

## AGRICULTURE IN SATCHINEZ COMMUNE, TIMIȘ COUNTY

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**Abstract:** Agriculture is one of the first economic activities in the history of human society development. It has been the dominant branch of the economy, and at present in many countries of the world, it continues to be the main branch of the economy and sphere of activity of the population. Agriculture is the most widespread branch of material production and, unlike industry, it is practiced on vast areas. In agriculture, many production processes are seasonal in nature, depending on the natural conditions. Agriculture provides plant and animal products, which are used as raw materials in several industrial sectors, and provides for the needs of the population in basic food products. A fundamental feature of the Romanian agriculture is that the high natural potential can provide the domestic necessities of basic food for a much larger population than the one existing today. Food imports should be only a source of supplementation and diversification of consumption. The negative effects of the agricultural reform in its first phase have a temporary negative impact on the level of plant and animal products and negative effects propagated on the industries upstream and downstream of agriculture. The decentralization of the agri-food sector, the privatization of the land, the lack of some programs designed to create new agri-food chains generated the crisis of agriculture and affected the food security of the population. Satchinez is a commune in Timiș County, Banat, Romania, consisting of the villages Bărăteaz, Hodoni and Satchinez. Satchinez is located in the north of Timiș County, about 25 km away from Timișoara. It is bordered to the north by Gelu, to the east by Bărăteaz, Călăcea and Carani, to the southeast by Hodoni and to the southwest by Biled. Located in the plain area of the county, in the hydrographic basin of the Bega Veche River, Satchinez commune morphologically falls into the meadow and terrace of the Bega Veche River, bounded on the north by the Lipova Hills and on the south by the Banat Plain. Satchinez commune is located halfway between the Mureș and Bega Veche rivers, and is devoid of running water. The territory of the commune is entirely plain with a gentle slope towards the south where surface water flows. The climate is temperate continental and has a slight Mediterranean influence lacking permanent winds of higher intensities. During summer and early spring, the prevailing oceanic air masses with abundant rainfall are dominant. During the year, masses of sea air from the west with sufficient humidity prevail. The land with artificial, arable character represents 81%, forests represent 0.1%, waters and ponds 5.5%, and grassland and meadows 9%.

**Key words:** Satchinez, agriculture, crops, yields, vegetables

### INTRODUCTION

Agriculture is one of the first economic activities in the history of human society development. It has been the dominant branch of economy and at present in many countries of the world, it continues to be the main branch of economy and sphere of activity of the population. (NITA SIMONA, NITA L., PANAITESCU LILIANA, 2015; D. DICU, R. BERTICI , I. GAICA, 2016; LOREDANA DARICIUC, I. GAICA, D. DICU, 2016)

Agriculture is the most widespread branch of material production and, unlike industry, it is practiced on vast areas. In agriculture, many production processes are seasonal in nature, depending on the natural conditions. Agriculture provides plant and animal products, which are used as raw materials in some industrial sectors, and provides the needs of the population in basic food products.( ANIȘOARA DUMA-COPCEA, NICOLETA MATEOC-SÎRB, TEODOR MATEOC-SÎRB, CASIANA MIHUȚ, 2013)

Satchinez is a commune in Timiș County, Banat, Romania, consisting of the villages Bărăteaz, Hodoni and Satchinez. Satchinez is located in the north of Timiș County, about 25 km away from Timișoara. It is bordered to the north by Gelu, to the east by Bărăteaz, Călacea and Carani, to the southeast by Hodoni and to the southwest by Biled.( DUMA – COPCEA ANIȘOARA, MIHUȚ CASIANA, L. NIȚĂ, 2014)

The total area of the Satchinez commune is 11.091 ha, of which 9.951 ha represents external area agricultural land. (LATO, A.NEACSU, A.; CRISTA, F. ; LATO, K.; RADULOV, I.; BERBECEA, A.; NITA, L.; CORCHES, M., 2013)

Located in the plain area of the county, in the hydrographic basin of the Bega Veche River, Satchinez commune morphologically falls into the meadow and terrace of the Bega Veche River, bounded on the north by the Lipova Hills and on the south by the Banat Plain.

