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A
DESCRIPTIVE CATALOGUE
OF
VEGETABLES
FOR
CANNING AND QUICK FREEZING

Associated Seed Growers, Inc.

New Haven, Connecticut

Number Eleven

Foreword

NEARLY three years have elapsed since the previous edition of our Descriptive Catalogue of Vegetables for Canning and Quick Freezing was published, three momentous years during which the industries of food preservation have successfully met the need for greatly increased production and have continued to advance in technical skill.

We are gratified to think that in serving them we have made a contribution to this great national effort, while we too, faced with similar imperative demands for greater volume, have in no way relaxed our standards or impaired the program of research and breeding on which we are continuously engaged. There are now eight Asgrow breeding stations in various parts of the country, the better to secure adaptation to local conditions of plant growth, in addition to our research department in New Haven, with its central laboratory employing modern equipment for seed testing and other purposes.

Much progress has been made in recent years toward disease-resistance and improved quality in vegetables for processing. In some instances this has led to better strains of standard varieties, which have long had acceptance, and the Descriptive Catalogue shows little or no change in their listings. In others, new varieties have resulted, sufficiently different from those now in use to require new names and descriptions. Among these may now be noted Medal Refugee bean; Blue Lake Stringless Potomac pole beans; together with a new name, Clark's Bush Lima, given to the green-seeded Henderson's Bush variety we introduced for 1941 planting. New names in the pea list include Shasta and Resistant Surprise, which have already been well tested by packers and have demonstrated their value for particular requirements. There are some new sweet corn hybrids, and various accessions to the lists of lesser species, while there are also some deletions as older varieties fall into disuse, though not always as rapidly as could be wished due to a natural conservatism among some growers.

The particulars given in this catalogue are based on rather extensive records from observations in various years and differing areas, compiled to represent averages, and therefore are to be regarded as relative and certain to be conditioned by local factors. With this proviso, it is our belief that they are impartial and accurate, and we hope they will be found of service to our friends in the packing industries.

Associated Seed Growers, Inc.

New Haven, Conn.
December 1st, 1942

Associated Seed Growers, Inc.

Main Office: New Haven, Connecticut

Consolidating

THE EVERETT B. CLARK SEED CO.,	Est. 1857
N. B. KEENEY & SON, INC.,	1860
JOHN H. ALLAN SEED CO.,	1856
JEROME B. RICE SEED CO.,	1832

Cable Address: Asgrow

Growing Stations and Principal Warehouses at

Milford, Connecticut	Hamilton, Montana
LeRoy, New York	Ronan, Montana
Sheboygan, Wisconsin	St. Anthony, Idaho
St. Paul, Minnesota	Filer, Idaho
Greeley, Colorado	Fairfield, Washington
Powell, Wyoming	Mt. Vernon, Washington
Bozeman, Montana	Salinas, California

Brooks, Alberta, Canada

Various sub-stations at other advantageous points

Breeding Stations at

Hamilton, Montana	Palmetto, Florida
Milford, Connecticut	Franklin, Indiana
Milpitas, California	Filer, Idaho
Greeley, Colorado	Robstown, Texas

Sales Branches and Distributing Warehouses at

Atlanta, Georgia	Indianapolis, Indiana
Salinas, California	Los Angeles, California
Memphis, Tennessee	Cambridge, New York

Milford, Connecticut

Distributors for Texas

ASSOCIATED SEEDS, INC.

San Antonio

Robstown

European Representative. J. J. Lion, Salisbury House, London

ASSOCIATED SEED GROWERS, INC., gives no warranty, express or implied, as to the productiveness of any seeds or bulbs it sells, and will not be responsible for the crop. Its liability, in all instances, is limited to the purchase price of the seed.

ALL-AMERICA SELECTIONS

The All-America Selections Council, sponsored by the American Seed Trade Association and affiliated bodies, has in each of the past ten years made awards to distinctively new varieties. These coveted awards are made on the results of trials conducted in twelve different sections of the country by impartial judges, to whom the entries are known only by numbers, and who allot marks for Distinctiveness, General Usefulness, Adaptability, and Uniformity.

The Asgrow record in these trials is as follows:

GOLD MEDAL

Asgrow Stringless Green Pod Bean	1933
Asgrow Wonder Beet	1934
Scarlet Dawn Tomato	1935

SILVER MEDAL

Asgrow Black Valentine Bean	1933
Clark's Special Cucumber	1933
Imperator Carrot	1933
Asgrow Canner Beet	1936
Golden Colonel Corn	1936
Teton Pea	1937
Baby Potato Lima Bean ¹	1940
Decatur Pole Bean	1942

BRONZE MEDAL

Stowell's Evergreen Hybrid Sweet Corn	1934
Ruby King Pepper, Asgrow Strain	1935
Ioana Hybrid Sweet Corn ²	1940
Allegheny Hybrid Sweet Corn	1941
Medal Refugee Bean	1942
Marketer Cucumber	1943
Potomac Pole Bean	1943

HONORABLE MENTION

Cardinal Tomato	1938
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¹ Cooperatively, see page 9.

² Cooperatively, see page 20.

