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A review of an evaluation of 95 cultivars of sour cherry

Oversigt over afprøvning af 95 sorter af surkirsebær

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Summary

During the last 20 years cultivars of sour cherries have been tested at the institute. The results of mostly qualitative characteristics are summarized and evaluated.

Key words: Sour cherry, cultivars, harvest date, quality.

Resumé

Gennem de sidste 20 år er en række sorter af surkirsebær afprøvet på Blangstedgård og senere i Årslev. Resultaterne af navnlig de kvalitative egenskaber er sammendraget, og sorternes dyrkningsværdi i Danmark er vurderet.

Nøgleord: Surkirsebær, sorter, høstdato, kvalitet.

Introduction

Next to apple sour cherry is the largest fruit crop in Denmark. For more than one hundred years dessert wines and liquers have been produced from small, locally grown sour cherries. In addition several products such as juice, jam, jellies, canned fruit are processed from cherries.

The production has mostly been concentrated on clones of local seedlings of *Prunus cerasus* L., given local names. One of these was in 1976 (79) selected and recommended under the name 'Stevnsbär'. In recent years 80–90% of all commercially grown sour cherries have been of this cultivar.

When mechanical harvest was introduced in the beginning of the 1960's the area of sour cherry increased considerably, and with that the demand for other cultivars as a supplement to 'Stevnsbär'. Accordingly numerous cultivars from most cherry growing countries were purchased for testing under Danish conditions.

The demands of the cultivars were mainly: High and early yield, high content of anthocyanins, sugars and acids in the juice, and suitability for mechanical harvesting.

The aim of this report is to summarize the results of all cultivars tested up to now.

Methods

Propagation material has over several years been purshased from research institutes in relevant countries. Newer cultivars are as far as possible received from the breeder.

For the primary screening three trees of each cultivar were planted. The fruit yield has in this phase been judged visually with 'Stevnsbär' as the standard cultivar. As these data are not always comparable they are referred to only under the description of the cultivars. The most promising cultivars were then selected and planted in larger scale experiments. Yield records from these are published earlier (78, 82, 86, 87).

The qualitative characteristics were determined in at least three years of cropping. Samples of 50 fruits were picked three times around optimum harvest time with 3–4 days intervals.

Each sample was analysed seperately and all results are an average of the three picking dates.

Results

The results over the years are numerically summarized in Table 1 for most cultivars. A few cultivars are evaluated only in the text, because the trees the first 6–7 years did not give fruits enough for analysing.

Date of flowering

In cultivars observed for more than three years the earliest average date of beginning of flowering was 9 May and the latest the 20 May. However, most of the cultivars started flowering within a period of 6–7 days.

Date of harvest

The date of harvest is considered of interest for extending the harvest season. The total season varied about four weeks from 1 July to 25 August.

Fruit size

For mechanical harvest and also for many products the fruit sizes is not of any importance. Specific sizes may be desired, for other products. In these observations the average fruit size varied from 2.6 g to 5.8 g.

Colour of juice

For most cherry products an intense colour is desired. For this description anthocyanins were extracted with 0.01 %. HCl/Methanol and absorbance was measured at 530 mm. The content is accordingly expressed as mg malvidinchloride per 100 g of fruits. Cultivars with an anthocyanin content lower than 50 are regarded as amarels, i.e. sour cherries with uncoloured juice.

Acidity

A high content of acids is an important criteria for the quality of the juice. Titratable acid was determined by titration with 0,1N NaOH to pH 8,1 and calculated as per cent citric acid. It varied from 0.97% to 2.64%.

Soluble solids

The content of sugars may be of economical importance. It is determined by refractometry and expressed as g/100 g. It varied amoung the tested cultivars as much as from 11.0 to 19.2.

Stone per cent

The weight of the stone in percentage of the fruit is to a high extent correlated with fruit size, however deviations from this rule occur. It varied from 4.6 to 8.9 in these observations.

Number of years

Although it has been aimed at at least three years of observations, it has not been possible to analyse all cultivars every year because of lost yield. The number of years indicate the reliability of the results.

Evaluation of the cultivars

The cultivars are briefly evaluated in relation to their commercial value in Denmark. In several cases the dominating cultivar in Denmark 'Stevnsbär' has served as the standard of comparison. As far as it has been possible it is indicated from which place or country the cultivars are originated.

'Amarena D'Alfonsine'. Amarel. Origin: Italy. In northern Italy the tree has been productive, but in Denmark very late and slow bearing. The fruit is rather big and the cultivar is of further interest as an amarel with extremely high acidity.
References: 23, 24, 28, 52.

'Amarena di Francavilla'. Origin: Italy. Although the cultivar has many good qualities, it has been discarded from further observations, as it does not seem to be as good as 'Stevnsbär'.
References: 24, 52.

Table 1. Date of flowering, harvest and fruit quality.