The territory of the commune is entirely plain with a gentle slope towards the south where surface water flows. The soils on the territory of the Satchinez commune were formed by deposits in the vast marshy area of the Bega Veche River; they are mainly chernozem with small lacovician and Solonetz areas.( KAREL IAROSLAV LAȚO, LUCIAN NIȚĂ, ALINA LAȚO, ISIDORA RADULOV, FLORIN CRISTA, ADINA BERBECEA, 2013; CASIANA MIHUȚ, ANIȘOARA DUMA-COPCEA, LUCIAN NIȚĂ, SIMONA NIȚĂ, 2016)

Satchinez commune is located halfway between the river Mureș and Bega Veche, and is devoid of running water. There are numerous ponds around the commune, some smaller, others larger, bringing together a total area of 127 ha. Some of these ponds have small water leaks, while others are without leaks. Around these ponds located in the bed of the valley, logs and brooks appear on an area of 170 ha, representing marshland.( L. NIȚĂ, D. ȚĂRĂU, D. DICU, GH: ROGOBETE, GH. DAVID, 2017)

Depending on the depth of the groundwater, during spring or heavy rainfall, the water stagnates and the marshy areas form.

In order to be able to highlight these non-productive lands in the total area of approximately 300 ha, it is necessary to perform desiccation, drainage and works in order to create ponds.( NIȚĂ SIMONA, NIȚĂ LUCIAN, PANAITESCU LILIANA, 2015)

It is necessary to know the climate in order to establish the relations existing between climate-soil and vegetation. The climate was established due to the Timișoara weather station, information that was correlated with the local data.( POPA M.; LATO A.; CORCHES M; RADULOV I.; BERBECEA A.; CRISTA F.; NITA L.; LATO KI;POPA D., 2016)

This region is under the influence of the high-pressure center of the Azores, and is influenced to a small extent by the Siberian thermal center. The climate is temperate continental and has a slight Mediterranean influence lacking permanent winds of higher intensities. During summer and early spring, the prevailing oceanic air masses with abundant rainfall are dominant. During the year, masses of sea air from the west with sufficient humidity prevail.( LAURA SMULEAC, SIMONA NITA, ANISOARA IENCIU, ADRIAN SMULEAC, DICU DANIEL, 2013)

The land with artificial, arable character represents 81%, forests represent 0.1%, waters and ponds 5.5%, and grassland and meadows 9%. The destination of the lands according to the updated cadaster following the application of the Law of the land fund for restitution of the exploited lands is presented as follows:

- arable land: 8.968,53 ha
- grasslands: 626,66ha
- meadow: 346,4 ha
- vineyards: 2.38ha
- orchards: 6.94ha

The built-in area totals 1.140 ha.

### RESULTS AND DISCUSSIONS

In what follows, we have presented the situations of the cultivated areas, but also the yields obtained. Agriculture in Satchinez commune is based on the cultivation of cereals, technical plants, oilseed plants and vegetables.

