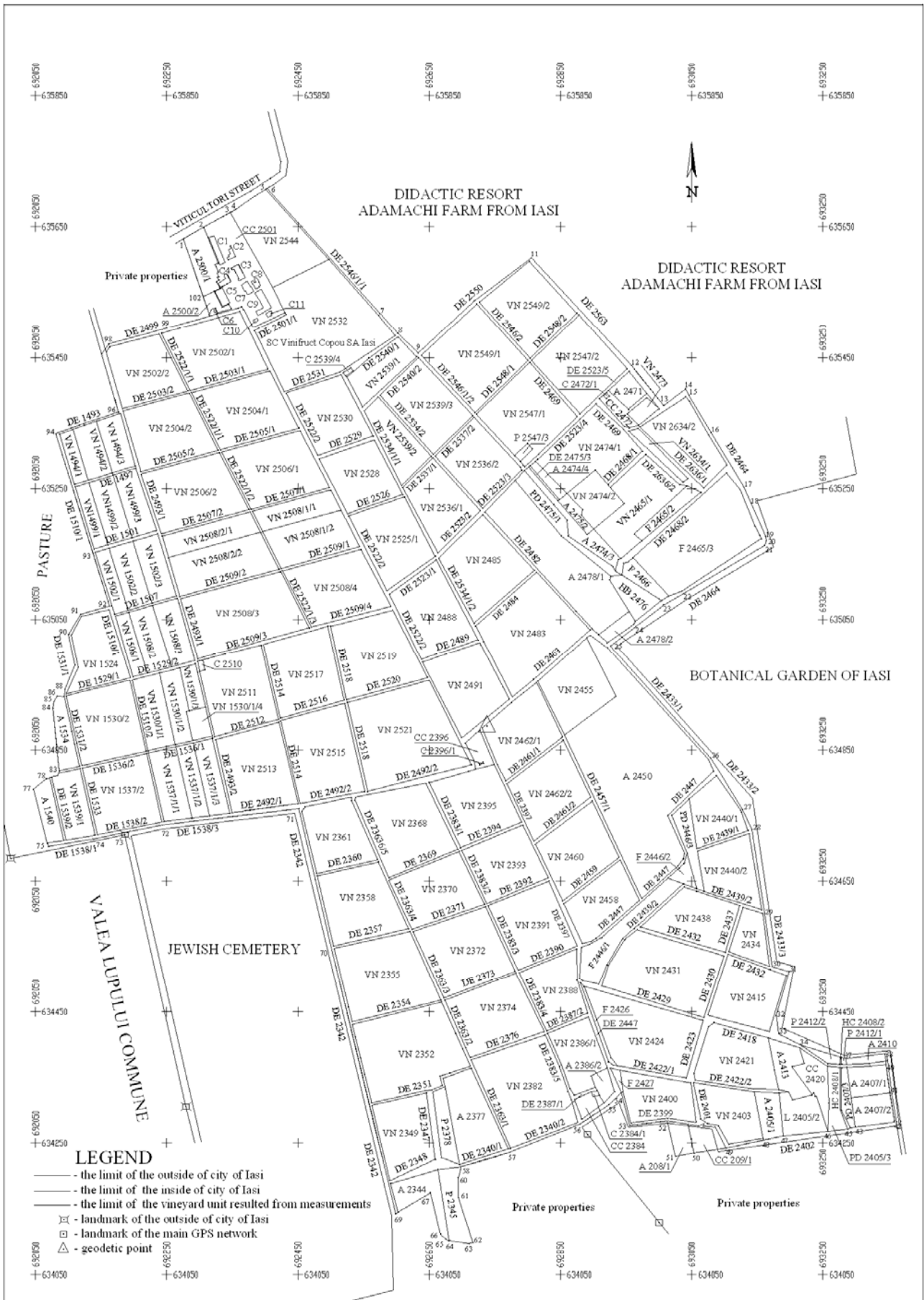


Figure 1 Drawing the location and cadastral delimitation plan on a scale 1:5000 for the vineyard unit