Variety	Date of flowering (May)	Date of harvest	g/ fruit	Colour	Acidity %	Solids %	Stone %	Years
'AMARENA D'ALFONSINE'	20	17/08	4.3	16	2.64	13.7	5.4	3
'AMARENA DI FRANCAVILLA'	17	20/08	3.2	172	2.18	13.7	8.2	4
'AMARENA DI PESCARA'	09	24/08	3.9	143	2.30	15.3	7.0	2
'AMARENA MATTARELLO'	16	14/08	3.7	197	1.98	16.2	7.7	3
'BAGRYANAJA'	15	05/08	5.1	142	1.72	16.3	5.8	4
'BELLE DE CHOISY'	18	07/08	3.7	8	1.31	13.6	5.6	2
'BELLE MAGNIFIQUE'	18	05/08	4.6	149	1.81	15.2	5.8	3
'BEUTELSPACHER REXELLE'	13	06/08	4.6	193	1.71	15.2	6.8	7
'BRUNBÄR FRÅN GÄSTRIKSLAND'	14	16/08	3.9	160	2.11	16.8	7.3	5
'CRISANA 2'	11	06/08	5.8	47	1.54	15.8	6.1	6
'CUSANA'	13	02/08	4.4	91	1.61	13.6	6.6	1
'DUBBEL GORSEM KRIECK'	13	12/08	5.4	231	2.00	14.5	6.4	10
'EARLE'	12	17/08	3.9	166	1.99	15.4	8.3	2
'ELMER'	16	11/08	6.4	76	2.21	14.3	5.2	3
'ENGLISH MORELLO'	12	15/08	5.0	123	1.70	15.5	6.4	2
'FANAL'	12	06/08	5.0	207	1.87	14.9	6.2	7
'FERRACIDA'	13	12/08	3.9	6	1.45	15.5	5.0	2
'FRUGHTBARE VON MICHURIN'	15	26/08	5.1	40	1.78	10.8	7.1	2
'GRIOTTE DU NORD HERMEE'	17	16/08	5.2	97	1.75	12.9	5.7	5
'HEIMANNS RUBIN'	17	10/08	4.9	208	1.73	13.3	6.9	2
'HISZPANKA POZNA'	17	21/08	5.0	59	1.98	13.8	7.2	6
'IMPERATRICE EUGENIE'	14	07/08	4.4	32	1.29	16.3	6.3	2
'JARENIOWKA'	16	19/08	3.6	158	1.95	15.8	9.2	5
'JUBILEYNAYA'	17	20/08	5.7	76	1.74	15.2	6.9	5
'KELLERIIS 14'	17	08/08	4.7	107	1.52	14.5	6.5	5
'KELLERIIS 16'	10	14/08	4.8	97	1.50	14.8	6.4	4
'KENTISH'	08	07/08	4.3	4	1.16	13.0	4.9	2
'KLEINE WAALSE'	11	04/08	5.1	83	1.29	13.6	5.9	3
'KÖRÖS'	13	05/08	5.6	65	1.56	15.3	6.5	4
'LEITZKAUER PRESSAURKIRSCHE'	15	15/08	3.7	211	2.11	16.9	6.8	3
'LOTOVA'	15	12/08	5.8	73	1.68	12.1	5.7	3
'M 5'	16	06/08	4.5	173	2.30	12.6	7.3	3
'M 7'	17	08/08	4.2	155	2.20	12.3	6.5	3
'MAILOT'	14	01/08	5.0	119	1.82	18.0	6.8	3
'MARASCA'	16	11/08	3.2	224	1.90	16.7	8.7	5
'MARASCA BIJELA POLOZITA'	14	20/08	3.2	170	2.16	18.2	8.2	3
'MARASCA DI CHIETI'	17	22/08	3.2	215	2.16	15.7	8.3	3
'MARASCA DI POVO'	17	15/08	3.3	164	1.95	15.0	7.9	3
'MARASCA DI SAVIGNANO'	18	14/08	4.7	12	2.27	13.4	6.3	3
'MARASCA DI ZARA'	17	19/08	3.4	178	2.09	16.3	8.2	3
'MARASCA DUGULJASTA'	13	11/08	3.7	187	2.01	16.1	6.7	5
'MARASCA ISSOLA BRAZZA'	11	17/08	3.1	104	2.14	12.8	8.6	2
'MARASCA LUXARDO'	17	19/08	3.3	171	2.05	15.3	7.6	3
'MARASCA SIVA USPRAVNA'	15	13/08	2.8	191	2.22	17.4	7.9	5

Table 1. cont...

Variety	Date of flowering (May)	Date of harvest	g/ fruit	Colour	Acidity %	Solids %	Stone %	Years
'MARASCA TRENTINIA'	17	16/08	3.7	170	2.03	14.6	8.4	3
'MARASCONE ROSSA'	13	28/08	4.7	8	1.27	11.7	5.6	1
'MARI TIMPURII'	17	10/08	4.9	98	1.89	14.2	5.8	3
'METEOR'	15	20/08	5.3	21	1.51	11.7	4.7	4
'MOCANESTI 16/4	09	08/08	4.1	41	1.85	16.3	6.3	5
'MONTLATE'	13	28/08	5.7	6	1.46	11.8	6.2	2
'MONTMAMMOTH'	11	11/08	4.6	11	1.40	13.8	5.8	2
'MONTMORENCY'	20	18/08	4.5	8	1.11	13.8	7.1	2
'MOREL P2'	16	12/08	4.6	91	1.58	13.3	6.1	5
'NABELLA'	18	13/08	5.2	79	1.95	14.9	5.5	5
'NEFRIS'	12	05/08	5.1	218	2.06	15.1	6.6	7
'NORTH STAR'	17	05/08	4.2	115	1.97	12.8	5.7	4
'OSTHEIMER'	13	31/08	4.5	77	1.27	15.2	8.1	2
'POZOG 29'	15	16/08	3.0	218	2.11	19.5	8.2	8
'RECTA'	11	31/07	2.6	190	1.95	17.5	8.9	4
'RÖHRINGS WEICHSEL'	10	16/08	5.3	176	1.69	14.2	6.1	2
'SCHATTENMORELLE'	18	14/08	4.4	85	1.79	13.8	6.1	5
'SCHWABISCHE WEINWEICHSEL'	17	10/08	4.4	121	1.73	16.0	5.7	5
'SENTESKA'	10	06/08	5.2	49	1.59	16.1	7.0	4
'SKLENOVKA VELKA'	15	06/08	4.6	8	1.08	14.1	6.1	5
'SLUPIA NADBRZEZNA'	16	17/08	3.5	126	2.06	16.0	6.7	8
'SOKULOSA'	12	13/08	2.8	222	2.18	18.2	9.0	4
'STEVNSBÆR'	12	18/08	3.2	221	2.14	16.6	7.9	7
'STOCKTON MORELLO'	18	28/08	3.0	124	1.93	15.1	7.8	3
'STORA KLARBÄR'	13	07/08	4.2	5	1.34	12.2	5.2	2
'SUDA'	15	17/08	5.0	82	1.64	13.1	6.0	3
'TIMPURII DE CLUJ'		08/08	5.1	63	1.50	15.0	4.6	2
'TSCHERNOKORKA'	16	31/07	5.3	180	2.25	16.5	4.6	2
'VACKOVA VISEN'	10	05/08	5.0	214	1.37	17.4	5.0	7
'VAN DER NAT'	15	03/08	4.0	117	1.79	15.2	5.6	4
'VILHOLT'	16	31/07	4.8	89	1.39	15.2	5.1	5
'VISCIOLA DI CARPEGNA'	16	11/08	4.4	90	2.53	17.9	8.0	1
'VISCIOLA DI MONTAGNA'	11	05/08	5.6	68	0.97	18.9	–	1
'VISCIOLA DI POZZUOLO'	15	09/08	4.4	13	1.56	14.2	7.7	4
'VISCIOLA TRENTINI'	11	02/08	3.8	183	2.04	15.1	8.3	3
'VITOVA'	18	19/08	4.9	60	1.52	11.0	6.2	3
'VLADIMIR'	18	07/08	5.0	26	1.46	16.3	4.5	2
'WESTERLEESE KRIEK'	14	25/08	3.5	191	1.77	16.5	6.8	3
'WIELCIN K'	15	18/08	3.6	228	2.35	18.1	7.7	8
'WIELKOPOLSKA CZARNA'	15	15/08	3.5	162	1.88	14.5	7.5	7
'WLOSZAKOWICE 1'	15	16/08	3.0	159	2.03	15.4	7.8	9
'WLOSZAKOWICE 66'	14	13/08	4.9	81	1.90	13.9	7.1	9
'WLOSZIMIERSKA WCZESNA'	15	07/08	3.0	228	1.57	17.1	8.1	6
'WOLYNSKA'	09	07/08	4.9	53	1.82	13.7	7.6	3
'ZAHORACKA'		03/08	5.3	160	1.47	19.2	5.2	4
'ZIGEUNERKIRSCHEN'	12	03/08	4.9	178	2.11	17.0	6.1	4
'ZUKOVSKAJA'	14	05/08	4.1	20	1.50	15.4	5.5	3

'Amarena de Pescara'. Origin: Italy. In Italy it has been early bearing and productive. However, in Denmark the yield has been too low for further interest.
References: 23, 24, 50, 51, 52.

