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Some New Fruits

N.E. Hansen

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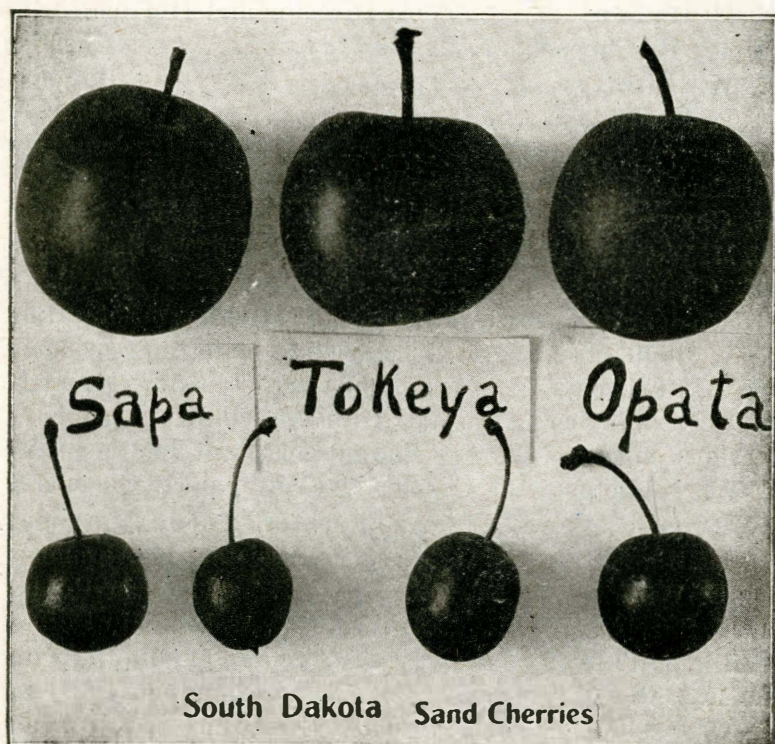
AGRICULTURAL EXPERIMENT STATION

SOUTH DAKOTA STATE COLLEGE OF AGRICULTURE
AND MECHANIC ARTS

SOME NEW FRUITS

ORIGINATED FROM THE NATIVE SAND CHERRY AND PLUM
IN THE DEPARTMENT OF HORTICULTURE

BROOKINGS, SOUTH DAKOTA



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SOME NEW FRUITS

N. E. HANSEN, Horticulturist

This bulletin may be considered as a continuation of Bulletin 87, The Improvement of the Western Sand Cherry; and Bulletin 108, New Hybrid Fruits. The season of 1909 was favorable to the production of a heavy crop of these new hybrid plums, whereas the crop of native plums was extremely light. Last year, 1910, the disastrous late May freezes destroyed the crop, a condition common to the larger part of the northern Mississippi valley. At this writing, June 1911, the trees are set with a heavy crop of fruit.

This work of improving the native South Dakota fruits was begun in the fall of 1895 when the writer first took charge of this department, by collecting wild fruit plants from various parts of South Dakota and adjoining states and the Canadian Northwest. The work of collecting wild plants has been continued since that time, both through correspondence and by exploring tours and field excursions in various parts of the Northwest. Extensive importations have been made from various regions of the old world, especially Russia and Siberia. Tame fruits have been obtained from many parts of the United States and from the mild regions of western Europe. In the collection of cultivated fruits many of the choicest varieties of America, Europe and Asia are represented. These afford excellent facilities for hybridization experiments. Each year large numbers of plants have been discarded and huge bonfires of these discarded trees mark the completion of various stages of the work. Much work remains to be done, but in stone fruits enough varieties of value have been obtained to keep the commercial nurserymen busy propagating them for some time to come. It is the policy of this department to propagate only a sufficient

number of these new fruits to insure their proper distribution and introduction in a preliminary way, enough so that their comparative value may be definitely established. But the main work of propagation is left to commercial nurserymen and to private planters if they so desire, which gives us time for work with other fruits. The present appears to be an opportune time to report on the work with stone fruits completed up to this time.

The main work of distribution was completed this present Spring in order to make room for the apple experiments which are now demanding more room in the seedling nurseries. In this vast workshop or laboratory some extremely interesting deductions in plant genetics may be made from the great mass of data secured. The work has led to some positive convictions on how to secure resistance to cold in fruit trees and plants and how to secure radical rearrangement of unit characters. The object of the present report, however, is simply to give a summary of the practical results with stone fruits as a guide to propagators and planters.

PEDIGREES AND DESCRIPTIONS

As a matter of permanent record and for the purpose of convenient comparison these hybrid fruits are arranged in groups in the following list. The heading of each group indicates the pedigree, the seed or female parent being named first, followed by the pollen or male parent. Under the reference "South Dakota Experiment Station Bulletin No. 108" is quoted the corresponding paragraph from Bulletin 108 of this station published May 1908. Next follows the reference "Some New Fruits" which refers to the printed descriptive price list or catalogue issued by this department each spring for the past four years. Following this in some cases are given field notes and other cases extracts from correspondence. The available space at this time will not permit a full record of the correspondence giving the experience with these new fruits elsewhere. The northern, southern, eastern and western limits of each va-

riety must be determined by careful trial through a series of years. In the summary at the close of this bulletin is given my estimate as to the best variety in each group, based on all this experience up to date.

NATIVE PLUM X CHINESE APRICOT (*Prunus Simoni*) POLLEN

This combination gives us a lot of hardy trees combining great vigor and early productiveness with large choice fruit of bright color and intense fragrance, which will sell at sight on the markets.

S. D. Exp. Sta. Bulletin No. 108—We have fully a score of seedlings resulting from crossing our native plum (*Prunus Americana*) with pollen of *Prunus Simoni*, a very large, firm fleshed apricot plum of China. These are all much alike in nursery and all of the five varieties that have fruited are very similar in fruit..... The Hauska is the only one that has been named and was introduced in the spring of 1908. The Hanska is the Dakota Sioux Indian for "tall" and the name is given in allusion to the extraordinarily rapid growth in nursery, some of the three-year old trees attaining a height of twelve feet. Two-year old trees are too heavy to ship well. The Hanska fruited first in 1906 and 1907 on two and three year old trees in nursery row. In fruit the Hanska closely resembles its Chinese parent in form, color, fragrance, quality and firmness of flesh. The size, however, is smaller, being only one and a half inches in diameter so far, but will probably increase on older trees. As noted in the above cut the pit is very small. The heavy blue bloom was rubbed in handling so that the photographs do not give the full beauty of the fruit. The quality is not as good as that of the Skuya, but the past two seasons have been unfavorable for developing good quality in plums.

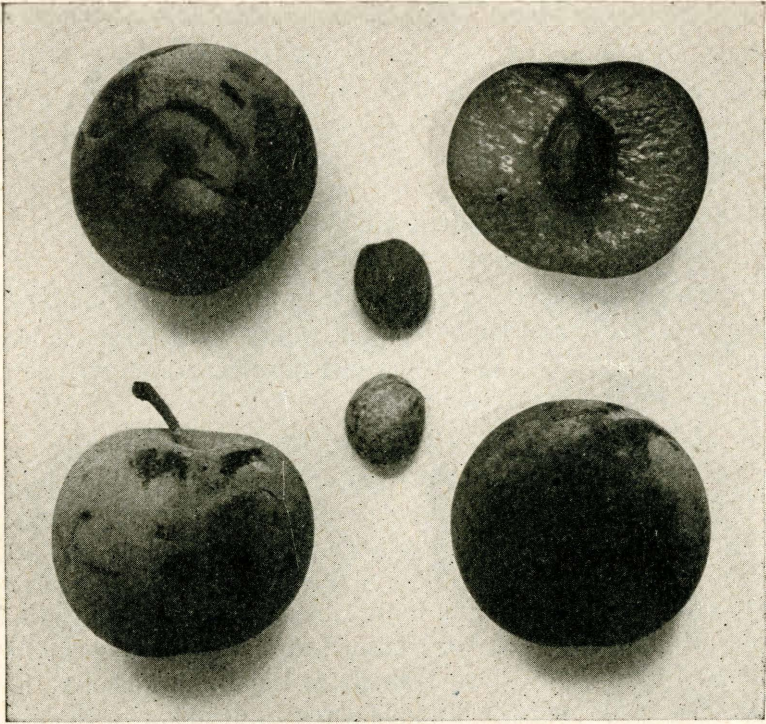


Plate 2—HANSKA

"Some New Fruits"; Spring 1908 *Hanska*—(Sioux Indian word for "tall"). Offered for the first time. The name is given in allusion to the extraordinarily rapid growth in nursery, three year old trees attaining a height of twelve feet; two year old trees are too heavy to ship well. The female parent is a seedling of our wild north-western plum (*Prunus Americana*); the male parent is the very large, firm-fleshed, fragrant, apricot plum of China (*Prunus Simoni*), and popular in the orchards of California. The *Hanska* fruited first in 1906 and 1907 on two and three year old trees in nursery row. In fruit the *Hanska* closely resembles its Chinese parent in form, color, fragrance, quality and firmness of flesh; the size, however, is smaller being only 1 1-2 inches in diameter so far but



Plate 3—A young Hanska tree bearing in nursery row

will probably increase as this was from two and three year old trees in nursery row. As will be noted by the above cut, the pit is very small. The trees offered are one year old on native plum (*Prunus Americana*) roots, which were closely crowded in nursery and the buds inserted the same year the pits were sown.