ARTICHOKE

LARGE GREEN GLOBE

Plants thistle-like, 3-5 ft. tall. Heads large, round but slightly elongated, deep green; edible base of scales thick and of delicate flavor.

ASPARAGUS

★ MARY WASHINGTON

Developed by the late Dr. J. B. Norton, U. S. Dept. of Agriculture, for resistance to asparagus rust; and now by far the most extensively grown variety. Large green spears with tight, purple-tinted tips, of fine quality. Heavily productive and very uniform.

★ MARTHA WASHINGTON

Closely related to Mary Washington; a little earlier and perhaps slightly more resistant to rust but not so large or of such excellent quality and uniformity.

★ Suitable for quick freezing.

BEANS

Through hybridization and intensive selection we have developed many of the leading varieties of stringless beans. In addition to creating new and better types at our breeding stations, a continuous program of pure-line breeding is carried on, so that Asgrow stocks of standard varieties may be maintained at their best.

In listing the number of days from planting to marketable condition, we have used the average results secured over a period of years. These figures apply to plantings under normal conditions, and will vary somewhat in different sections of the country. However, the number of days indicated will serve to show the relative maturity of the different varieties.

GREEN PODDED: Dwarf or Bush

	Length of pod inches	Width of pod inches	Days
★ ASGROW STRINGLESS GREEN POD	6 $\frac{1}{4}$	$\frac{3}{8}$	52

All-America Gold Medal for 1933; now one of the most popular varieties for canning and quick freezing. Hardy, widely adapted and a very dependable cropper. Plant medium large, erect, somewhat thick stemmed, heavily productive. Pods nearly straight, dark green, round, meaty, succulent; entirely stringless, without fiber, of outstanding quality. Seed oblong, purple mottling on buff with brownish cast: 65 per oz.

Tendergreen is a similar variety.

★ ASGROW BLACK VALENTINE	6 $\frac{3}{4}$	$\frac{3}{8}$	49
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All-America Silver Medal for 1933. A leading shipping variety also used for freezing. Plant large, erect, prolific. Very attractive oval pods, nearly straight, dark green, strictly stringless, and of fine quality and delicate flavor; retain color and texture well: seed oval, solid black: 90 per oz.

Asgrow Stringless Green Pod: The leading variety for canning

★ *Suitable for quick freezing.*

Asgrow Black Valentine: for quick freezing

	Length of pod inches	Width of pod inches	Days
★ BURPEE'S STRINGLESS GREEN POD, IMPROVED	5½	⅞	50
Since its origination in 1894 by Calvin N. Keeney we have markedly improved this sturdy variety. Plant bushy and productive. Pods nearly round, slightly curved, stringless and fiberless. Seed coffee-brown: 75 per oz.			
★ FULL MEASURE	6	¾	53
An excellent variety under favorable conditions but less hardy and more susceptible to disease than others. Plant upright and prolific. Pods round, nearly straight, very fleshy, stringless and tender; medium green. Seed reddish brown mottled with buff: 65 per oz.			
★ GIANT STRINGLESS GREEN POD	6½	½	53
Originated by Calvin N. Keeney; introduced in 1898. Plant large, sturdy, prolific. Pods almost round, meaty, strictly stringless and brittle; without fiber or parchment, with marked indentations between the beans; color medium green. Seed oval, solid yellowish brown: 70 per oz.			
★ IDAHO REFUGEE	5	¾	64
Resistant to common bean mosaic. Plant of true Refugee type and strongly prolific. Pods longer than regular Refugee, straight, round, silver-green, stringless without fiber; seed purple-blue splashed with buff: 100 per oz.			

★ Suitable for quick freezing.

BEANS—Continued

	Length of pod inches	Width of pod inches	Days
★ KEENEY'S STRINGLESS GREEN REFUGEE	5 $\frac{1}{4}$	$\frac{3}{8}$	70
Plant large, very spreading, with many tendrils and drooping branches; heavily productive. Pods silvery green, round, stringless, brittle, without fiber. Seed violet-purple, splashed with pale buff: 100 per oz.			
★ LOW'S CHAMPION (MAINE CRANBERRY)	5	$\frac{5}{8}$	55
Used in the Eastern States. Holds long in green snap stage. Plant medium, erect, moderately productive. Pods light green, straight, flat, stringless, and of good quality. Seed ox-blood red with white eye: 50 per oz.			
★ MEDAL REFUGEE	5	$\frac{3}{8}$	65
All-America Bronze Medal for 1942. Plant compact, erect, free from spreading tendrils, and resistant to common bean mosaic. Pods green, round, stringless and fiberless; devoid of purple splashing. Seeds distinctively different from regular Refugee types, being white with brown eye: 95 per oz.			
★ U. S. NO. 5 REFUGEE	5 $\frac{1}{2}$	$\frac{3}{8}$	63
Developed and introduced in 1935 by the U. S. Dept. of Agriculture. Highly resistant to common bean mosaic. Plant similar to Keeney's Stringless Green Refugee, pods slightly smaller in diameter and longer; light silver-green and devoid of purple splashing, round, straight, stringless and fiberless. Seed of Refugee type but mottled brown: 105 per oz.			
RED KIDNEY	5 $\frac{1}{2}$	$\frac{1}{2}$	95
A commercial variety of fine quality for baked beans. Plant large, vigorous, productive. Pods waxy green color, oval flat, stringy, tough and fibrous. Seed reddish brown: 50 per oz.			
WHITE KIDNEY	5 $\frac{3}{4}$	$\frac{1}{2}$	100
A commercial variety of excellent quality for baking. Plant large, erect, bushy, compact, vigorous and productive. Seed long, white, kidney shaped: 50 per oz.