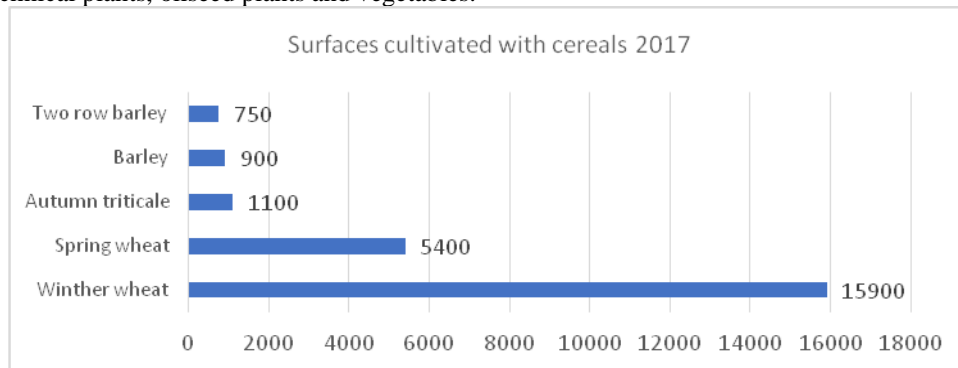


Fig. 1. Area cultivated with cereals in 2017

The above figure shows the situation of the areas cultivated with cereals in 2017, the highest weight being registered for the maize crop with 753 ha, followed by wheat with 650 ha.

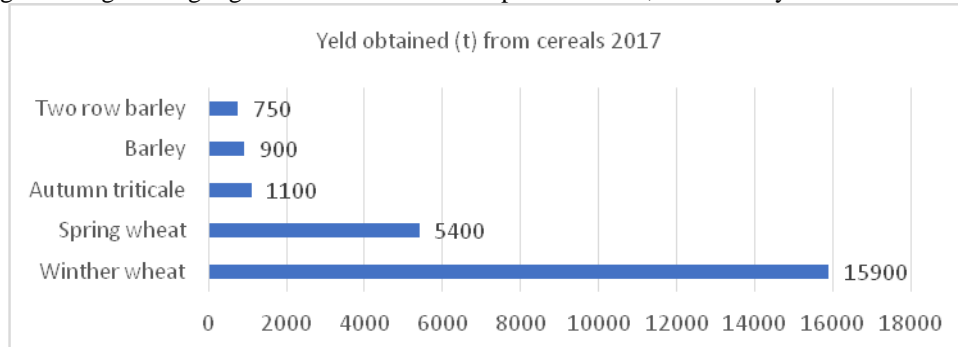


Fig. 2. Yields obtained for cereal crops in 2017 (t)

The above figure shows the situation of the yields obtained in the case of cereal crops with 3282 t of wheat, 3012 t of maize, these being the crops with the highest weight in 2016.

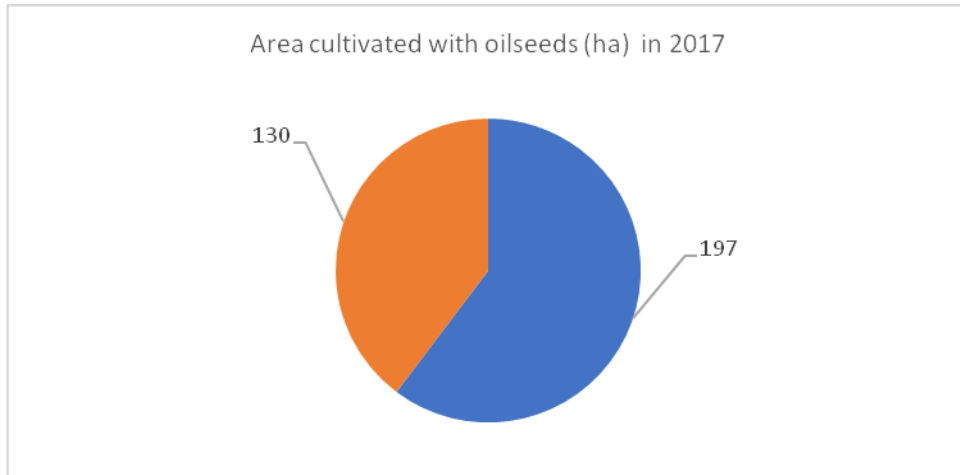


Fig. 3. Area cultivated with oilseed plants in 2017 (ha)

The adjacent graph shows the situation of the areas cultivated with oilseed plants, namely with rapeseed and sunflower, where the areas are equal.