'Amarena Mattarello'. Origin: Trento, Italy. The yield has been too low for further interest.
Reference: 23.

'Amarena Piacenzao'. Origin: Italy. In Italy it has given a fairly good yield of good quality. However, in Denmark it has only given very few fruits the first seven years.
References: 51, 52.

'Amarena Visciola di Melandria' Origin: Italy. After seven years the trees have not given enough fruits for any analyses.

'Bagryanaja'. Its major interest is early bearing and very early ripening of the fruit. The quality of the juice is not found satisfactory. However, it may be of interest for private gardens and pick-your-own orchards.

'Belle de Choisy'. Duke cherry, amarel. In Denmark the yield has been very low, and the juice of unsatisfactory quality.
References: 11, 15, 33, 35, 48.

'Belle de Sceaux'. See 'Belle Magnifique'.

'Belle Magnifique'. Duke cherry. Synonyms: 'Belle de Sceaux', 'Chatenay', 'Freemoase', 'Griotte Commune'. Origin: France about 1795. There seems to be several clones. Too low yield and quality for further interest.
References: 11, 15, 33, 41, 61.

'Beutelspacher Rexelle'. See 'Rexelle'.

'Brunbär från Gästrikland'. Origin: Sweden. A cultivar much like 'Stevnsbär', but not better in any way.
References: 40, 76, 86.

'Cerise de Schaerbeek'. See 'Westerleese Kriek'.

'Cerise Magnifique de Sceaux'. See 'Belle Magnifique'.

'Chatenay'. See 'Belle Magnifique'.

'Chrisana 2'. Amarel. Origin: Romania. A clonal selection of 'Köröser'. A productive amarel with large fruits. It may be of further interest.
References: 31, 74, 86.

'Cusana'. Origin: Forli, Italy. The fruit ripens early, is pale and has a low acidity. The yield is too low for further interest.
Reference: 74.

'Demesova'. See 'Zahoracka,.

'Doppelte Natte'. See 'Van der Nat'.

'Dubbel Gorsem Kriek'. Origin: Belgium. Synonym: 'Le cerisier du Nord double de Gorsem'. The tree and the fruits can not be destinguised from 'Fanal'. See 'Fanal'.
References: 45, 60, 70, 84, 91.

'Earle'. Origin: Received from Italy. The fruit is much like 'Stevnsbär', but the juice has had a poorer quality and the yield has been much lower.
References: 23, 50, 51, 52.

'Elmer'. Synonym: IVT VH 440. Origin: Wageningen, Holland, 1972, 'Schattenmorelle' x 'Mayduke'. The cultivar was productive in Dutch trials, however in Danish trials the yield was too low.
References: 25, 69, 87.

'English Morello'. Supposed to be a synonym to 'Schattenmorelle' and in our trials it has not differed significantly from this.
References: 35, 76, 89.

'Eugenie'. See 'Imperatrice Eugenie'.

'Fanal'. Synonyms: 'Heimanns Konservenweichel', 'Heimann 23'. Origin: Blankenburg, Germany, about 1940. Probably seedling of 'Schattenmorelle'. The fruit is big and the juice is of very high quality. The tree is selffertile and very productive, however, it is too susceptible to bacterial canker for growing in Denmark. The cultivar is mostly grown in DDR.
References: 12, 23, 24, 27, 32, 39, 42, 47, 50, 52, 60, 76, 81, 82, 84, 86, 87, 91.

'Ferracida'. Amarel. Origin: INRA, France. The tree is selffertile and has been productive in France. In Denmark the trees came into bearing very late, but older trees were productive. Under further observation.
References: 4, 21, 52, 53, 68, 74.

'Fruchtbare von Michurin'. Origin: Received from East Lansing, Michigan. The trees have been low yielding. The fruit has pale juice with an extremely low content of sugars.

'Griotte du Nord'. See 'Schattenmorelle'.

'Heimanns Konservenweichsel'. See 'Fanal'.

'Heimanns Rubin'. Synonyms: 'Rubin', 'Rubinweichel', 'Heimanns 26'. Origin: Germany about 1940. Probably seedling of 'Schattenmorelle'. The fruit is large and the juice of high quality. The cultivar has not got any bigger importance because the trees are not as productive as 'Fanal' and are susceptible to bacterial canker.
References: 25, 27, 37, 39, 42, 46, 47, 72, 80, 81, 82, 90.

'Hiszpanka Pozna'. Synonym: 'Lutowki'. Origin: Received from Poland. Amarel. Discarded owing to heavy infection of virus.
Reference: 26.

'Imperatrice Eugenie'. Amarel. Origin: France 1845. Duke cherry.
Productivity and fruit quality not satisfactory for further interest.
References: 15, 41.

'Jareniowka'. Origin: Poland. The yield has been too low for further interest.
Reference: 26.

'Jubileynaya'. Origin: Uncertain, probably Russia. The yield has been too low here and in other countries.
References: 11, 40, 76.

'Kelleriis 14'. Origin: Denmark 1945, ('Ostheimer' x 'Früheste der Mark') x open pollinated. The trees are weak in growth and are fertile in relation to tree size. The fruit is much like 'Schattenmorelle'. May be of interest for some purpose.
References: 17, 37, 59, 60, 70, 77, 86, 91.

'Kelleriis 16'. Synonym: 'Morellenfeuer', Denmark, 1945. ('Ostheimer' x 'Früheste der Mark') x open pollination. The tree is early bearing and very productive. It is susceptible to *Monilia laxa* and the virus disease little cherry. The quality of the fruit and the juice is much like 'Schattenmorelle'. The cultivar is widely grown in Denmark, Germany and Czechoslovakia.
References: 17, 25, 26, 69, 70, 76, 78, 82, 90, 91.

'Kentish'. Amarel. Origin: Received from East Lansing, Michigan, USA. The yield has been too low and the juice has a very low sugar and acid content.
References: 6, 74.