HANSKA

"Some New Fruits", Spring 1911.—First introduced in the Spring of 1908. As exhibited at the South Dakota State Fair three years in succession, the fruit of this variety has been much admired for its beautiful color, which is bright red with heavy blue bloom, firm yellow flesh, good quality and rich fragrance; fruit in 1909 was one and one-half to one and nine-sixteenths inches in diameter. When cooked the strong apricot flavor is brought out to perfection, entirely unlike any native plum. The flat shape also distinguishes it from all the other hardy plums grown in the Northwest.....

Inka and Kaga, of the same pedigree as the Hanska, were offered for the first time in the spring of 1909. The three varieties are much alike in fruit and rapidity of growth, but further trial is needed to determine which is the best one. It may be that it will be best to plant some of all four varieties of this pedigree for better pollination of the blossoms, the same as many other plums. Inkpa in the Sioux Indian language means "apex" or "acme"; and Kaga signifies "pitch a tent."

INKPA AND KAGA

"Some New Fruits", Spring 1909.—Inkpa, (Sioux Indian name for "apex" or "acme") and Kaga, (Sioux Indian for "pitch a tent"). Of same pedigree as the Hanska. Offered for the first time. These three varieties are much alike in fruit and rapidity of growth, but further trial is needed to determine which is the best one out of the many seedlings we have of this parentage.

KAGA

FIELD NOTES,.....*KAGA*—September 10, 1909: Fruit of true Hanska type inside and out; trees bore a heavy crop in 1908 and 1909. Diameters of fruit measured one and one-quarter by one and one-half inches.

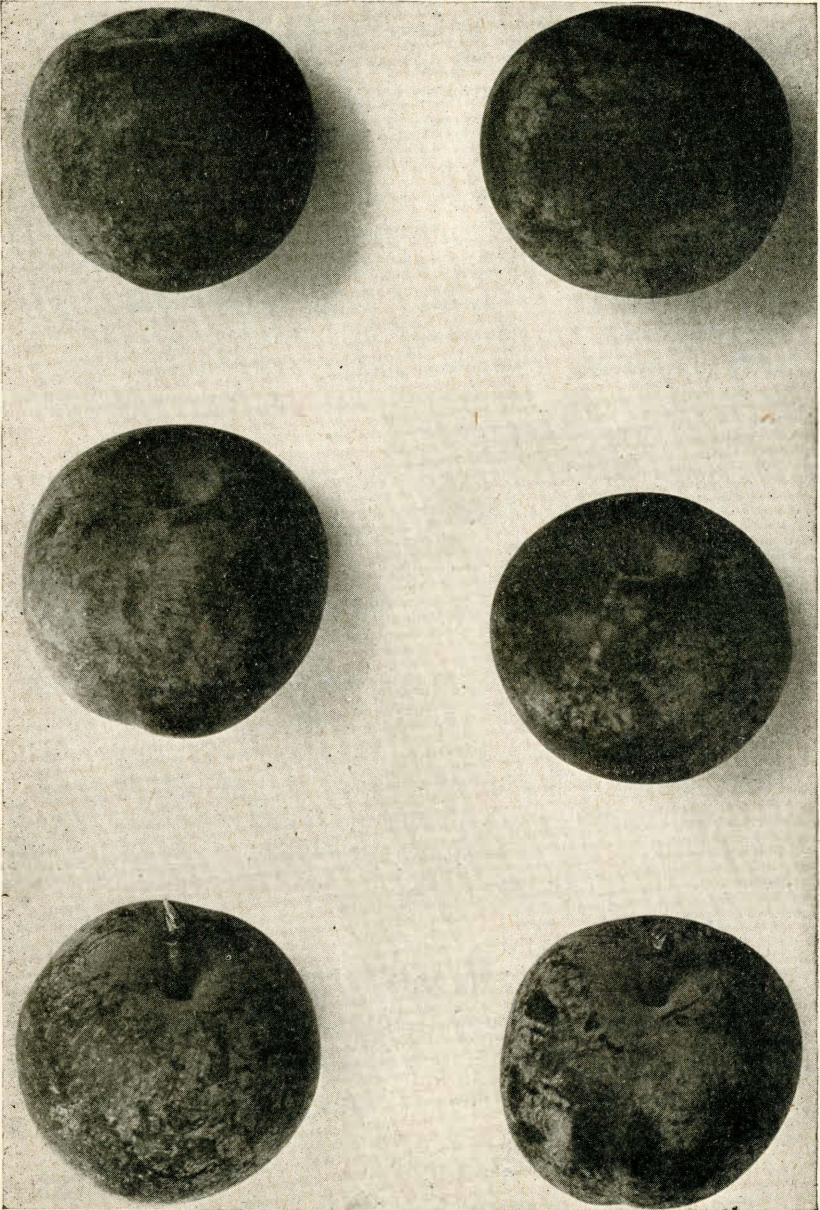


Plate 4 - TOKA

TOKA

"Some New Fruits," Spring 1911:—Offered for the first time. I have some 15 varieties of the same pedigree as Hanska, Inkpa and Kaga, all of which bore a heavy crop in 1909, when native plums were almost a total failure. They are all very much alike in character of fruit but differ somewhat in tree. In observing these seedlings closely in the nursery and orchard, I cannot help noticing that some are spreading while others are very upright in habit, much like the *Prunus Simoni* itself. One is of such erect strong, stocky growth, really a model nursery tree, that I deem it worthy of trial. My field notes state: "*Simoni* habit in nursery. The nicest looking trees in nursery and orchard." Toka is the Sioux Indian for "adversary." An early and heavy bearer.

TOKA FIELD NOTES—September, 1909. Fruit of true Hanska type inside and out; a good crop in 1908 and a fair crop in 1909 on trees much crowded in nursery. Fair specimens of fruit in 1909 were one and one-quarter inches by one and one-half inches in diameter and weighed three-quarter ounce.

In the same list for Spring 1911, 58 complete sets comprising one each of Hanska, Inkpa, Kaga, and Toka, were offered under the name of the Hanska Quartette, and with the note: "The present indications are that Hanska, Inkpa, Kaga and Toka will become standard market varieties, because they present a remarkable combination of vigor of tree and early bearing with large choice, handsome fruit."

FIELD NOTES

The following twelve seedlings of the Hanska type have not been named nor introduced:

No. 2001 Sept. 9, 1909:—Crop very heavy in 1908 and 1909. The fruit very much like Hanska inside and out; deep, regular cavity; apex flat; suture, broad and shallow; clear bright red with heavy whitish blue bloom; flesh,

orange color; fruit has strong fragrance; weight 3-4 oz; vertical diameter, 1 3-8 inch lateral diameter 1 7-16 inch from tree much crowded by other trees.

No. 2005 *Sept.* 21, 1909:—Of the true Hanska type; intense Simoni fragrance, especially when fully ripe; flesh orange yellow.

No. 2006 1-2 *Sept.* 9, 1909:—Of the true Hanska type inside and out. Vertical diameter 1 1-4 inches, lateral diameter 1 1-2 inches. A beautiful fruit. The trees were much crowded and yielded a fair crop in 1908 and a small crop in 1909.

No. 2014, *Sept.* 10, 1909:—Also of true Hanska type, inside and out; vertical diameter 1 1-4 inch, lateral diameter 1 1-2 inch; color of skin, bright red to orange red. This with heavy blue bloom and strong fragrance makes it a commercial market fruit. A good crop in 1908, fair crop in 1909.

No. 2021, *Sept.* 6, 1906:—A true Hanska inside and out. A beautiful fruit, being a bright red with heavy light blue bloom which rubs off easily. The fruit reddens some days before fully ripe. Skin, thick, free from acidity; pit, semi-free; flavor, mild, subacid, will preserve well, needs but little sugar; quality, only fair for eating out of hand, but excellent for preserves. A heavy crop this year; tree upright like *Prunus Simoni*. Size 1 3-8 x 1 7-16 inches; a flat plum with deep suture. A very good crop in 1909, In 1908 some of the fruits were 1 9-16 inches in diameter. In 1909 good specimens weighed 13-16 oz., and were 1 1-2 inches in lateral diameter by 1 3-8 inches vertical diameter. The fruit flat with deep cavity and wide shallow suture, often with apex slightly depressed. Preserves made *Sept.* 9, 1909 before the fruit was dead ripe, were tested during the winter, the quality was a great improvement on that of wild plums bringing out the excellent flavor and rich fragrance of the apricot. In tree the habit is upright being in this respect more like *Prunus Simoni* than Hanska which is more spreading.