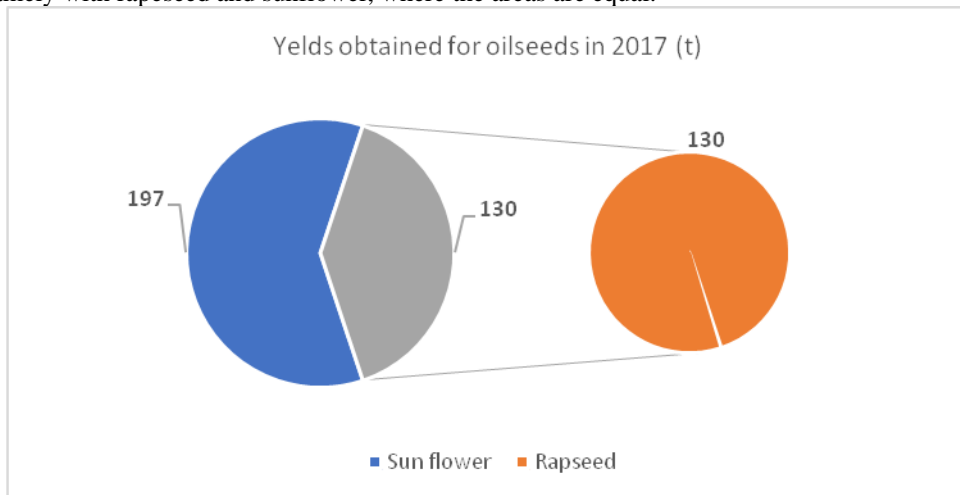


Fig. 4. Yields obtained for oilseed plants in 2017 (t)

In this case, both the areas and the yields are equal.

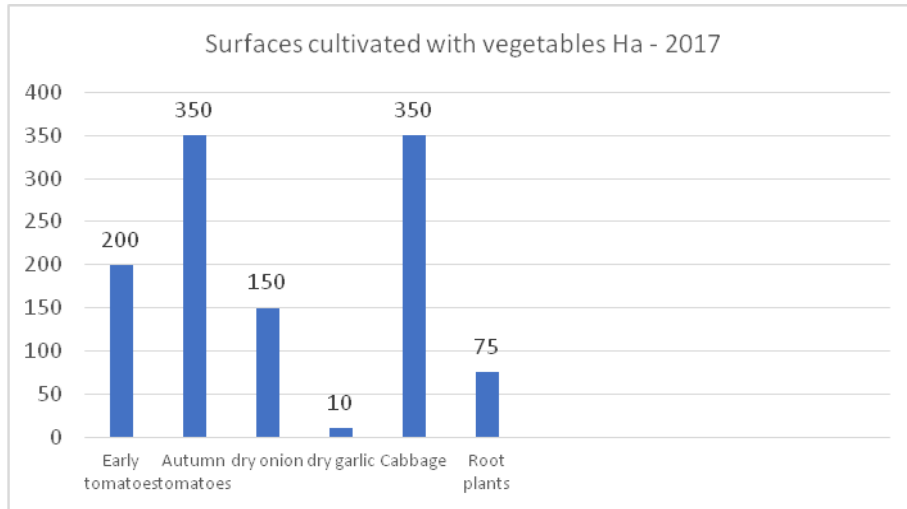


Fig. 5. Area cultivated with vegetables in 2017 (ha)

In the adjacent graph, we present the situation of the areas cultivated with vegetables in 2017, which is best suited for the area of Satchinez commune, the highest weight being recorded for root vegetables on 5 ha.