'Kleine Waalse'. Synonym: 'Troswaalse', 'Flemish Red', 'Griotte de Visa'. Origin: Belgium. The fruits characteristics are much like 'Schattenmorelle', however it seems to ripen a little earlier. Under observation.
Reference: 75.

'Körös'. Synonym: 'Kereska', 'Kerezer, 'Pandy Uvegmeggy', 'Ungarische Weichel'. Origin: Nagyköröge in Hungary. The tree is vigorous and healthy, but the yield is often very low. The fruit is very big, but the juice is of rather low quality.
References: 13, 25, 38, 41, 42, 45, 47, 49, 64, 72, 78, 82, 88.

'Leitzkauer Pressauerkirsche'. Origin: Leitzkau, Magdeburg, Germany. The tree is vigorous, healthy and productive. The fruit and its high quality is much like 'Stevnsbär'.
References: 36, 82.

'Lotova'. Origin: Yugoslavia. The trees have been very productive, the fruits are very big. The quality of the juice is much like 'Schattenmorelle'. Under further observation.
References: 1, 23, 24, 74.

'Lutowki'. See 'Hiszpanka Pozna'.

'Mailot'. Origin: Max Planck-Institut, Germany 1964, 'Schattenmorelle' x 'Rote Mai'. The weak growing tree has not been very fertile. The most important characteristic of the cultivar is a very early fruit ripening.
References: 45, 49, 61, 82, 91, 92.

'Marasca'. Origin: Yugoslavia. For centuries cherries under this common name has been grown in Yugoslavia. Some botanical authors, mainly earlier, have considered it as a sub-species named: *Prunus cerasus marasca.* The group is characterized by small, very dark fruits and very high quality for the famous Yugoslavia »Marasca«-cherry wine and liquors. However, the very many 'Marasca'-clones vary much in tree and fruit characteristics. Many are much like the Danish 'Stevnsbär'.
References: 57, 60.

'Marasca Bijela Polozita'. Origin: Yugoslavia. Much like 'Stevnsbär', but gave a lower yield in Denmark.
Reference: 82.

'Marasca di Chieti'. Origin: Received from Forli, Italy. The fruits much like 'Stevnsbär', but the yield was much lower in Denmark.
References: 23, 24, 52.

'Marasca di Piemonte'. Origin: Received from Italy. The yield has been so low, that it is considered worthless under Danish conditions.
References: 23, 74.

'Marasca di Povo'. Origin: Received from Verona, Italy. Discarded due to very low yield under Danish conditions.
References: 23, 74.

'Marasca di Savignano'. Origin: Received from Verona, Italy. It has not been possible to find any information about it. The cultivar received is not a 'Marasca', but an Amarel. It is under further observation due to a high acidity.

'Marasca di Zara'. Origin: Received from Verona, Italy. Much like 'Stevnsbär', but the yield has been much lower.
References: 23, 24, 52.

'Marasca Duguljasta'. Origin: Yugoslavia. The fruit is much like 'Stevnsbär' but ripens 10 days earlier. The tree is vigorous, but has only given half the yield of 'Stevnsbär'.
References: 72, 86.

'Marasca Issola Brazzo'. Origin: Forli, Italy. The fruits are much like 'Stevnsbär', but the juice has a lower colour intensity.
References: 50, 51, 52.

'Marasca Jareniowka', See 'Jareniowka'.

'Marasca Luxardo'. Origin: Italy. Supposed to be a clone of 'Amarena di Pescara'. A very vigorous tree growth and a low yield has been the cause to discard it.
References: 50, 51, 52, 53.

'Marasca Siva Uspravna'. Origin: Yugoslavia. The fruit quality is much like 'Stevnsbär', but the trees have been less productive.
Reference: 86.

'Marasca Slupia Nadbrzesna'. See 'Slupia Nadbrzesna'.

'Marasca Trentinia'. Origin: Italy. The fruit is much like 'Stevnsbär', but the quality of the juice is poorer. The tree is vigorous and has given too low a yield.

'Marasca Wlodzimierska'. See 'Wlodzimierska'.

'Marasca Wloszakowice'. See 'Wloszakowice'.

'Marascone Rossa'. Origin: Verona, Italy. The juice quality and fruit yield have been too low under Danish conditions.
References: 52, 59, 74.

'Mari Timpurii'. Origin: Romania, probably a cross by *Prunus avium x P. cerasus.* Described as a valuable cultivar in Romania. Under Danish conditions the yield and juice quality is too low.
References: 20, 30, 44, 82.

'Meteor'. Amarel. Synonym: 'Minnesota No 66'. Origin: Minnesota, USA, 1952. 'Montmorency' x Russian variety. The tree is selffertile and very productive. The fruit is much like 'Montmorency'. It is considered to be one of the most valuable amarels under Danish conditions.
References: 2, 16, 25, 53, 56, 60, 74, 81, 89.

'Montlate'. Amarel. Origin: Michigan, USA, 1932. Bud mutation of 'Montmorency'. It does not seem to have any characteristics of importance.
Reference: 16.

'Montmammoth'. Amarel. Origin: Received from Michigan, USA. The yield has been very low and the fruit quality has not been outstanding in any way.

'Morel P2'. Origin: Holland, 1960. Selection of 'Schattenmorelle'. Has given good results in Dutch and Norwegian trials. Under Danish conditions it has not differed from 'Schattenmorelle'.
References: 25, 69, 86.

'M5'. Origin: Hungary. Received from Sweden. The tree is rather productive and the fruit is of high quality. As it ripens two weeks earlier than 'Stevnsbär' it is under further observation.
Reference: 27.

'M7'. Origin: Hungary. Received from Sweden. The tree is very productive. Although the juice is not of as good quality as 'Stevnsbär', the cultivar deserves further interest owing to good yield and early ripening.
Reference: 27.

'Mocanesti 16/4'. Amarel. Origin: Romania, clone of 'Mocanesti', 1975. The tree is vigorous and very productive. The fruit is of good quality and considered as one of the best amarels under Danish conditions.
References: 19, 20, 30, 44, 53, 58, 82.

'Montmorency'. Amarel. Origin: France. Most grown amarel in the world. Under Danish conditions it has always given a very low yield.
References: 31, 35, 52, 53, 78, 82.

'Morel'. See 'Schattenmorelle'.

'Nabella'. Origin: Max Planck-Inst., Germany, 1954. Seedling of 'Schattenmorelle'. No characteristics have been significantly better than 'Schattenmorelle'.
References: 17, 24, 37, 77, 86.

'Nefris'. Origin: Poland 1938, discribed as comparable to 'Fanal'. In our trials it did not differ significantly in any characteristic from 'Fanal'. Supposed to be a clone of this. See 'Fanal'.
References: 21, 26, 77, 84, 86.