No. 2040, *Sept. 8, 1909*:—A splendid fruit of true Hanska type inside and out, very heavy crop in 1909, fruit flat, good specimens were 1 5-16 inches in vertical diameter and 1 9-16 inches in lateral diameter; weight 7-8 oz. the strong fragrance of the fresh fruit is characteristic of this and other seedlings of the same pedigree, as "it scents the whole room;" color brilliant red with heavy light blue bloom; cavity and apex, depressed; flesh more solid than wild plum, orange color; flavor, pleasant. In making preserves, it was found that the fruit did not cook down or lose volume nearly as much as the wild plum. The preserves in this case were made when the fruit was dead ripe, so much so that the pits came out on slight pressure. The report in this case was that both the apricot as well as the native plum flavor were noticed, but that the apricot flavor was more prominent. When opened up Nov. 19 and later, it was found that the preserves were more like the native plum in taste. The lesson from this experience is that preserves should be made before the fruit is dead ripe.

No. 2043, *September 10, 1909*:—Fruit of true Hanska type inside and out.

No. 2049, *September 10, 1909*:—Fruit of true Hanska type, inside and out.

No. 2053, *September 10, 1909*:—Fruit of true Hanska type inside and out.

No. 2055, *September 10, 1909*:—Fruit of true Hanska type, inside and out. Preserves made of the fruit have the strong apricot flavor.

No. 3502, *September 10, 1909*:—Fruit of true Hanska type inside and out. The two diameters are 1 1-2 inches lateral diameter and 1 1-4 inches vertical diameter. Trees bore a heavy crop in 1908 and a good crop in 1909.

No. 3524, *Sept. 8, 1909*:—Fruit much like Hanska inside and out; tree very upright in habit like *Prunus Simoni*. A striking characteristic of all these seedlings of this pedigree is the large, white spots or lenticels on the bark of young trees in nursery.

GENERAL NOTE

This Hanska type of plums is remarkable from the fact that the fruit hangs on the trees a long time after coloring, so that the fruit can be picked while the flesh is still firm. In this condition it will be at its best for preserves. The fruit should be handled very carefully so as to preserve the beautiful delicate blue bloom, which rubs off easily in handling. If the fruit is handled carefully in the tin-edged splint baskets used for California plums, it will sell at sight on the market. It will be hard to improve on the bright red color and the rich fragrance, and discriminating customers will note quickly by the condition of the light blue bloom whether the fruit has received rough handling or the good care which it deserves.

DAKOTA SAND CHERRY X JAPANESE PLUM POLLEN

I have now fruited many seedlings of this pedigree. It appears to be a happy combination of hardiness, rapid growth and early bearing of tree, with large size and choice quality of fruit. Some of the best are the Opata, Sapa and others of the same pedigree.

SAND CHERRY X GOLD PLUM POLLEN

S. Dak. Exp. Sta. Bulletin No. 108:—This appears to be an especially good combination. The Gold plum was originated by Luther Burbank, of Santa Rosa, California. Of the fourteen seedlings resulting from this cross, none have fruited but one year trees in nursery resemble each other closely and are of strong, stocky, erect growth with fine glossy foliage and an abundance of fruit buds. These one year trees range from four to five and three-fourths feet. Some of the varieties show a tendency to twin and triplets shoots from the bud in nursery which should be guarded against in propagation. Three of these varieties have been sent out for very limited trial under restrictions in the spring of 1908, the Owanka, Okiya and Opata.

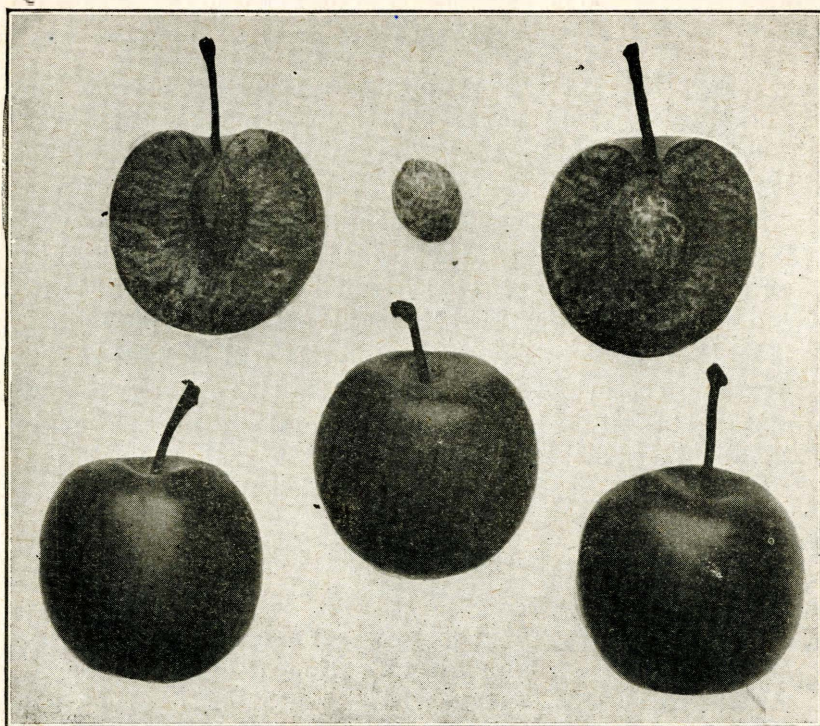


Plate 5—OPATA

OPATA

"Some New Fruits", Spring 1910: Opata—(Sioux Indian for "bouquet".) First sent out in spring of 1908. The restrictions as to propagation are now removed as it promises to be a great acquisition. One year old trees sent to many places when first introduced bore freely the following year.....

"Some New Fruits", Spring 1911: Opata—(Sioux Indian for "bouquet"). First sent out in spring of 1908 as one-year-old trees from bud; these bore freely the following year in many places. The excellent quality of the Opata makes it worthy of wide popularity for table and culinary use. Female parent, the Dakota sand cherry (*Prunus Besseyi*); male parent, the Gold plum, a very large hybrid

Japanese variety originated by Luther Burbank and for which Three Thousand Dollars was paid when first introduced. Opata is a plum tree in habit, of vigorous growth, and forms fruit buds freely on one-year-old shoots in nursery; foliage large and glossy. Fruit, one and three-sixteenths inches in diameter, dark purplish-red with blue bloom; weight one-half ounce; flesh green, firm; flavor very pleasant, combining the sprightly acid of the sand cherry with the rich sweetness of the Gold plum. Excellent for eating out of hand. The thin skin can be chewed and eaten, as it is entirely free from acerbity. Pit very small, as is seen by the above cut; season extremely early. Our best Opata fruits in 1909 were one and five-eighths inches in diameter. A very strong grower in nursery and orchard and an early and heavy bearer. At this station in 1909 Opata was fully ripe when the Manitoba No. 1 plum, although dull red, was not ripe enough to eat.

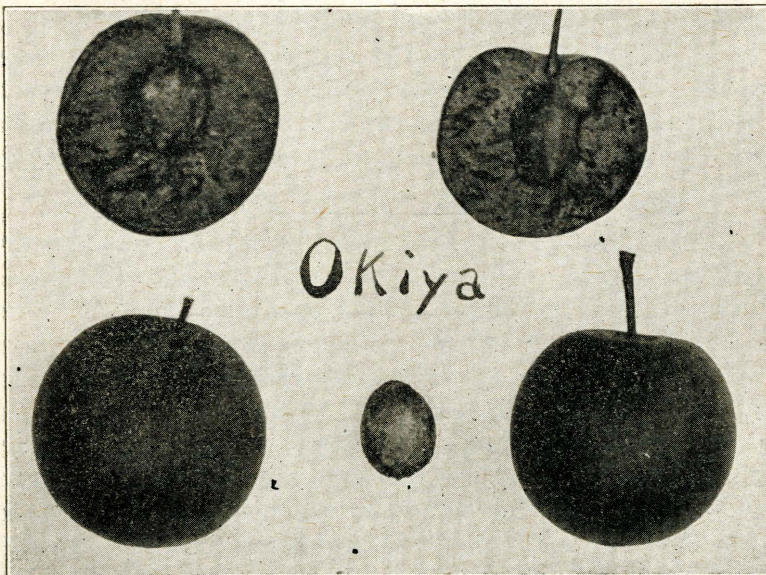


Plate 6—OKIYA

FIELD NOTES

OKIYA—August 14, 1909: Fruit, dark red, roundish; flesh green, excellent quality; fruit much like Opata but averages smaller. First sent out in the spring of 1908.