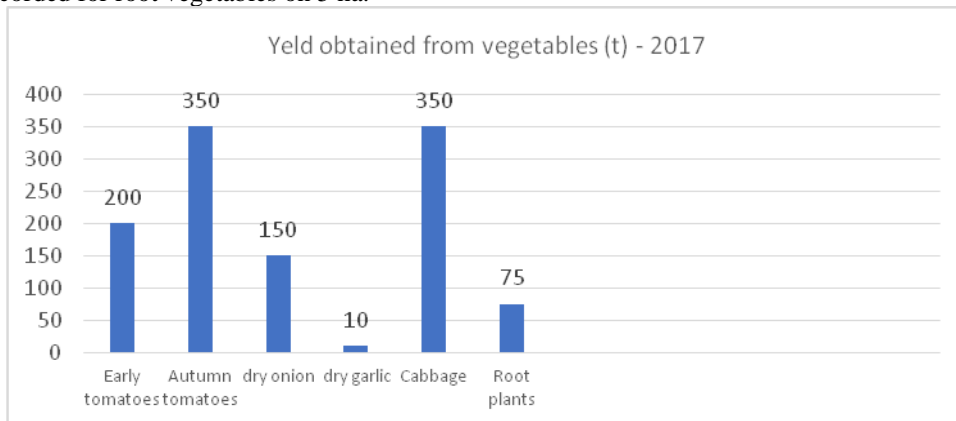


Fig..6. Yields obtained for vegetables in 2017 (t)

In the adjacent graph we presented the situation of the yields obtained in 2017 for vegetables, the highest values were registered for the autumn cabbage, namely 120 t, followed by root vegetables and peas with 100 t / ha.

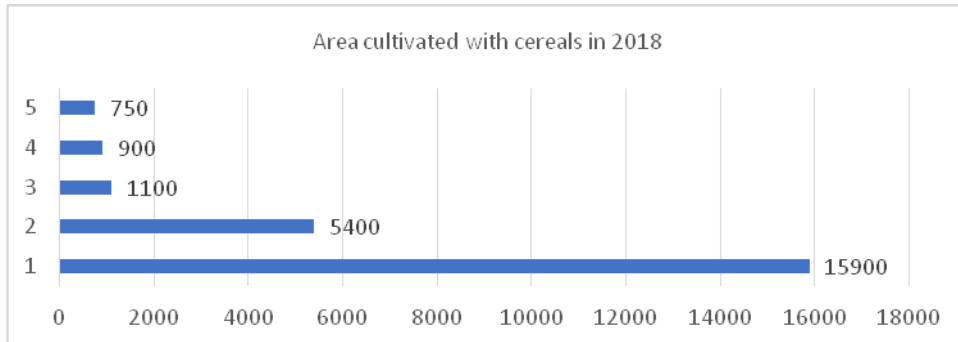


Fig. 7. Area cultivated with cereals in 2018

The adjacent graph shows the situation of the areas cultivated with cereals in 2018, namely winter wheat having an area of 944 ha, compared to the area cultivated with maize, where 850 ha were registered. These two crops have the highest weights for cereals.

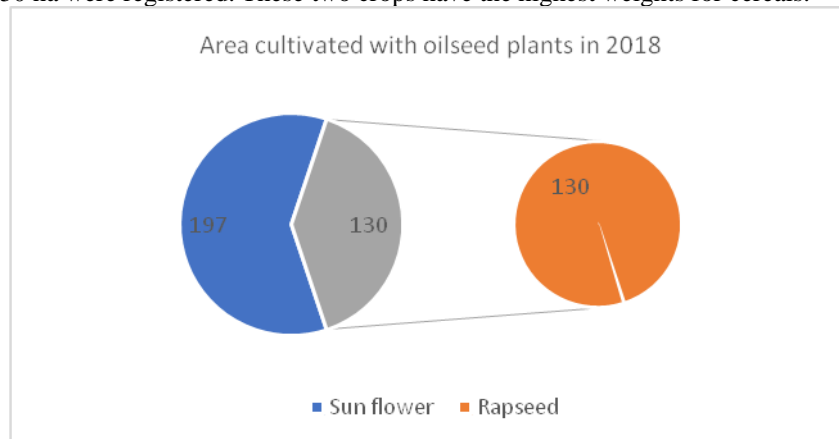


Fig.8. Area cultivated with oilseed plants in 2018

In the adjacent figure, we presented the situation of the areas cultivated with oilseed plants, where there were registered values between 197 ha for sunflower, respectively 130 ha for rapeseed.