'North Star'. Synonym: 'Minnesota 58'. Origin: Minnesota, USA, 1952. 'English Morello' x 'Serbian Pie'. The tree is fertile, but has been very susceptible to *Monilia laxa.* It has not shown any outstanding merits in Denmark.
References: 1, 2, 21, 23, 24, 25, 26, 54, 74, 77.

'Ostheimer'. Origin: An ancient cultivar, supposed to have been brought from Spain to Germany, where several clones are grown. The tree is weak growing and susceptible to *Monilia laxa.* The yield is mostly low. The major interest of the cultivar is its early ripening.
References: 8, 41, 42, 47, 64, 66, 72, 76, 78, 81, 88.

'Pozog 29'. Synonym: 'Serocka'. Origin: Serock, Poland, 1957. Grown in Poland for wine and liquors. The fruit is much like 'Stevnsbär'. Discarded due to virus infection.
References: 26, 67.

'Przytoesvo'. See 'Wielkopolska Czarna'.

'Przyalejewo'. See 'Wielkopolska Czarna'.

'Querfurter Pressauerkirsche'. Origin: Selection from Querfurt, Sachsen, Germany. The fruit is very much like 'Stevnsbär', however, the cultivar is discarded because of very low yield.
References: 12, 13, 25, 41, 42, 45.

'Recta'. Origin: Received from Verona, Italy, 1982. The fruit is much like 'Stevnsbär', but ripens about one week earlier. It is of further interest due to fruit of high quality and earlier ripening, good tree shap, and high yield.

'Rexelle'. Synonym: 'Beutelspacher Rexelle'. Origin: Germany, seedling of 'Schattenmorelle'. Protected in München 1961. Can not in any characteristic be distinguished from 'Fanal', and therefore supposed to be a clone of this. See 'Fanal'.
References: 25, 37, 39, 45, 56, 59, 70, 73, 84, 86, 88, 90, 91.

'Rubin'. See 'Heimanns Rubin'.

'Röhrings Weichsel'. Origin: Unknown, received from Forli, Italy. In German trials it can hardly bee distinguished from 'Fanal'. In our trials the juice had a poor quality.
References: 25, 39, 45, 49, 51, 52.

'Schattenmorelle'. Origin: A very old cultivar, described in the beginning of the 17th century. Synonyms: 'Morello'. 'English Morello' (USA, England), 'Griotte du Nord' (France, Belgium). 'Dubbelte Morelkers', 'Morel' (Holland), 'Lutowka' (Poland). Very many clones have been grown in many different countries. Probably the most grown cultivar of morello type in the world. It is outstanding for constant high yield. It's greatest weakness is susceptibity to *Monilia laxa.* The juice has a lower content of sugar, acid and anthocyanins than 'Stevnsbär'. However, it's bigger fruits make it valuable for certain purposes.
References: 4, 30, 39, 77, 78, 82, 83, 86.

'Schwäbische Weinweichsel'. Origin: Glött, Germany. Grown in Dillingen/Schwaben in Germany. The tree is vigorous. The yield and the quality is not quite as high as in 'Stevnsbär'.
References: 34, 36, 41, 42, 70, 90.

'Schöne von Chatenay'. See 'Belle Magnifique'.

'Senteska'. Amarel. Origin: Unknown, received from Verona, Italy. May be of further interest due to productive trees, big fruits and pale juice of good quality.
References: 51, 52, 81.

'Serocka'. See 'Pozog 29'.

'Sklenovaka Velka'. Amarel. Origin: Unknown. Is not found satisfactory because the trees are very vigorous and give only a rather low yield.
Reference: 88.

'Slupia Nadbrzezna'. Origin: Poland. The juice is of good quality, but the yield of the trees has been too low.
Reference: 67.

'Sokowka'. See 'Wielkopolska Czarna'.

'Sokowka 29'. See 'Wisnia Serocka'.

'Sokulosa'. Origin: Recieved from Verona, Italy. The tree is productive. The fruit ripens a few days earlier than 'Stevnsbär' and the juice has almost the same high quality. The cultivar deserves more trial planting.

'Stevnsbär'. Synonyms: 'Lövskal', 'Heeringbär'. Origin: Has been commercial grown in Denmark for more than a century, as selections from wild growing *Prunus cerasus.* In the later years several clones have been tested. Since 1983 the clone 'Viki' has been the most planted. In Denmark 80–90% of all sour cherries in commercial orchards are 'Stevnsbär'.

The tree is vigorous, erect with long, thin branches. It is selffertile and productive. The fruit is very small and very suitable for mechanical harvest. The juice is of very high quality. The weaknesses of the cultivar is an early flowering and »dead buds« on the longer, bearing shoots.
References: 9, 18, 37, 62, 71, 78, 81, 82, 83, 85, 86.

'Stocton Morello'. Origin: California, about 1800. It has been used as a rootstock. The trees are very vigorous and have given only a small yield.
References: 5, 43.

'Stora Klarbär' (Amarel). Origin: Sweden. Early ripening, but the yield has been too low for further interest.

'Suda'. Synonym: 'Suda Hardy'. Origin: USA, 1880. Probably a seedling of 'Schattenmorelle'. The tree is weak and productive in relation to tree size. The fruit and the juice is much like 'Schattenmorelle'.
References: 25, 35, 65, 77, 82.

'Timpurii de Cluj'. Origin: Romania. Has only given very few fruits in Danish trials.
References: 22, 30, 44.

'Tschernokorka'. Origin: Russia. The tree is productive but selfsterile. The fruits ripen very early and have a high content of acid. It is of commercial value if early ripening is of any importance.
References: 25, 27, 34, 40, 49, 56, 76, 77, 81, 90.

'Vascova Visen'. Origin: Czechoslovakia. The fruit is big and of good quality. However, the cultivar was discarded due to a very low yield.
Reference: 88.

'Van der Nat'. Synonym: 'Doppelte Natte'. Origin: Holland. The tree has in most trials given only a small yield. It is not found to have any qualities to compensate for the low yield.
References: 12, 13, 14, 35, 41, 47, 77.

'Vilholt'. Origin: Denmark, 1979. Supposed to be a seedling of 'Ostheimer'. The growth are rather weak and compact and the tree is early bearing and productive. The fruit ripens very early and is rather sweet. The cultivar is of interest if early ripening is important.
References: 86.

'Visciola di Carpegna'. Origin: Received from Trento, Italy. The tree is vigorous but very low yielding. It is of no interest in Denmark.

'Visciola di Montagna'. Origin: Italy. It was discarded early because the yield has been very low.
References: 10, 15.

'Visciola di Pozzuolo'. Amarel. Origin: Received from Verona, Italy. The tree has been medium productive and the juice of acceptable quality. Under further observation.
Reference: 74.

