

## Assessment of the Hungarian apple season - crop was even weaker than expected

### Production data

It can be seen from the data of the fruit plantation census conducted in 2017 that the majority of Hungarian plantations are outdated and aging. During the survey, the producers planned to cut down and replant around 5.000 hectares of plantations. From the above data, however, it can be seen - taking into account the production difficulties of the previous years - that the cultivated area continued to decrease, and the replanting was left behind. Examining the condition of the plantations, we can currently say that only 20% of the total area of approximately 21,000 hectares is in good or excellent condition.

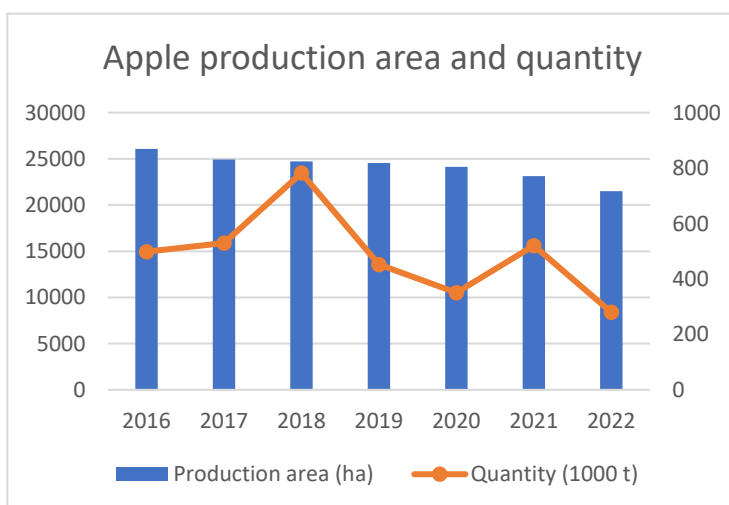
Apple orchard age (years)	0-4	5-10	11-14	15-19	20-24	24 +
Area (ha, 2017)	4 219	3 154	5 076	7 336	1 913	3 347

1. Table - Data: KSH

Summarizing the data of the past years, it can be seen that the apple growing area is constantly decreasing in Hungary. The crop averages are also significantly lower than the European average.

APPLE DATA // Year	2016	2017	2018	2019	2020	2021	2022
Production area (ha)	26080	24928	24701	24532	24122	23136	21511
Quantity (1000 t)	498	530	782	452	350	520	280
Crop average (t/ha)	19,1	21,3	31,7	18,4	14,5	22,5	13,0

2. Table - Date: NAK, KSH



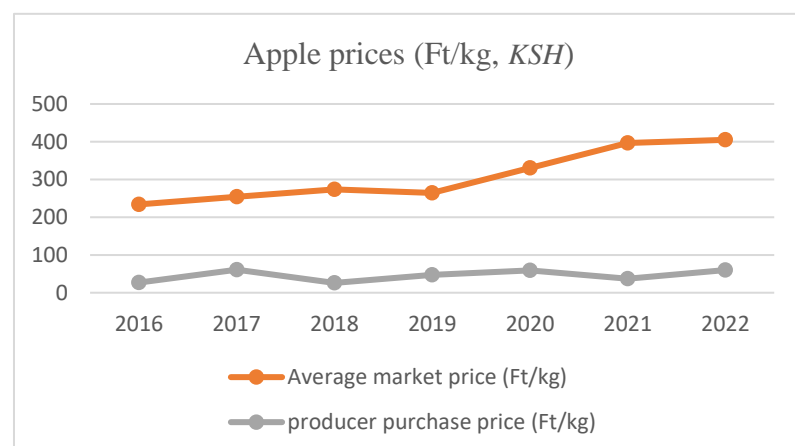
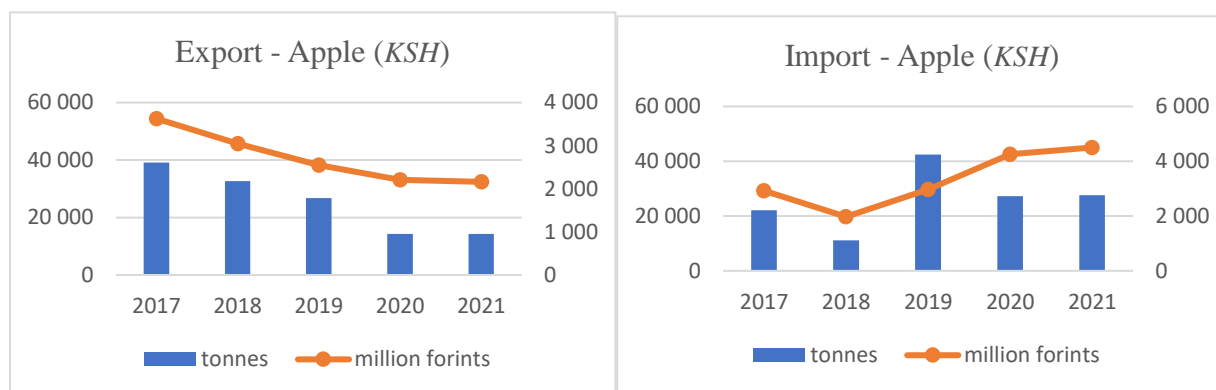
In our pre-season crop prognosis made in August 2022, we forecast a domestic apple crop of around 300-350 thousand tonnes. Based on currently available preliminary data, it seems that the actual crop in 2022 fell somewhat short even of these quite low expectations: only 280 thousand tonnes of apples were produced in Hungary, of which 200 thousand tonnes were industrial apples and 80 thousand tonnes were fresh market (table) apples.