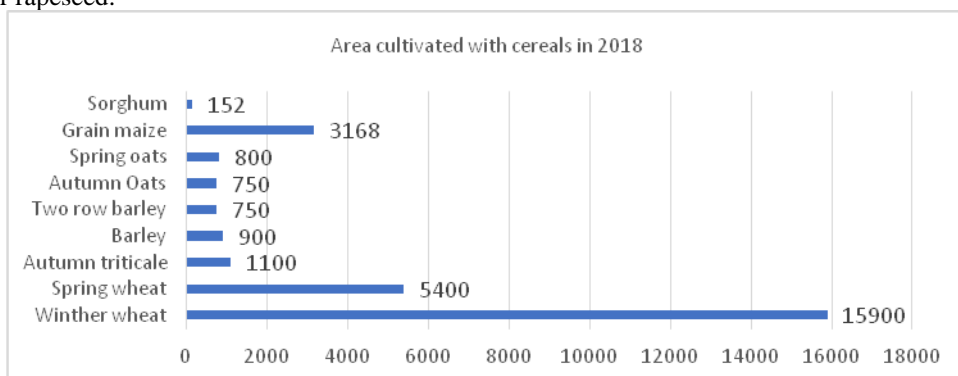


Fig. 9. Area of harvested cereals in 2018 (ha)

The following graph shows the situation of areas cultivated with cereals in 2018, such as winter wheat, spring wheat, followed by maize for grains.

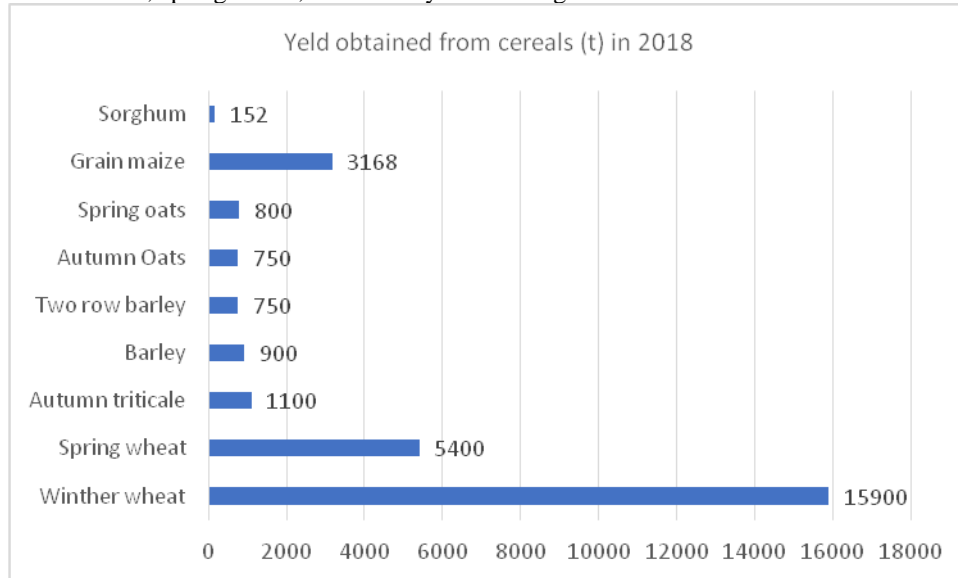


Fig. 10. Yield obtained for cereals in 2018 (t)

The graph above shows the yield of cereals obtained in 2018, where the winter wheat remained at the level of 15.900 t, the spring wheat at 5.400 t, and the maize for grain at 3.168 t.