OPATA—August 12, 1909: The season of Opata is the middle of August. They were fully ripe this year when Manitoba No. 1 plum, although dull red, was not ripe enough to eat.

OWANKA—A few trees of this variety were sent out in the Spring of 1908, under restrictions as to propagation. These bore for the first time in 1909, the original tree having been used up in propagation. Fruit dark red, 1 3-8 inches in diameter with blue bloom; flesh yellow. In common with most of the other varieties of this pedigree, the apex is terminated by a minute prickle. The flesh is not so bad, but the bitter skin caused me to discard this variety at once and to recall the few specimens sent out. The tree is a strong grower in nursery, forms fruit buds the first year, and is hardy and productive.

GENERAL NOTE—The rest of the many seedlings of this same pedigree have been discarded. In general they are of strong growth in nursery. The fruit has green flesh, but Opata is by far the best, so the others are not needed.

SAND CHERRY X SULTAN PLUM POLLEN

S. D. Exp. Sta. Bulletin No. 108:—There are eight varieties resulting from this cross. All seem very much alike in nursery. These budded on native plum (*Prunus Americana*) stock run from four to five feet at one year in nursery; of stocky, strong, erect growth with many twin and triplet shoots from the bud. The leaf is much larger than that of the sand cherry and even more glossy, as though varnished. These one year shoots have many fruit buds. The Sapa, introduced in the spring of 1908, is the only one that has fruited. Three others have been named for purposes of preliminary trial under restrictions elsewhere, Enopa, Etopa and Eyami. The Sapa fruited on a spur of the original tree cut back severely for bud-sticks.

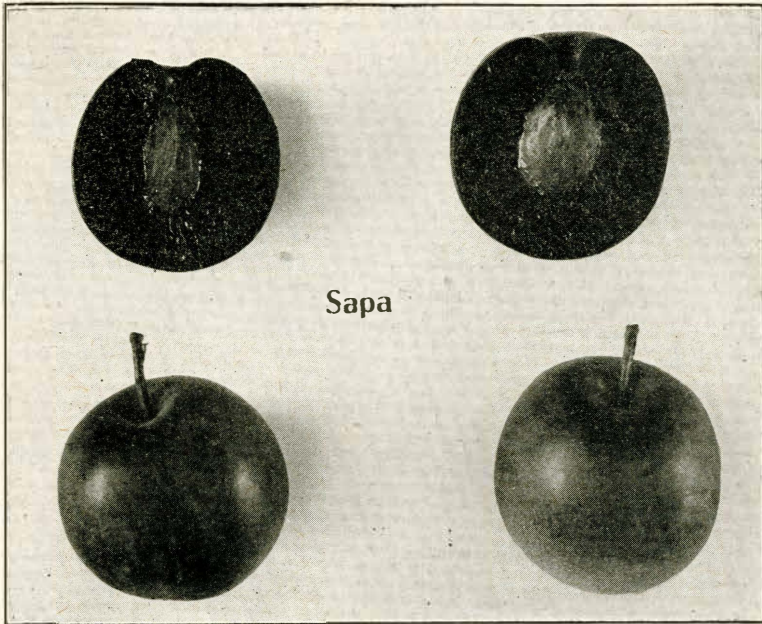


Plate 7—SAPA

SAPA

"Some New Fruits", Spring 1908:—Sapa (Sioux Indian word for "black"). Offered for the first time. The female parent is one of our selected seedlings of the western sand cherry, (*Prunus Besseyi*), a favorite fruit of the Sioux Indians; the male parent a very large purple-fleshed, Japanese plum originated by Luther Burbank of California and by him named the Sultan. The Sultan is a plum of the Satsuma type and is perhaps a cross with some other species. The Sapa fruited first in 1907 on a tree cut back very severely for bud-sticks. These first specimens were only one inch in diameter but the size will probably increase. The tree is plum-like in habit; one year trees in nursery have many fruit buds; the glossy, dark purple skin, and the rich dark purple red flesh of its Japanese sire.

"Some New Fruits" Spring 1911: One year trees sent out in the spring of 1908 bore freely in 1909 in many places. Specimens of the Sapa grown in Minnesota took first prize as a seedling plum at the Minnesota State Fair in 1909. In 1909 our best Sapas at Brookings were one and three-eighths inches in diameter, weight five eighths ounces, on one-year-old trees set the preceding year and bearing a heavy crop. The rich purple color of the skin is dulled at first by being overspread with a thin gray, which disappears as the fruit attains full ripeness. Season extremely early.

ENOPA

Sent out for the first time in Spring of 1908. *Enopa* is Sioux Indian for "second."

Field Notes, Enopa—September 6, 1909: Size 1 1-16 inch diameter, round, dark red with green flesh; skin, thin free from acidity, flavor pleasant. *Enopa* is inferior to Sapa, both in size and quality. Fruit round, dark red with blue bloom, with very minute prickle at apex.

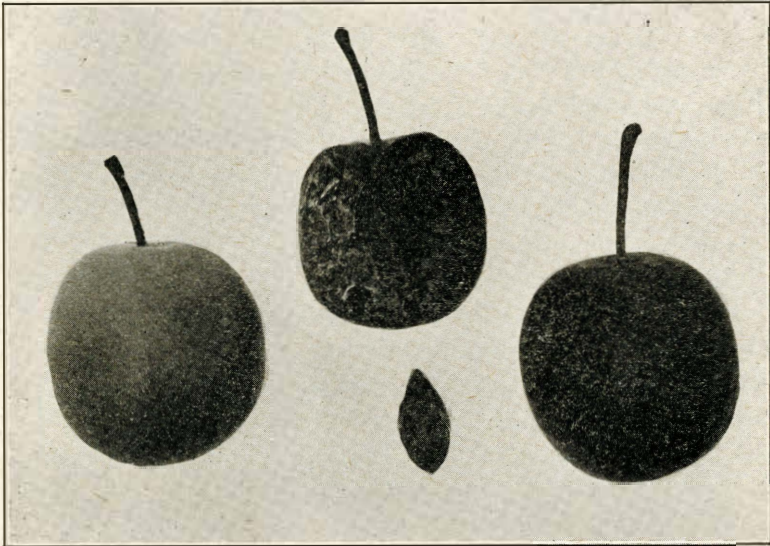


Plate 8—ETOPA

ETOPA

"Some New Fruits," Spring 1911:—Etopa is Sioux Indian for "fourth". First sent out spring 1908 as one-year-old trees. These bore freely in 1909 in several places. Pedigree same as Sapa and much like it in color of skin and flesh. Like Sapa the fruit is excellent in quality and remarkable for the intense black, purple red color of skin, flesh and juice. Skin thin, free from acerbity. Mr. A. P. Stevenson of Dunston, Manitoba, writes: "Etopa ripened some very fine fruit on September 12, 1909. I think a lot of this variety, it is the best yet fruited here."

Field Note, Etopa—August 13, 1909: Of the same pedigree as Sapa and much like it in fruit, with the same intense black purple flesh. Skin thin, bitterish; pit, cling; flesh excellent in quality; probably too much like the Sapa to be propagated extensively, unless further experiments should show that more than one of the Sapa type is desirable for better pollination in mixed orchards.

EYAMI

Sent out for the first time in Spring of 1908.

Field Notes, Eyami—September 6, 1909: Fruit round, 1 3-16x1 5-16 inches in diameter; dark red with semi-transparent skin; skin thin; flesh green, pleasant; pit large; inferior both to Sapa and Opata. Tree productive.

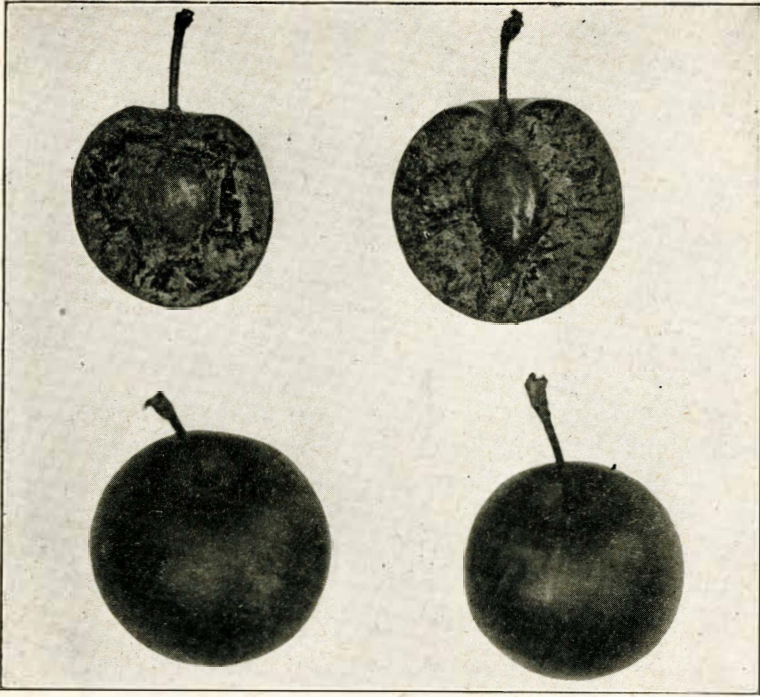


Plate 9—EZAPTAN

EZAPTAN

"Some New Fruits", Spring 1911—I have a number of seedlings of the same pedigree as the Sapa, much the same in character of fruit, but differing somewhat in tree. Perhaps several are needed for better pollination in mixed orchards. It seems worth while to offer for the first time a few trees of the Ezaptan (Sioux Indian for ("fifth")), remarkable for its early and heavy bearing. Color of fruit in 1909 of a dark purple and with less grayish overcast than that of Sapa; perhaps averages smaller than Sapa but this will be better determined with further experiences. Quality delicious, color black purple-red from skin to pit the same as Sapa.