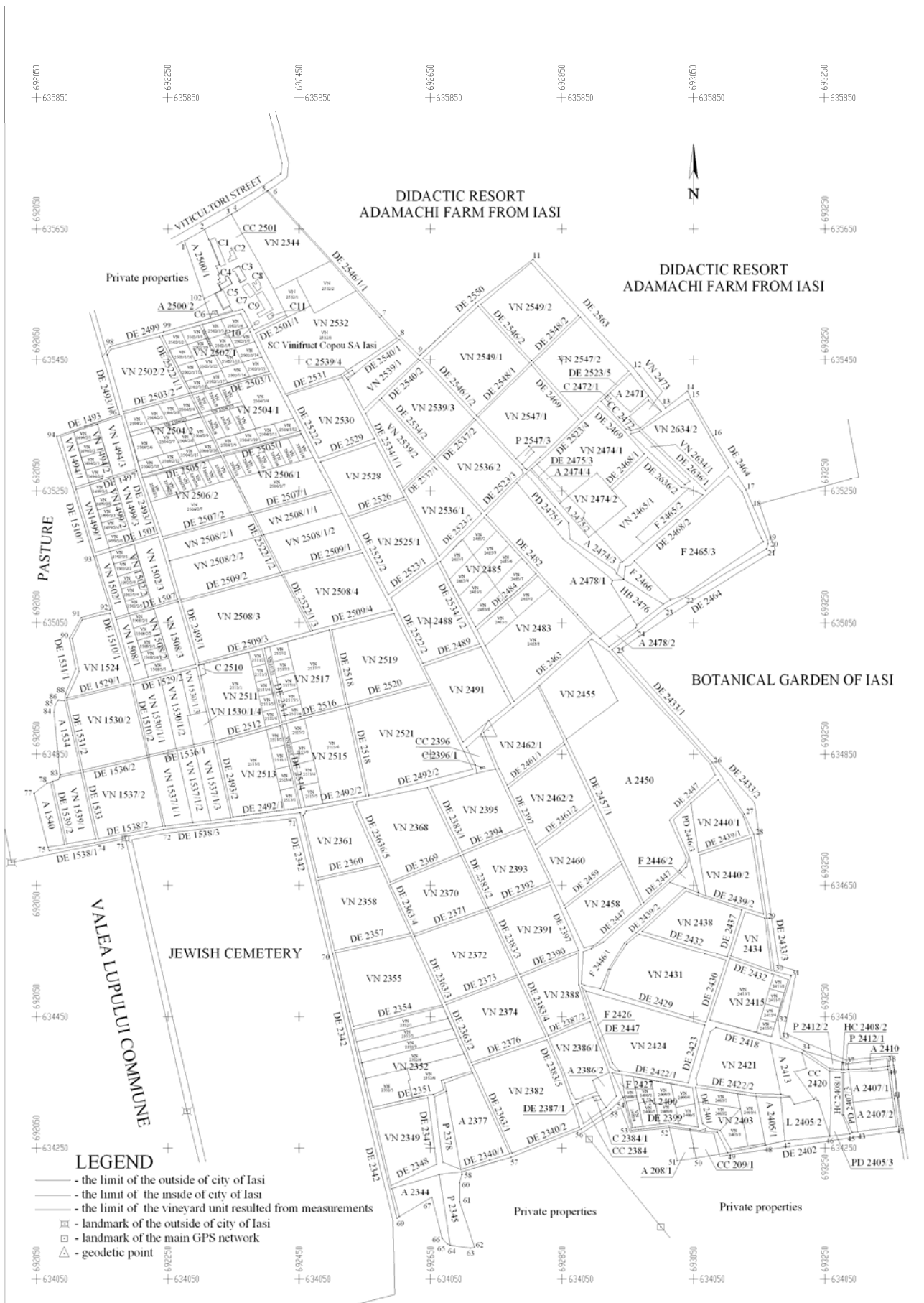


Figure 2 Update the location and cadastral delimitation plan on a scale 1:5000 for the vineyard unit

The fragmentation, even of the plots cultivated with vine, is due to landowner's indifference in maintaining the cultures, being motivated by cash earnings that come with the last years development of the real estate market.

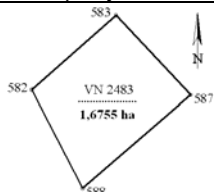
According to Methodological Normative of Implementation and Maintenance of the Vineyard

Cadastre, approved by Order no.34/2000 of the Ministry of Agriculture and Alimentation and published in M.O. No.212/2002, the cadastral sheet of one plot must contain the following basic and specialized data (Moca. V., 2002, 2009) - (tab. 4)

Table 4

The sheet of the vineyard property corp/real estate

County: IASI Administrative unit: IASI Code SIRUTA: 95060 Code inside / outside city: 2	Nomenclature: L-35-32-A-c-3-IV-1-b No. field: T 63 Nr. Plot: VN 2483 Nr. Cadastral register: 13263/2004
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Property outline	Coordinates and surface inventory		
	No. point	Coordinates in Stereo-70 Projection System	
		X (m)	Y (m)
	582	635039.692	692716.948
	583	635124.737	692807.191
	587	635039.153	692891.602
	588	634932.830	692776.119
SURFACE (mp)		16755	

A. LAND VINE DATA BASE

Use Category	Use subcategory	Destination group code	Quality class	The zone inside territory
Vine(V)	Plantations of noble vine(VN)	Agriculture destination fields (TDA)	80 points	Patrici Hill

B. LANDOWNER DATA BASE

Landowner's name	➤ S.C. Vinifruct Copou S.A. Iasi
Landowner's Residence / Headquarter	➤ No.5 Viticultori Street, Iasi
Landowners group code	➤ DP – private domain
Ownership of the field	➤ exclusive

C. PROPERTY'S CADASTRAL RECORDS DATA BASE

Type of soil	➤ cambic chernozem
Suitability class	➤ land with few restrictions
Favorability class	➤ 61 – 80 points of cadastral creditworthiness
Average slope of the plot	➤ 13.89% (slightly inclined)
Average altitude of the plot	➤ 110.1 m – Black Sea reference system
Slope exposure	➤ Semi-shadowed (North – East and East)
Anti-erosion arrangements	➤ Paralel rows with the direction of level curves
Type of vine culture	➤ Pure culture
Soil and surface name	➤ Aligoté = 16836 mp
Stock / variety	➤ Berlandieri x Riparia Kober / Aligoté
Management way of the block	➤ Semi-protected
Planting distances	➤ 2.20 m x 1.20 m
Current occupation degree	➤ 3711 hubs (58.20%)
Current age of the plantation	➤ 35 years
Current stage of the plantation	➤ Satisfactory

CONCLUSIONS

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