'Visciola Trentini'. Origin: Received from Verona, Italy. The tree is productive, the fruit is big and the juice of high quality, but is not found to be an improvement on 'Stevnsbär' under Danish conditions.

'Vitova'. Origin: Czechoslovakia, about 1959. The tree is productive and selffertile. It is not found to be of any improvement on other varieties.
References: 25, 64, 69.

'Vladimir'. Origin: Russia. The tree is weak growing, but the yield has been so low that it not has been possible to analyse the fruit.
References: 12, 26, 35, 67, 77.

'Westerleese Kriek'. Origin: Holland. Synonym: 'Cerise de Schaerbeck', 'Wye Morello'. The trees and fruits are very much like 'Stevnsbär'. It is under further observation, because it ripens a few days earlier.
References: 29, 33, 77, 78.

'Wielcin K'. Origin: Poland. The tree is vigorous and very productive. The fruit is much like 'Stevnsbär' and the juice is of about the same high quality. Under further observation.

'Wielkopolska Czarna'. Synonyms: 'Przyalejowa', 'Przytowo', 'Sokowka', 'Wislanka Grankowa'. Origin: Poland, 1902. The variety is discarded owing to a low yield and infection of virus.
Reference: 26.

'Wislanka Grankowa'. See 'Wielkopolska Czarna'.

'Wisnia Serocka'. Synonyms: 'Sokowa nr. 29', 'Sokowka Serocka', 'Pozog 29'. Origin: Serock, Poland. The fruit is much like 'Stevnsbär', however, it has been discharded owing to lower yield.
References: 26, 67.

'Wlodzimierska Wczesna cl. Ziebicki'. Origin: Poland. The fruit is much like 'Stevnsbär' but the yield has been much lower.
References: 26, 67.

'Wloszakowice 1'. Origin: Poland. The tree is vigorous and very productive. The fruit is much like 'Stevnsbär'. It is supposed to have further interest owing to the high yield.
Reference: 67.

'Wloszakowice 66'. Origin: Poland. The tree is vigorous and productive. The fruit is much like 'Schattenmorelle', but does not seem to be any improvement on this.
Reference: 67.

'Wolynska'. Origin: Poland 1960. The tree has been productive, the juice is very pale, but of good quality. Under further observation.
Reference: 26.

'Zahoracka'. Synonym: 'Demesova'. Origin: Probably Czechoslovakia. It was discarded early from a Danish trial because the yield was extremely low.
References: 14, 86, 88.

'Zigeunerkirschen'. Origin: Unknown, grown in Hungary. The tree is productive and the quality of the juice is only slightly poorer than 'Stevnsbär'. It is of further interest for a prolongation of the season, as it ripens about two weeks earlier than 'Stevnsbär'.
References: 14, 34, 77.

'Zukovskaja'. Origin: Mitschurin, Russia, 1932. The yield has been very low and it has no qualities, which stimulate further interest.
References: 3, 27.

Conclusion

Most of the cultivars are discarded for planting in Denmark due to low yield or poor quality. Clones of 'Stevnsbär' still seems to be the best cultivar for production of dark coloured fruits of high quality for processing. However, cultivars of nearly same qualities, such as 'Recta', 'Westerleese Kriek' 'Wielcin K', 'M5', 'M7', 'Wloszakowice 1' and 'Zigeunerkirschen' need further trials. They may be of interest for extending the harvest season.

Although the quality of 'Kelleriis 16' only is medium, it may still be recommended, because the trees are early and rich bearing. For the fresh fruit market early ripening cultivars such as 'Bagryanaja', 'Tschernokorka,' and 'Vilholt' may be of interest.

Amarels, i.e. sour cherries with uncoloured juice, are not yet grown in Denmark. Of interest for good quality or high yield are 'Amarena D'Alfonsine', 'Crisana 2', 'Ferracida', 'Marasca di Savignano', 'Meteor', 'Mocanesti 16', 'Senteska' and 'Visciola di Pozzuolo'.

References

1. *Albertini, A.* 1975. prime indicazioni sulla scelta varietale del ciliegio. Comitato Ortofruitticolo Provinciale Trento, Italy, 11 pp.
2. *Alderman, W. H., Wilcux, A. N. & Weir, T. S.* 1957. Fruit varieties developed at the University of Minnesota Fruit Breeding Farm. Bull. Minn. Agric. Exp. Sta. 441, 36 pp.
3. *Anon.* 1982. Versuchsfeldführer der Versuchsstation für Intensivkulturen und Agrarökologie Bavendorf. Universität Hohenheim 1982, 70 pp.
4. *Anon.* 1982. »Cherry growers evening walk« July 1982. Stencils. National Fruit Trial, England.
5. *Anon.* 1983. Jahresbericht Staatl. Lehr. u. Versuchsanstalt für Wein. u. Obstbau, Weinsberg. Germany.
6. *Anon.* 1983. 'Cherry Growers' evening Walk July 1983. Stencils. National Fruit Trial.
7. *Anon.* 1985. Ciliegio Acido. Revista di frutticoltura e di orthoflorecoltura 47/2, 18-22.
8. *Bechsteeg, W.* 1939. The resistance of German apple and cherry varieties to Monilia rots. Z. Pfl. Krankh. 49, 11-15 (Hort. Abs.).
9. *Bielefeld, P.* 1978. »Stevnsbär«: Beispiel für eine Industrie Sauerkirsche. Erwerbsobstbau 20(4), 67-69.
10. *Blaha, J.* 1972. Einige Ergebnisse biometrischer Analysen der Kirschensorten. Mitt. Klosterneuburg 22, 126-131.
11. *Blaha, J.* 1975. Chemische Analyse der Werteigenschaften von Sauerkirchensorten. Z. Pflanzenzüchtg. 74, 130-136.
12. *Blasse, W.* 1964. Einschätzung des Sauerkirschensortiments des Deutschen Demokratischen Republik. Der Deutsche Gartenbau 4, 91-94.
13. *Blasse, W.* 1964. Phaenologische und befruchtungsbiologisch – zytologische Untersuchungen an Sauerkirschensorten. Arch. Gartenbau 12, 147-158.
14. *Blazek, J. & Kloutvor, J.* 1985. (Evaluation of selected sour cherry cultivars in relation to some characteristics determining their suitability for mechanical harvesting by shaking). Vedecke Prace, Ovocnarska 10, 87-101.
15. *Bordeianu, T. & Constantinescu, N.* 1965. Pomologia Republicü Socialiste Romania. 4, 735 pp.
16. *Brooks, R. M. & Olmo, H. P.* 1972. Register of new fruit and nut varieties. 2. ed. Univ. California Press. 708 pp.
17. *Bünemann, G., Roemer, K. & Scrøder, W.* 1981. Schattenmorellen selektionen und andere Sauerkirschesorten: Erträge, Wachstum, Fruchtqualität. Erwerbsobstbau 23, 211-216.
18. *Christensen, P. E. & Grauslund, J.* 1979. Changes in contents of important constituents during ripening of *Prunus cerasus* L. cv. Stevnsbär. Tidsskr. Planteavl 83, 95-99.
19. *Cociu, V.* 1975. Research concerning the selection of several valuable clones in the Crisana and Mocanesti sour cherry varieties. Lucrarile stiintifice Inst. cerc. prod. pentru pom., Pitesti 4, 65-72.
20. *Cociu, V.* 1981. Aspecte privind zonarea si microzonarea Soiurilor de pomi si arbusti fructiferi (Some aspects on fruit and small fruit varieties location in Romania). Lucrarile stiintifice Inst. cerc. prod. pom. Pitesti 9, 9-24.
21. *Cociu, V.* 1981. Contributü la imbunatatirea sortimentului de visin pentru sona Baraganului (Contribution to the improvement of sour cherry ass. for Bàràgan area). Lucrarile stiintifice Inst. cerc. prod. pom. Pitesti 9, 309-315.
22. *Cociu, V. & Gozob, T.* 1979. Ameliorarea genetica a visinului in Romania. (Genetical breeding of the sour cherry in Romania). Lucrarile stiintifice Inst. cerc. prod. pom., Pitesti 8, 65-70.