Field Notes, Ezaptan, August 14, 1909:—Of the same

pedigree as Sapa and much like it in tree and fruit; remarkable for the small fruit and rich red juice; skin thin, free from acerbity.

WACHAMPA

"Some New Fruits", Spring 1910: What Shall we do for Hardy Cherries? This is one of my favorite problems but one still unsolved. The union of our Dakota sand cherry and the Sultan plum give us Sapa, Etopa and several others which with their rich flesh and juice and cherry-like pit will compare favorably with the purple red-fleshed sweet cherries from California. But they run too large to be rated as cherries. Shall they be called cherries or plums? Another desirable seedling of the same pedigree as the Sapa and much like it, but a stronger grower and with smaller fruit, about one inch in diameter, has proven a very heavy bearer the past season on three old trees, transplanted at one year of age. It has been named Wachampa (Sioux Indian for "blood cherry").

Field Note: Wachampa—September 3, 1909: Size 1 to 1 1-4 inch in diameter; much like the Sapa in every respect. It averages larger and more vigorous in tree than Sapa; one of the strongest growing trees of the sand cherry hybrids. Trees one year old from bud planted in 1908 bore a heavy crop in 1909. The fruit keeps well on the table after picking.

No. 727, Sept. 6, 1909—Of the same pedigree as Sapa and much like it in fruit, averages a trifle smaller; 1 to 1 1-8 inches in diameter.

No. 820, Sept. 6, 1909—Of the same pedigree as Sapa and the same dark purple skin, flesh and juice; skin bitter; much like Sapa, but smaller in fruit.

GENERAL NOTE

Sapa Type Field Note, Sept. 6, 1909: Some of the other seedlings of the same pedigree as Sapa, average smaller than the Sapa, enough so they will be a very acceptable substitute for black juiced California cherries. If too large the fruit will count as a plum on the market. They all

have a peculiar very agreeable sprightliness in flavor, which is no doubt inherited from the sand cherry. To this is added the rich color, sweetness and high quality of the Sapa.

SAND CHERRY X NATIVE PLUM POLLEN

S. Dak. Exp. Sta. Bulletin No. 108:—Our native plum *Prunus Americana*, hybridizes readily with the native sand cherry. In raising thousands of seedlings of the sand cherry we occasionally find a seedling with yellow roots and of strong growth. These turn out upon fruiting to be hybrids of some native plums, some belated plum blossom furnishing the pollen. The first seedling ever introduced of this parentage as far as I find on record, is the Compass plum originated by H. Knudson, of Minnesota, (see Bulletin 93.) After fruiting over five hundred seedlings of the Compass I find that the trees run back either to the sand cherry or to the plum. These seedlings can show similar characteristics. None of them have ever shown any sign of the Miner plum or the sour cherry in its seedlings so that the theory that it was a cross of the sand cherry with the Miner or Morello cherry must be given up. We have fully a dozen seedlings resulting from a hybrid of sand cherry with DeSoto plum pollen. These show a good growth in nursery three to five feet, stocky, well branched with many fruit buds. Their fruiting is awaited with interest. But judging by the size and quality of both parents we must not expect too much from this combination.

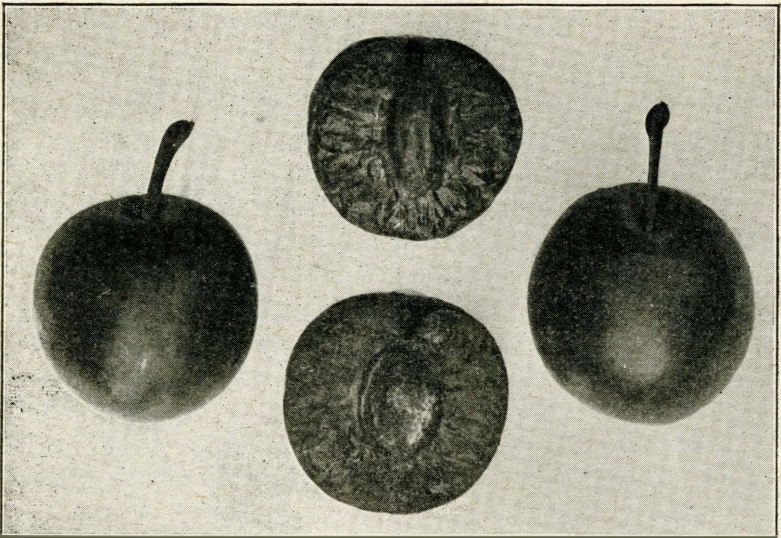


Plate 10 - SANSOTO

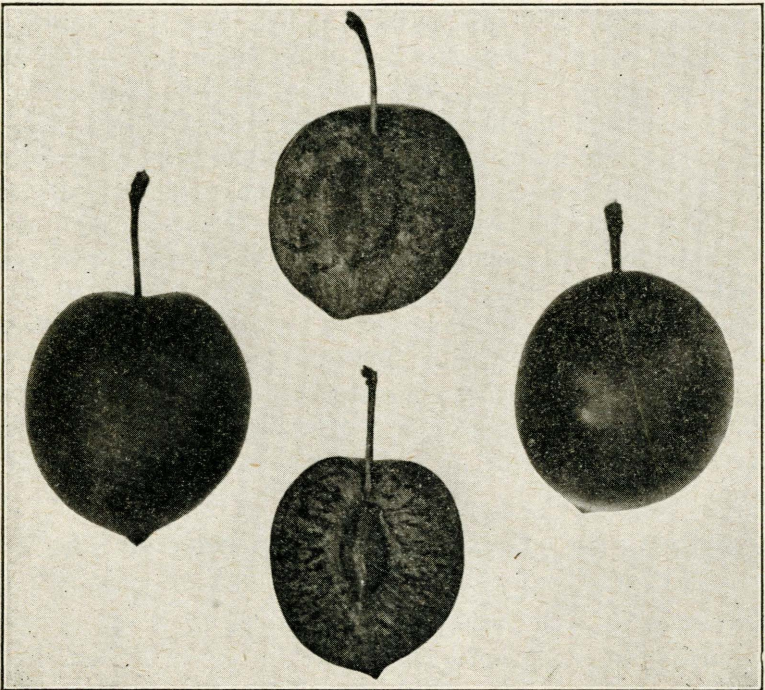


Plate 11 - CHERESOTO

SANSOTO AND CHERESOTO

"Some New Fruits," Spring 1910: Female parent sand cherry (*Prunus Besseyi*); male parent De Soto, a well known standard variety of native plum (*Prunus Americana*) from southwestern Wisconsin. In the fall of 1907 thirteen of my seedlings of this pedigree were under propagation in the station nursery. All these trees made strong growth in the nursery, some five feet in height, stocky, well branched and formed abundant fruit buds the first year. These seedlings have borne heavily the past season and some of them combined the bad qualities of both parents in quality of fruit and large size of pit. However, others show promise of value as a late market plum as they fruited heavily here this year when native plums were almost a total failure.

Two of them will now be named, Sansoto and Cheresoto (made up from the words sand cherry and De Soto.) The fruit is shown in cut herewith. The fruit of Sansoto is round while that of Cheresoto is longish with a minute bristle or prickle at apex which it no doubt inherits from the sand cherry. The varieties are much alike in fruit but differ somewhat in shape. The size is about one and three-eighths inch in diameter; color black when fully ripe, with blue bloom; flesh cling, yellowish green, sprightly, pleasant; skin thin and free from acidity. The fruit is a perfect mingling of the sand cherry and De Soto in looks and flavor, having the size of the DeSoto and the color of the sand cherry. The habit is that of a vigorous plum tree. These sand cherry hybrids appear to be all later in bloom than the plum, which is characteristic of the sand cherry. The fruit the past season was all raised on one year old trees set in the spring of 1908, hence three seasons growth from bud.