## Commercial data

Of the rather low volume of 200 thousand tonnes of industrial apples, the main purchases were made by domestic juice processing plants producing apple concentrate: a total of 172.5 thousand tonnes of juice from domestic crop was purchased (of which 9.3 thousand tonnes were organic apples). In addition, the volume of industrial apples going to other – domestic – processing sectors (brandy, drying, canning, etc.) amounted to about 22 thousand tonnes, and about 5 thousand tonnes of industrial apples were exported. All these figures correspond to the lower end of the crop forecast range, and also mean that the volume of industrial apples was sufficient for around 40-45% of the Hungarian processing capacity.

Consequently, juice producers were forced to import juice (mainly from Poland) in order to better use their capacities. However, the volume of imported apples did not exceed about 15 thousand tonnes: according to the statistics available so far, 10.6 thousand tonnes of apples were imported into Hungary in September and October 2022. In accordance with the production results, examining the foreign trade data of several years, it is clear that the export of Hungarian apples is decreasing, while the import is continuously increasing.

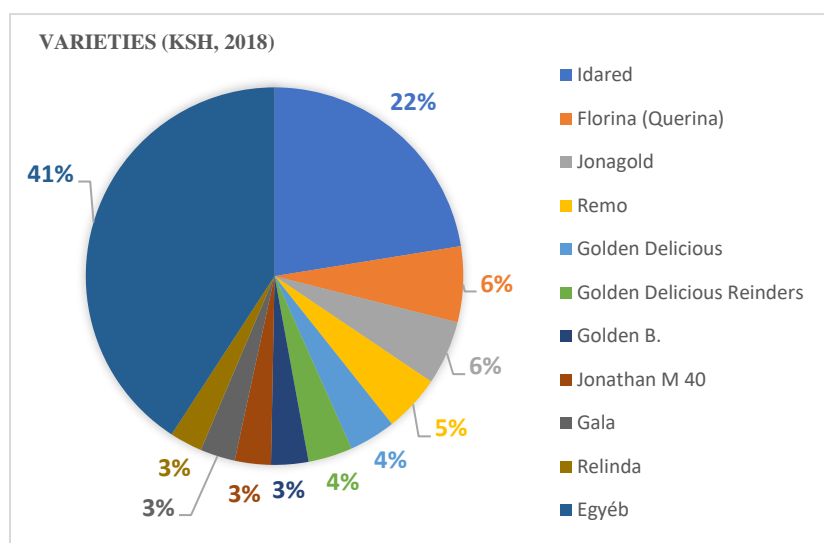
While the industrial apple harvest was broadly in line with expectations, the table apple harvest was much lower: only around 80 thousand tonnes of table apples were harvested instead of the prognosticated amount of 100-120 thousand tonnes, i.e. 20-30% below expectations. Of this, around 5-8 thousand tonnes have been or will be exported for the rest of the season, with the remainder being sold on the domestic market.