23. *Costa, E., Albertini, A., Miserocchi, O. & Piva, M.* 1981. Attitudine varietale delle ciliegie acide alla produzione de ciliegie »All aqua«, »Sciroppate« e »Succhi«. L'informatore Agrario, 32.
24. *Costa, E., Guerzoni, M. E., Albertini, A. & Piva, M.* 1980. Attitudine della cultivar di ciliegio acido alla raccolta meccanica. L'informatore Agrario, 31.
25. *De Vries, P. P. & Peerbooms, H.* 1972. Variety trials with sour cherries in the Netherlands. Proc. 2. Congr. Ciliego, Verona 1972.
26. *Dzieciol, W., Rejman, A. & Rembacz, J.* 1983. Atlas czeresni i Wisni. Warszawa, 154 pp.
27. *Evaldson, I.* 1980. Surkörsbärsorterne som saftråvara och deras fruktegenskaper. Sveriges Lantbruksuniversitet, Institutionen för Trädgårdsvetenskap, Rap. nr. 14.
28. *Fernqvist, I.* 1957. Transportförsök med Körsbär. Meddelande nr. 103, Statens Trädgårdsförsök, Sweden.
29. *Gerritsen, G. J.* 1956. Improvement of the cherry varieties used in the Netherlands. Euphytica 5, 101-116.
30. *Gozob, T., Rudi, E. & Amzar, V.* 1979. Cercetari provitoare la comportarea unor soiuri de visin in bazinul pomical Agres (Research works concerning the Agres fruit growing region). Lucrarile stiintifice Inst. cerc. prod. pom., Pitesti 8, 37-51.
31. *Gozob, T., Rudi, E., Micu, C. & Amzar, V.* 1981. Sortimentul de Visin pentru Bazinul pomicol Agres (Sour cherry assortment for Agres fruit growing area). Inst. cerc. prod. pentru pom. Pitesti, Romania 9, 301-308.
32. *Groh, W. & Reich, E.* 1966. Die Sauerkirschensorten 'Fanal' und 'Granat'. Obstbau Berlin 6, 24-26.
33. *Grub, N. H.* 1937. Bacteriosis of cherry trees J. Pomol. 15, 24-34.
34. *Götz, G.* 1970. Süss- und Sauerkirschen. Grundlagen und Fortschrifte im Garten- und Weinbau. Heft 122,102.
35. *Hedrick, U. P.* 1914. The Cherries of New York. New York State Dept. of Agric. 370 pp.
36. *Heese, W.* 1955. Beobachtungen an einen 8-jährigen Sauerkirschensortiment in Weihenstephan. Flüssiges Obst 1955, 4-5.
37. *Hein, K.* 1978. Eigenschaften verschiedener Sauerkirschensorten. Erwerbsobstbau 20, 66-67.
38. *Hein, K.* 1982. Eigenschaften der Sauerkirschensorte 'Köröser Weichel'. Erwerbsobstbau 24, 28-29.
39. *Hein, K.* 1985. Selection within existing dark sour cherry varieties. Acta Hort. 169, 143-146.
40. *Hintze, S.* 1976. Sortsförsök med surkörsbär Stencilserie, Trädgård 103, 7 pp. Alnarp, Sverige.
41. *Holfelder E.* 1955. Über die Eignung der verschiedene Sauerkirschensorten für die Süssmostherstellung. Flüssiges Obst 22: 2-4.
42. *Holfelder E. von & Eid, K.* 1963. Zur Klärung der Sortenfrage bei der Herstellung von Sauerkirsch-Süssmost. Flüssiges Obst 30, 22-23, 25,26.
43. *Howard, W. L.* 1924. The Stockton Morello cherry. Proc. Amer. Soc. Hort. Sci. 21, 320-324.
44. *Ivan, J., Minoiu, N., Micu, J. & Modoran, P.* 1981. Cercetari privind sortimentul de visin recomandet pentru zona dealurilov de nordest ale Transilvaniei. Lucrarile stiintifice Inst. cerc. prod. pom., Pitesti 9, 317-322.
45. *Knösel, D., Thill, H. & Kock, Th.* 1971. Feststellungen über die Sortenanfälligkeit von Sauerkirschen gegen Bakterienbrand und Ergebnisse mehrjähriger Bekämpfungsversuche. Z. Pfl. Krankh. 78, 329-334.
46. *Kramer, S.* 1962. Die Obstbauliche Beurteilung einiger Sauerkirschensorten. Intensive Obstbau 2, 66-67.
47. *Kramer, S.* 1968. Ergebnisse eines Feldversuchen mit Sauerkirschensorten. Archiv für Gartenbau 16, 51-66.
48. *Krummel, H.* 1956. Deutsche Obstsorten.
49. *Labus, S.* 1966. Die Bedeutung der Sortenfrage und der Pflegemassnahmen in Anbau von Sauerkirschen. Mitt. OVR, Jork 21, 243-246.
50. *Leverani, A. & Colianchi, D.* 1980. Orientamento varietale del ciliegio acido in rapporto alle caratteristiche agronomiche e alle diverse utilizzazioni industriali. Informatiore de ortoflorofrutticoltura Anno XX1 n 6, 7-11.
51. *Leverani, A., Cobianchi, D. & Bergamini, A.* 1981. Ricerche sull' attitudine varietale del ciliegio acido alla trasformazione industriale. L'informatore Agrario 31, 18459-18463.
52. *Liverani, A. & Cobianchi, D.* 1980. Caratteristiche Vegetoproduttive di 48 cultivar de ciliegio acido. Frutticoltura XLII, 17-24.
53. *Lunati, U. & Sansavini, S.* 1981. Scelte Varietali in frutticoltura. Ferrara, Centro Operativo Ortofrutticolo, 88-91.
54. *Mair, H.* 1982. Der Anbau von Johannisbeeren und Sauerkirschen in Südtirol. Obstbau/Weinbau, 19/6.
55. *Maurer, K. J.* 1961. Die Sauerkirschensorten Tschernokorka. Der Erwerbsobstbau 3, 124-125.
56. *Misec, P. D., Todorovic, R. R., Lekic, N. K. & Pavlovis, V.* 1977. Samooplodnja Visnje. Nauka u praksi 7, 141-144.
57. *Misic, P. D., Todorovic, R. R., Merkovic, M. A. & Jokanovic, L. M.* 1987. Selekeijalavalske visnje. Arkiv za poly. nauke 48, 170, 119-126.