HYBRIDS OF SAND CHERRY AND DESOTO PLUM

"Some New Fruits," Spring 1911:—At this station I have fruited over five hundred seedlings of the Compass plum in the endeavor to secure an improvement on that

well-known variety. These seedlings run back either to the native plum (*Prunus Americana*) or to the native sand cherry (*Prunus Besseyi*) which definitely proves that there is no trace either of the Miner plum or Morello cherry in its ancestry. Although the seedlings as a class bore heavily, none were enough of an improvement upon the Compass to make them worthy of introduction. But by crossing the Dakota sand cherry with the De Soto plum, the well-known standard native plum (*Prunus Americana*) from southwestern Wisconsin, I have raised many better seedlings. In the fall of 1907 thirteen of these were under propagation in the station nursery, which fruited heavily in 1909 as budded trees. All these are of strong growth in nursery and formed abundant fruit buds the first year. Some were destroyed since they combined the bad qualities of both parents in quality of fruit and large size of pit. Others show promise of value as late market plums. They fruited heavily in 1909, when native plums were almost a total failure. Two of these were named Sansoto and Cheresoto, (made up from the words sand cherry and DeSoto), and were introduced in the spring of 1910. These two are much alike in fruit, but differ somewhat in shape, Sansoto being round, while Cheresoto is longish with a minute bristle or prickle at the apex, which it no doubt inherits from the sand cherry. The size was about one and three-eighths inches in diameter, color shining black when fully ripe, with heavy bloom; flesh cling, yellowish-green, sprightly, pleasant; skin thin and free from acidity; pit small. The fruit is a perfect mingling of the sand cherry and De Soto in looks and flavor, having the size of DeSoto and color of the sand cherry. Both are very strong growers in nursery. The sand cherry hybrids as a class bloom later than the plum, which is characteristic of the sand cherry.

Sansoto and Cheresoto could not compete with Opata and Sapa in quality were they of the same season, but they come in after the Opata and Sapa are ripe and gone.

JAPANESE PLUM X NATIVE PLUM POLLEN

This combination gives us fruit of delicious quality.

S. D. Exp. Sta. Bulletin No. 108:—Red June X De Soto plum pollen. Eight seedlings resulting from this combination are very strong stocky, erect growers in nursery, from four to five and a half feet with many fruit buds on one year wood. Only one has fruited, named Skuya, introduced spring of 1908. Skuya is Sioux Indian for "sweet". This fruited in 1907 on a tree very severely cut back for bud sticks. The color of the fruit is a dull dark red and yellow but may improve in this respect with a more favorable season; the pit is very small; the quality excellent and delicious. The size will probably increase on older trees. Of the above lot two others of extra fine growth have been given provisional names for purposes of limited trial elsewhere in the spring of 1908, Wakapa and Wohanka. These are under strict restrictions as to propagation until they have proven their value.

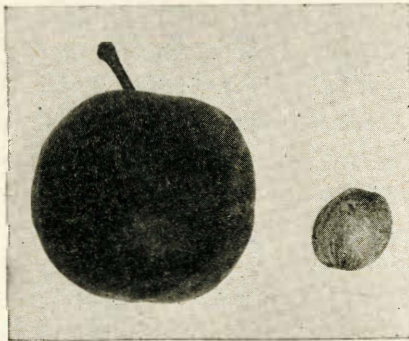


Plate 12 SKUYA

SKUYA*

"Some New Fruits," Spring 1908: Skuya—(The Sioux Indian for "sweet"). Offered for the first time. Female parent Red June, a large early Japanese plum; male parent DeSoto, a well known native plum (*Prunus Ameri-*

SPECIAL NOTE—The "u" in Skuya is pronounced as in "rude."

cana) originated in southwestern Wisconsin. The Skuya first fruited in 1907 upon a tree very severely cut for budsticks. The color of these fresh fruits is a dull dark red and yellow but may improve in this respect with a more favorable season; the pit is very small; the quality excellent and delicious. The size will probably increase on older trees.

WOHANKA

Wohanka—September 6, 1909: Of the same pedigree as Skuya; fruit 1 inch in diameter, round, dark red; flesh green, red at pit, pleasant, sprightly subacid; pit small, round, nearly free; skin very thin, free from acidity. In tree both Skuya and Wohanka are more like some of the sand cherry hybrids and we are raising some seedlings to determine this. In either even the size will not make Wohanka as promising as the Opata or Sapa. Very strong, vigorous, stocky, spreading.

FIELD NOTES

Nos. 781, 782, 783, 785. These are of the same pedigree as Skuya, but are either discarded or too much like Skuya to need propagation.

No. 818. Of the same pedigree as Skuya, in fruit it is much like the Red June, being of a clear, bright color with a marbling of yellow and red with whitish blue bloom. Not yet in propagation.

NATIVE SAND CHERRY X CHINESE APRICOT PLUM POLLEN

S. D. Exp. Sta. Bulletin No. 108:—This heading means that the native sand cherry was crossed with *Prunus Simoni*, using the pollen or male element of the latter. The parents are shown in Plate 4. Eight seedlings resulting from this cross are in propagation in nursery row, the original plants having been cut the first year for budsticks. Only one has had opportunity to fruit and was introduced in the spring of 1907 as South Dakota No. 7, now named Tokeya. See plates 1 and 3. The first fruits were borne in 1906 on a one year old tree in nursery. The same

tree gave a few specimens in 1907. These varieties are all selected trees in the nursery, ranging from three to four feet. Some are smaller than this, however, one variety being of low stocky growth, only six to twelve inches in height. The fruit buds appear freely on one year shoots from the bud in the nursery. The early fruiting character of the sand cherry is evidently prepotent in these hybrids, also the dwarf habit of plant. The fruit of Tokeya (Sioux Indian for "first") is one and three-eighths inches in diameter, dark red; flat; flesh green, of good quality; flavor, sprightly subacid intermediate between that of the two parents; pit, very small. It will be noticed that the Tokeya is a half sister to Hanska, having the same size, but the Tokeya is a dwarf as compared with the giant Hanska.

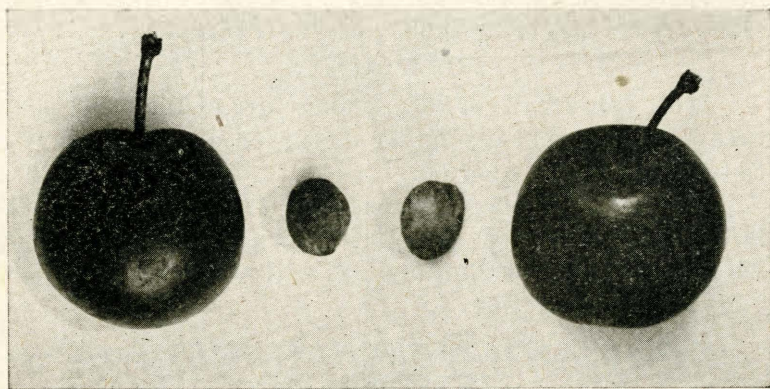


Plate 13—TOKEYA

TOKEYA

"Some New Fruits", Spring 1907: South Dakota No. 7
 —A remarkable new hybrid fruit, very promising but whose ultimate value remains to be determined. It is certainly an early bearer. The female parent is one of our select second generation seedlings of the Western Sand Cherry (*Prunus Besseyi*), a favorite bush fruit of the Dakota Sioux Indians. The male parent is *Prunus Simoni*, a peculiar fruit tree from China, allied to the apri-

cots and plums; grown in California; fruit very large, fragrant, firm fleshed, sometimes marketed as a California plum.

South Dakota No. 7 fruited first in 1906 on trees one year old in nursery row, the original tree having been cut down in propagation. Size 1 1-4 inch in diameter, but will probably increase as the plants get older. Color, dark red, flesh very firm, pit very small. Quality more for culinary than table use but the season was not favorable for developing high quality. Season very early. Tree hardy so far. Two year trees are full of fruit buds.

"Some New Fruits", Spring 1908: *Tokeya*—(The Sioux Indian for "first"). This is the name now adopted for our South Dakota No. 7 introduced last year. Female parent one of our select second generation seedlings of the western sand cherry (*Prunus Besseyi*), a favorite bush fruit of the Dakota Sioux Indians; the male parent is *Prunus Simoni*, the apricot plum from China. Fruit this year one and three-eighths inches in diameter, dark red, flesh green, of good quality; pit very small. It will be noticed that the *Tokeya* is a half sister to *Hanska*, having the same sire, but the *Tokeya* is a dwarf as compared with the giant *Hanska*.

Field Notes Tokeya—August 20, 1909: Size 1 1-8x 1 1-4 inches in diameter; weight 7-16 ounce; skin dark brownish red; skin is thin, bitter, improving with full maturity, flesh green, pleasant acid.