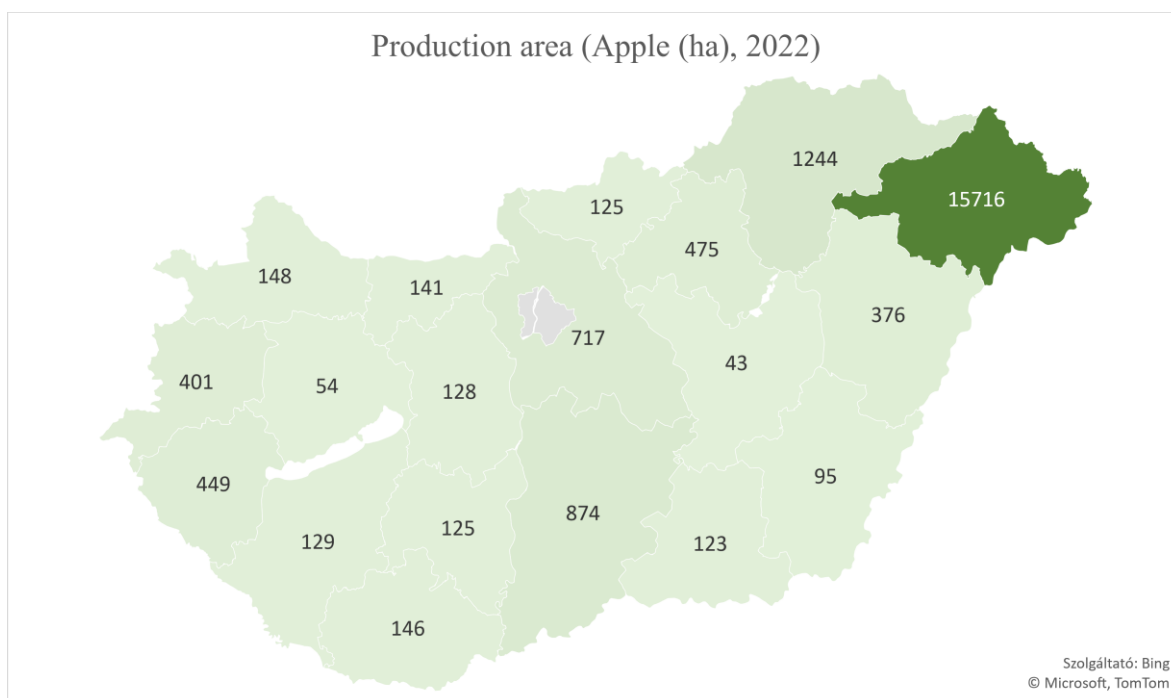
According to statistical data, the price of apples is increasing, but there is a spectacular difference between the producer and market average price of apples. Most of the producers lose a significant income, so sector developments also fall behind. At these prices, it is estimated that around 40% of the area is kept alive by subsidies alone.

## Consumption data

Our consumption of apples has also dropped significantly, from over 30 kg/person/year in the 1980s to 10 kg/person/year at present. According to Hungarian statistical data, apples are typically consumed by the elderly and retired age group, in which case apple consumption per person is 12-16 kg/year. Among young people and young adults, the quantity is significantly reduced, they consume only 5-8 kg of apples per year on average. Consumers typically prefer small and medium-sized apples with red skin, white - and crisp flesh. It is clear that, in addition to production issues, it will be important to examine consumer habits in the future and to strengthen agricultural marketing.



One of the major problems of domestic apple growing is that there is not enough quality apples to meet market needs. The number of varieties used in the plantations is too large, the orchards with an area of one or two hectares are in many cases operated as a "collection of varieties", while the market demand is becoming more and more concentrated. (Dr. Csíhón Á., 2022)





### **Problem statement and solution proposals**

Primarily, weather anomalies are the main reasons for the lower crop. In spring 2022, still in the flowering period, we could observe that the flowering was poor in the more extensive (typically MM106 or stronger rootstock), non-irrigated plantations, while in the intensive, irrigated plantations (which, however, only account for a quarter of the total domestic apple production area) the flowering was medium to good, depending on the variety. The reasons for the poor bud burst and weak condition of trees are difficult to decipher, but are likely to be related to the summer and autumn drought of 2021. In the spring of 2022, apple orchards avoided major frost damage, although in the north-east of the country accounting for  $\frac{3}{4}$  of the apple growing area, there were significant cold spells of minus 2-6°C in the three days following Easter, the very week before flowering. As was later shown, these night frosts did not even primarily cause drastic and visible flower damage, but rather had a latent adverse effect on fruit setting and resulted in a very significant June fruit drop. The negative effects of these adverse trends were exacerbated by the lack of rainfall – practically a continuous drought period since the summer of 2021, with little rainfall from April to the end of August 2022, coupled with extremely high temperatures in summer.

A very important phenomenon (which we have been seeing for several years now) is that the intensive, irrigated, high-tech orchards have now again generally produced satisfactory or good crops, while the more extensive, non-irrigated or low technology plantations have mostly produced poor crops.

#### **Sectoral problems in summary:**

- old, outdated plantations → poor yield average
- small farms, too wide variety range → quality and quantity issues
- lack of irrigation, of protection systems and of labor and skilled workers
- bad logistics → we do not harvest according to ripening time
- storage difficulties (lack of postharvest)

#### **Development suggestions:**

- plantation modernization (use of varieties suitable for climatic conditions, irrigation development, intensification, construction of defense and production control systems)
- planting of new plantations (*planting of intensive plantations on weakly growing rootstocks (M.9, M.26), with high stocking density (2,500-4,000 trees/ha), slender or super-spindle crowns*)
- development of modern storage and packaging plants (integration)
- market research, market acquisition
- development of support systems necessary for these

It is still impossible to give any estimate of the expected 2023 harvest. Following last year's poor harvest, we would normally expect a normal to high yield, but a number of negative environmental factors, such as last year's drought, the extremely mild winter and the unpredictable spring weather ahead (looming spring frosts), will have impact the numbers in a significant extent.

Budapest, 06/03/2023