58. *Padureanu, Tatiana* 1981. Contributti la imbunatatiera sortimentulni de visin pentru zona de zud a olteniei. Horticultura, nr. 4/1981.
59. *Peerbooms, H. & de Vries, D. P.* 1971. Rasenproef met zure kersen. De Fruitteelt 61, 76-77.
60. *Pejkic, B., Stancevic, A., Senole, J., Kapentanovic, N. & Medin, A.* 1983. Novi Jugoslovenski sortiment Visanja. Jug. voc. 17, 63-64, 85-92.
61. *Plock, H.* 1972. Reifezeiten der Kirschensorten und ihre Bedeutung für die Baumschule und die Obstkultur. Dt. Baumschule 24, 117-118.
62. *Rasmussen, K., Kold, E. & Vittrup Christensen, J.* 1983. Flower bud formation and fruit set in relation to shoot length in the sour cherry 'Stevnsbär'. Tidsskr. Planteavl 87, 505-514.
63. *Redalen, G.* 1984. Fertility in sour cherries. Gartenbauwissenschaft 49, 212-217.
64. *Richter, M.* 1971. Studium Sortimentü Visni (Study of the collection of morellos). Rostlinna Vyroba 17 (XLIV), c. 2; 219-232.
65. *Richter, M.* 1985. Zhodnoceni tresni a visni z hlediska potreb praxe. (Evaulation of sweet and sour cherry cultivars from the point of the practice). Zelesice, Czechoslovakia, 73-79.
66. *Riebe, M.* 1979. Några surkörsbärsorters lämplighet för industriell saftfrämställning. Frukt & Bärodling 1979, 2.
67. *Rejman (Polen).* 1976. Private communication.
68. *Sanfourche, G.* 1979. Varietes de cerisiers. INRA, Bordeaux, 43 pp.
69. *Schalk, A. & Thijssen, B.* 1978. Morellen in de Belangstelling. De Fruitteelt 68, 1236-1238.
70. *Schmidle, A.* 1981. Zur resistenz von Sauerkirschensorten gegen den Bakterienbrand *Pseudomonas syringae* van Hall. Erwerbsobstbau 23, 110-113.
71. *Stainer, R.* 1975. »Stevnsbaer« – eine interessante Sauerkirsche für die Safterzeugung. Obstbau/ Weinbau 5, 142-145.
72. *Stancevic, A. S.* 1969. The investigation of blooming period, time of maturity and productivity of sour cherry cultivars. Jug. Vocarsta 9, 1-15.
73. *Stancevic, A. S.* 1971. Osobine novijih sorti visanja Rekselea i Kelerisa. 14. Jug. Vocarsta 16, 57-60.
74. *Testoni, A.* 1982. Valutazione della caratteristiche qualitative delle ciliegie acide. Frutticoltura 5, XLIV, 31-54.
75. *Vandandael, A.* 1954. Fruits caracters et qualites. L'office National des delsanches Agricoles el Horticales, Bruxelles.
76. *Vestrheim, S.* 1973. Sortgranskning i surkirsebær. Scient. Rep. Agric. Univ. of Norway. 52. rep. nr. 30, 23 pp.
77. *Vestrheim, S.* 1985. Cultivar trial with morello sour cherries in Norway . Acta Hort. 169, 131-136.
78. *Vittrup Christensen, J.* 1966. Sortsforsøg med surkirsebær. Tidsskr. Planteavl 70, 17-21.
79. *Vittrup Christensen, J.* 1976. Beskrivelse af surkirsebærsorter 'Stevnsbær'. Tidsskr. Planteavl 80, 911-914.
80. *Vittrup Christensen, J.* 1977. Ein Überblich über die Weltproduktion von Kirschen. Erwerbsobstbau 19, 34-38.
81. *Vittrup Christensen, J.* 1978. Sauerkirschensorten. Obstbau 3, 144-146.
82. *Vittrup Christensen, J.* 1978. Sorter af surkirsebær (Evaluation of sour cherry cultivars). Tidsskr. Planteavl 82, 388-396.
83. *Vittrup Christensen, J.* 1985. Production of cherries in Western Europe. Acta Hort. 169, 15-26.
84. *Vittrup Christensen, J.* 1986. Evidence that some sour cherry cultivars are clones of the same cultivar. Acta Hort. 180, 79-80.
85. *Vittrup Christensen, J.* 1986. Clones of the sour cherry 'Stevnsbär'. Acta Hort. 180, 69-71.
86. *Vittrup Christensen, J.* 1986. Evaluation of 18 sour cherry cultivars. Tidsskr. Planteavl 90, 339-348.
87. *Vittrup Christensen, J.* 1988. Evaluation of 14 sour cherry cultivars. Tidsskr. Planteavl 92, 345-349.
88. *Vondràcek, J. & Kloutvor, J.* 1971. The evaluation of the phenological pomological and economic characteristics of the 'Morello' assortment. Zahradnichtvi, Praha, 219-234.
89. *Way, R. D.* 1974. Cherry varieties in New York State. Plant Sciences, Geneva, No. 37, 6 pp.
90. *Weinkamm, N.* 1963. Beschreibung und Beurteilung von Sauerkirschensorten. Der praktische Ratgeber 71, 33-34.
91. *Zahn, F. G.* 1980. Bakterienbrand keine Gefahr für Sauerkirschanlagen bei richtiger Sortenwahl. Mitt. OVR Jork 35, 344-349.
92. *Zwintzscher, M.* 1964. Die Sauerkirsche 'Mailot'. Erwerbsobstbau 6, 149-151.

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