Tokeya—June 19, 1911: This is an example of a frequent experience of new seedling fruits: That from the standpoint of the fruit alone the seedling may be desirable, but the plant fails under propagation. This is the case at least here at Brookings.

Many other seedlings of the same pedigree as *Tokeya* have now been fruited, but all have the same fault as *Tokeya*. The habit is too dwarf and the plant lacking in hardiness. The fruit would make them promising for further trial were not the growth here in the Station nursery against them.

SAND CHERRY X PERSIAN PURPLE-LEAVED PLUM POLLEN

S. D. Exp. Sta. Bulletin No. 108—We have at least a dozen seedlings resulting from this combination, all of them with the beautiful purple-red colored foliage which gives the male parent its decided value for an ornamental plant. In other words the male parent (*Prunus cerasifera purpurea* or *Prunus Pissardi*) in this case is prepotent in transmitting its color of leaf. In shape, however, the leaves are more like those of the sand cherry, but larger. One year trees are rather slender in nursery, two to three feet, but better results are expected the coming year as the buds were very small when inserted and there was a poor stand. We are now propagating two or three of the best varieties as the seedlings seem to vary somewhat in character of this coloring. The original trees appear perfectly hardy without winter protection, in spite of having been cut very severely for bud sticks in 1906.

A PURPLE-LEAF SAND CHERRY

"Some New Fruits", Spring 1909:—Offered for the first time. An event for landscape gardeners. Three hybrids of the same parentage; the female plant is one of our seedlings of the western sand cherry (*Prunus Besseyi*) a favorite dwarf fruit shrub of the Sioux Indians. The male parent is the Persian purple-leaved plum (*Prunus cerasifera* or *Prunus Pissardi*), and is prepotent in transmitting the color of its leaf. In shape, however, the leaves are more like those of the Sand Cherry, but larger. In size they follow the Sand Cherry. We have at least a dozen seedlings resulting from this combination, all of them with the beautiful purple-red foliage which gives the male parent its decided value as an ornamental plant in milder regions where it is hardy. Plants one year old from nursery, two to three feet.

Purple A, the most purple. Purple B, next in purple-ness. Purple C, green and purple.

CISTENA

"Some New Fruits", Spring 1910: *Cistena* (the Sioux

Indian name for "baby"). First introduced spring 1909 as Purple A. Female parent, Dakota Sand cherry; male parent, the Purple-leaved plum of Persia, *Prunus Pissardi*. A beautiful shrub, following the Sandcherry in stature of plant and glossiness of leaf, but the foliage has the rich purple-red color which gives its Persian sire such wide popularity. In my opinion the Cistena will win great favor.

A few trees of Purple B and Purple C, the other two of the trio of the same pedigree sent out last year, can be spared.....if it is desired to complete the series. Cistena appears best so far as to depth of color.

STANAPA

"Some New Fruits", Spring 1911: Purple Leaf Sand Cherries—An event for landscape gardeners. By crossing the Dakota sand cherry with pollen of the Purple-Leaved plum of Persia, (*Prunus Pissardi*), we have a number of beautiful shrubs following the sand cherry in stature and glossiness of leaf, but with the rich purple-red color of foliage which gives the Persian sire such wide popularity. In the spring of 1909, three of these seedlings were first introduced as Purple A, Purple B, and Purple C. Last year Purple A was named Cistena (Sioux Indian name for "baby").

Further experience shows that Purple B is also worthy of a name since the color is as bright and the growth equal if not superior. The name now given to Purple B is Stanapa, which is made up from two Sioux Indian words meaning "purple leaf". In my opinion these purple-leaved sand cherries will win great favor for single specimens or groups on the lawn or for dwarf ornamental hedges, owing to their brilliant coloring.

NEW SAND CHERRY HYBRIDS

"Some New Fruits", Spring 1908:—In addition to the above, I have a number of very remarkable hybrids of *Prunus Besseyi* with various Japanese plums, especially Luther Burbank's Gold plum; with the European apricots; and one I hope is with the peach, although of this

latter combination I am not positive, as the leaves resemble too much the sand cherry x apricot hybrid. None of these have fruited, the original tree having been cut the first year for propagation, but one year trees are four and three-fourths feet high in nursery and full of fruit buds. To experimenters willing to take some risks, a few trees are under strict restrictions as to propagation until they have shown their value.

Under the above offer a few trees were sent out of each of the following: Enopa, Etopa, Eyami, Kamdesa, Okiya, Opata, Owanka, Wakapa, Wohanka, Yuksa.

WORK WITH PURE NATIVE PLUMS

SOUTH DAKOTA Nos. 8 to 22 INCLUSIVE

"Some New Fruits," Spring 1907: New Native Plums. South Dakota Nos. 8-22 inclusive. About 6000 native plums seedlings have been fruited and some trees of fifteen of the best varieties have been propagated and are now ready for limited trial elsewhere. All bear fruit large to very large in size, and good to very good in quality; trees productive and with good foliage the past two or three seasons, so trying on plum foliage.

SOUTH DAKOTA Nos. 23 to 45 INCLUSIVE

"Some New Fruits," Spring 1908: South Dakota Nos. 23 to 48 inclusive—For the present these plants will be tested in a limited way under numbers.

HISTORY OF THE STATE FAIR SEEDLINGS

Huya, Wastesa, South Dakota No. 41 and South Dakota No. 39, are four of a number of seedlings grown by the Horticulturist of this Station from pits obtained from prize plates of leading Americana varieties at the Iowa State Fair in September, 1895 and planted upon the grounds of the South Dakota Experiment Station in the Spring of 1896. Among them are some worthy of a place on the fruit list, see South Dakota Experiment Station Bulletin No. 93. In the Spring of 1908 State Fair No. 34

noted in this Bulletin No. 93, was sent out as South Dakota No. 41. In the Spring of 1908 State Fair No. 24, also noted in this bulletin No. 93, was sent out as South Dakota No. 39.

HUYA

"Some New Fruits," Spring 1908: Huya—(Sioux Indian for "eagle"). This is our State Fair No. 36 noted in Bulletin No. 93.

WASTESA

"Some New Fruits," Spring 1908: Wastesa—(Sioux Indian name for "delicious"). This is our State Fair No. 16 mentioned in my Bulletin No. 93. Large, almost free stone, excellent.

TOPA

"Some New Fruits," Spring 1908: Topa—(Sioux Indian for "four"). Fruit large, handsome; tree low.

YUTECA

"Some New Fruits," Spring 1908: Yuteca—(Sioux Indian for "to refresh"). First sent out spring 1907 as South Dakota No. 8. Size very large, quality good. Very early.

ZEKANTA

"Some New Fruits," Spring 1908: Zekanta—(Sioux Indian for "yellow plum"). A large yellow plum, of good quality.

WINNIPEG

*"Some New Fruits," Spring 1908: Winnipeg—*A very early variety grown from native pits received from Manitoba. Probably for the North only.

ASSINIBOIN

*"Some New Fruits," Spring 1908: Assinboin—*A very early variety grown from native pits received from Manitoba. Probably for the North only.

SUMMARY OF WORK WITH PURE NATIVE PLUM SEEDLINGS

The extended experiments in improving the native plum by selection from pure native seedlings, has been ef-

fectively checked by the advent of the hybrid plum seedlings, such as Hanska, Inkpa, Kaga, Toka, and the sand cherry hybrids, such as Opata and Sapa. Seedlings of wild plums are still being raised, but in a small way only and the work is confined to seedlings found growing wild in various parts of South Dakota, Manitoba and North Dakota. Where the pure native plums are desired, the indications are certainly that for the far north sufficient hardiness and earliness will be best secured, from the wild native plums, *Prunus Americana* or *Prunus nigra*, as found wild in these localities, rather than from the wild native plums such as De Soto, found in southwestern Wisconsin, or the Wolf from extreme southern Iowa. Every one interested in plum culture who comes to make his home in the newly settled regions of the Dakotas and Canadian Northwest, should contribute to this work by marking the wild trees in his native vicinity at the time when the fruit is on the trees. Late in autumn when the leaves have fallen, or early the following Spring, scions may be cut for grafting. In the work of clearing incident to the opening up of new farms, many valuable wild plums have been lost.

NAMING THESE NEW PLUMS

When these new hybrid fruits began to bear the question naturally presented itself: Shall they be given names or numbers when the trees are sent out for trial elsewhere? It seemed as though practically all the suitable names had been taken from the English dictionary by the nurserymen, florists and seedsmen. Short names are best as the average nursery tree label is only 3 1-2 inches long, and "time is money" in Spring shipping season, as well with the busy planter. To send out varieties of fruits under numbers soon leads to confusion, so I turned to the language of the Sioux Indians of South Dakota, from which good names could be selected that had not already been used. Furthermore, since these new fruits were wholly or partly derived from the native fruits, it seemed fitting to give some indication of the region in which they originated, and also to show that there are many pleasant sounding words in the Sioux language. To give these Sioux Indian

names their native melody, pronounce the vowel "A" with the long Italian "A" as in "arm".