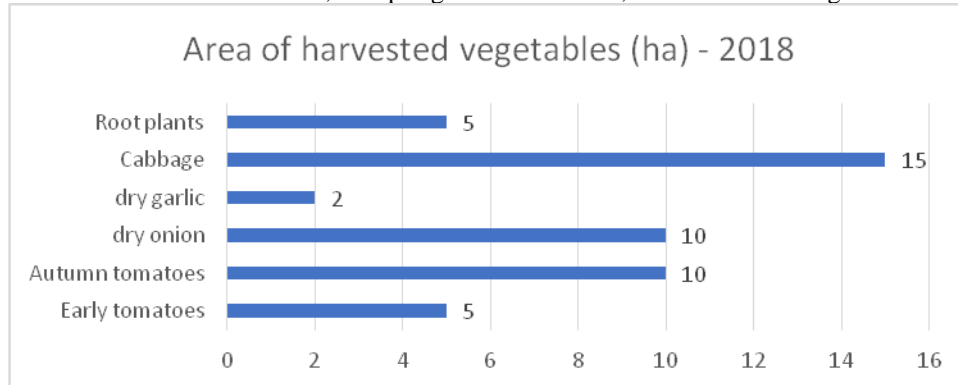


Fig.11. Area of harvested vegetables in 2018 (ha)

The above figure shows the situation of the areas cultivated with vegetables in 2018, the highest weights are recorded for the autumn tomatoes, dried onions, respectively early and summer cabbage.

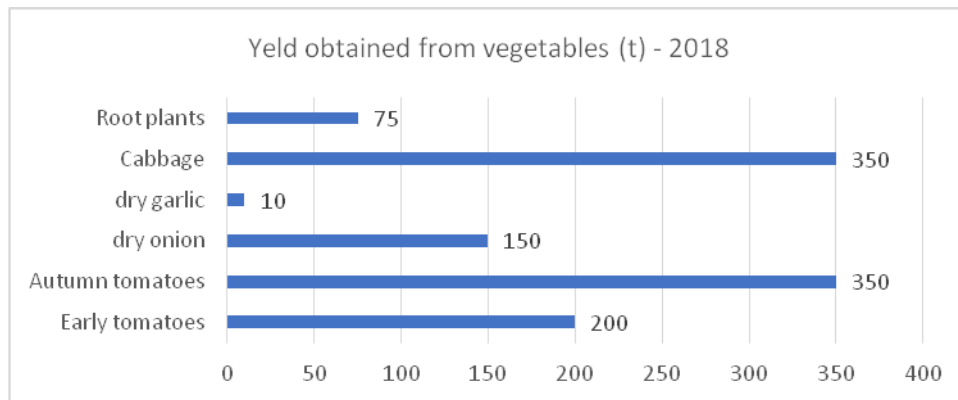


Fig. 12. Yield obtained (tons) for vegetables in 2018

The above graph shows the situation of the yields obtained for vegetables in 2018, the highest weights were recorded for the tomato crops, followed by the early and summer tomatoes, early and summer cabbage, respectively dried onions and autumn cabbage.

### CONCLUSIONS

The first and most important feature of agriculture is that the land is the main element of the agricultural capital, functioning at the same time as an object of work and as a means of work.

Part of the agricultural production is realized by companies with agricultural profile, part is obtained within the individual agricultural holdings;

In the case of machinery, installations and means of transport for agriculture we can state that they are diversified, being used in various technological processes, for the preparation of the germination bed, for the maintenance of the crops, for treatments, for sowing, for the transport of the obtained productions, etc.

In Satchinez commune the possibilities of using agricultural land are high, but because of various limiting factors of the soil and especially of the natural park they are limited.

From the point of view of agricultural constructions we can say that they are diversified, productions from different cultures can be stored, most of them being owned by companies with legal personality that have activity within the locality.

The yield obtained for cereals in 2017, where the winter wheat remained at the level of 15.900 t, the spring wheat at 5.400 t, and the maize for grain at 3.168 t.

The situation of the yields obtained in 2016 for vegetables, the highest values were registered for the autumn cabbage, namely 120 t, followed by root vegetables and peas with 100 t / ha.

In agriculture (especially in plant cultivation), production time does not correspond to working time, being much longer than this.

The agricultural system in the area of Satchinez is a farming one, with low agro-zootechnical influences, due to the small number of animals.



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