The following list gives these new fruits in alphabetical order with the English meaning, pedigree and year of introduction.

AN ALPHABETICAL LIST OF PURE NATIVE PLUMS

Sioux Indian Name	Meaning of Name	Pedigree	Year Introduced
ASSINIBOIN	-----	Wild Manitoba Plum	1908
HUYA	Eagle	Our State Fair No. 36 mentioned in Plum Bulletin No. 93.	1908
TOPA	Four	South Dakota No. 11, from mixed native seed	1907
WASTESA	Delicious	Our State Fair No. 16 mentioned in Plum Bulletin No. 93.	1908
WINNIPEG	-----	Wild Manitoba Plum.	1908
YUTECA	To Refresh	South Dakota No. 8 from mixed native seed.	1907
ZEKANTA	Yellow Plum	From mixed native seed	1908

AN ALPHABETICAL LIST OF NEW HYBRID PLUMS

Sioux Indian Name	Meaning of Name	Pedigree	Year Introduced
CHERESOTO	From cherry X De Soto	Sand Cherry X De Soto plum pollen	1910
CISTENA	Baby	Sand Cherry X Purple-leaved Persian plum pollen	1909
ENOPA	Second	Sand Cherry X Sultan plum pollen	1908
ETOPA	Fourth	Sand Cherry X Sultan plum pollen	1908
EYAMI	Third	Sand Cherry X Sultan plum pollen	1908
EZAPTAN	Fifth	Sand Cherry X Sultan plum pollen	1911
HANSKA	Tall	Wild plum X Prunus Simoni pollen	1908

ALPHABETICAL LIST OF HYBRID PLUMS—Continued

Sioux Indian Name	Meaning of Name	Pedigree	Year Introduced
INKPA	Acme or Apex	Wild plum X Prunus Simoni pollen	1909
KAGA	Pitch a Tent	Wild plum X Prunus Simoni pollen	1909
KAMDESA	Daybreak	Sand Cherry X Opulent peach pollen	1908
OKIYA	Assist	Sand Cherry X Gold Plum pollen	1908
OPATA	Boquet	Sand Cherry X Gold Plum pollen	1908
OWANKA	Camp	Sand Cherry X Gold Plum pollen	1908
SANSOTO	From cherry and De Soto	Sand Cherry X De Soto plum pollen	1910
SAPA	Black	Sand Cherry X Sultan plum pollen	1908
SKUYA	Sweet	Red June X De Soto plum pollen	1908
STANAPA	Purple Leaf	Sand Cherry X Purple-leaved Persian plum pollen	1909
TOKA	Adversary	Wild Plum X Prunus Simoni pollen	1911
TOKEYA	First	Sand Cherry X Prunus Simoni pollen	1907
WACHAMPA	Blood Cherry	Sand Cherry X Sultan plum pollen	1910
WAKAPA	Excellent	Red June X De Soto pollen	1908
WOHANKA	Celerity	Red June X De Soto pollen	1908
YUKSA	To Harvest	Sand Cherry X New Large Apricot pollen	1908

PURE NATIVE SAND CHERRIES

S. D. Exp. Sta. Bulletin No. 108:—The improvement of the native Dakota sand cherry by selection from many thousands of seedlings is still in progress. The fruiting of the fourth generation is awaited this year. Some of the

best of the third generation are an inch in diameter and of good quality. Several of these have been sent out for preliminary trial but only one has been named, the Sioux. These have been budded on native plum, (*Prunus Americana*) stock, as it furnished a convenient means of propagation and obviated the risk of mixture of sprouts from the seedling stock which would be the case were the budding done on sand cherry stock. The press of other work has prevented extended experiments in cheaper methods of propagation, but limited trials show that they can be propagated from cuttings; and layer easily where the branches are covered in nursery row. With a view to securing a tree of greater vigor than the sand cherry so as to make it an orchard fruit, rather than a small fruit, extensive experiments have been carried on for several years in hybridization of the sand cherry with choicer fruits. Some of these have fruited the past two years and it appears desirable to present a brief report at this time.

SAND CHERRY SEEDLINGS

"Some New Fruits" Spring 1911—In the work of improving the native sand cherry, hybridization with Japanese plums gave the quickest results as is shown by such varieties as Opata and Sapa. However, the work of improving the sand cherry by selection from many thousands of seedlings is still under way, the fourth and fifth generations are now under cultivation. The fruit of some of these selected varieties compares favorably with California cherries in size. The pressure of other work has prevented the propagation of any of these for distribution for several years past, with the exception of one very large-fruited variety which I hope to offer in due season. I am now endeavoring to work out a cheaper method of propagation than budding on native plum roots, a necessity for future work. In response to many inquiries we can spare a few mixed sand cherry seedlings of the third generation, small one year plants. They vary greatly in size and quality. Most of them will be no improvement upon

the wild ones, but for high dry land in their native home west of Pierre they will serve a useful purpose for new settlers. The fruit of all these seedlings is good enough for sauce, and an occasional one will have choice fruit.

General Note—Of the varieties so far sent out for limited trial the Sioux and the Tomahawk are probably the two best.

SUMMARY

S. D. Exp. Sta. Bulletin No. 108: Some promising new fruits have been originated at the South Dakota Experiment Station by crossing the native Dakota plums and sand cherries with other stone fruits from Europe and Asia. It appears that the native Dakota sand cherry amalgamates readily in hybridizing with a number of other species, and that excellent results may be hoped for, especially with hybrids of the Japanese plums. Many more combinations have been made and the fruiting of the resulting seedlings is awaited with interest. The fact has been demonstrated that it is possible to secure fruits combining the hardiness of native stone fruits with something of the size and quality of the choice cultivated stone fruits from Europe and Asia. It is hoped that this brief record will serve to arouse interest in this subject and to many experiments in similar lines elsewhere.

SUMMARY, JUNE, 1911

The best varieties of each class of hybrids have been described briefly. Sufficient time has not elapsed for a final report as to their relative value. However, my present estimate as to the best ones in each class will be a guide to the fruit grower and nurserymen.

Native Plum X Chinese Apricot Plum Pollen: Four varieties have been sent out: Hanska, Inkpa, Kaga and Toka. The fruit of all four is practically identical.

Hanska is the more spreading tree in nursery. Toka is more upright, like the Chinese Apricot itself. The vigor-

ous erect habit will commend Toka to nurserymen as the trees will pack in boxes with less damage than where the tree is spreading. However, the tendency now is to plant one year trees, which is much better for the nurseryman and fruit grower. The other seedlings of this pedigree will not be introduced unless further experience makes it desirable.

Sand Cherry X Gold Plum Pollen: The Opata is the best representative of this lot of seedlings, owing to choice fruit and the vigor and productiveness of the tree.

Sand Cherry X Sultan Plum Pollen: Here it is very difficult to choose. The Sapa is the leading representative of this lot of seedlings, but is crowded closely by Etopa, Ezaptan and Wachampa. The Wachampa may eventually win out, since it is more vigorous in tree than the Sapa, but the fruit in 1909 averaged smaller than that of Sapa. This smaller size however, may be no disadvantage in the market as the fruit will be more like that of a cherry.

Sand Cherry X De Soto Plum Pollen: Sansoto and Cheresoto are probably the two best of this lot of seedlings. The others are either inferior or too near these two varieties to make it necessary to propagate them.

Japanese Plum X De Soto Plum Pollen: Skuya is the best of the three seedlings so far distributed.

Native Sand Cherry X Chinese Apricot Plum Pollen: The Tokeya is, perhaps, the best representative of this lot of seedlings as far as the fruit is concerned, but the plant under propagation is too dwarf in habit and at this station is lacking in hardiness.

Sand Cherry X Persian Purple-Leaved Plum Pollen: Cistena and Stanapa are the best so far distributed, owing to the deeper purple of the foliage. However, the Purple C, not yet named, endured the past winter better at this Station. Perhaps this was due in part to the disastrous late freeze in the Spring of 1910, which was certainly an exceptional season. For regions of severe cold in winter

and much bright sunlight in summer it may be that a little more green color in the leaves will give greater hardiness than where the purple color is too deep.

Other Classes of Seedlings: Further report on the other classes of hybrid plum seedlings mentioned in Bulletin 108 will be deferred at this time. However, from the standpoint of early bearing, it is probable that the varieties given in this summary are the cream of the lot, and the others will not be introduced unless they develop some striking point of superiority over those already named and disseminated. The fruiting of a large lot of seedlings along new lines of pedigree, is awaited with interest.