Giant Stringless Green Pod: a well-known Asgrow variety

★ *Suitable for quick freezing.*

Round Pod Kidney Wax: also known as Brittle Wax

WAX PODDED: Dwarf or Bush

	Length of pod inches	Width of pod inches	Days
★ ROUND POD KIDNEY WAX (BRITTLE WAX) Originated by Calvin N. Keeney, and introduced in 1900. An outstanding sort for canning and freezing. Plant large, erect, medium green, vigorous and moderately productive. Pods handsome in appearance, medium yellow, round, slightly curved, deeply creasebacked, extremely brittle, fleshy, succulent, absolutely stringless and fiberless; the standard of highest quality. Seed white, kidney shaped, with black eye: 80 per oz.	5¾	⅜	58
★ KEENEY'S IMPROVED STRINGLESS KIDNEY WAX Excellent for canning or quick freezing. Plant large, erect, reasonably productive. Pods oval, light yellow in color, brittle, stringless, fleshy, and of fine flavor. Seed white, kidney shaped with black eye: 75 per oz.	5½	⅕	58
★ PENCIL POD BLACK WAX Originated by Calvin N. Keeney; introduced in 1900. Primarily a home and market garden variety, but used in some sections for canning and has been frozen very successfully. Plant large, stocky, vigorous and strongly productive. Pods round, slightly curved, fleshy, golden yellow, tender, entirely stringless, without fiber, brittle and of finest quality. Seed oblong, slightly flattened, solid black: 90 per oz.	6	⅞	55
REFUGEE WAX Plant sprawling and productive. Pods round, curved, light yellow faintly splashed with purple; brittle, stringless, fine grained, and of excellent quality. Seed cylindrical, bluish black splashed with pale buff: 100 per oz.	4¾	⅜	54

★ Suitable for quick freezing.

POLE BEANS

	Length of pod inches	Width of pod inches	Days
★ BLUE LAKE	6	$\frac{3}{8}$	64
Developed from a selection of White Creaseback. Widely used in the West for processing. Pods nearly round, medium green, stringless when young, and of very good canning quality.			
★ BLUE LAKE STRINGLESS	6 $\frac{1}{4}$	$\frac{3}{8}$	59
A new and valuable variety of this increasingly popular canning and freezing type, developed at our Pacific Coast breeding station. The pods differ from those of regular Blue Lake in being stringless at all stages, fully round, somewhat longer and darker in color. Plant vigorous and productive; resistant to common bean mosaic and certain strains of rust. Seed small, oval, white: 100 per oz.			
DECATUR	6 $\frac{1}{2}$	$\frac{3}{8}$	60
All-America Silver Medal for 1942. Plant early, hardy and vigorous, a good climber and with considerable resistance to disease, particularly common bean mosaic and certain forms of rust. Pods nearly round and straight, a lively dark green color, meaty, stringless and of fine quality. Seeds small and ivory white: 100 per oz.			
★ KENTUCKY WONDER (OLD HOMESTEAD)	9	$\frac{1}{2}$	65
For a frozen pack of fine color and texture. Long pods in clusters, curved and indented; plump and almost round, meaty, brittle, fiberless with a distinctive and pleasing flavor. Seed buff brown: 80 per oz.			
KENTUCKY WONDER WHITE, Round-Podded Asgrow Strain	6	$\frac{1}{2}$	64
Vigorous plants, 5-6 ft. tall. Pods nearly straight, round, very meaty and stringless at all stages. Shows resistance to rust. Seed medium oval, pure white.			
U. S. NO. 3	6	$\frac{1}{2}$	64
Resistant to rust No. 1. Plant vigorous, 5-6 ft. tall. Pods round, fairly straight, medium green, smooth, meaty, stringless and tender. Seed medium large, oval, solid white.

Blue Lake Stringless: Our increasingly popular introduction

★ *Suitable for quick freezing.*

LIMA BEANS: Dwarf or Bush

Clark's Bush: Introduced after 17 years of Asgrow breeding and testing

	Length of pod inches	Width of pod inches	Days
★ BABY POTATO	2¾	¾	72
All-America Silver Medal for 1940. Originally selected by Prof. W. A. Huelsen, University of Illinois; developed and introduced by Associated Seed Growers, Inc. The beans are small but thick, of bright green color when fresh, and similar in flavor to Fordhook. Seeds white: 65 per oz.			
EARLY BABY POTATO	2½	¾	66
Similar to Baby Potato but a week earlier and with slightly lighter pods. Developed by us for areas of shorter season or to follow an earlier crop.			
BABY FORDHOOK	2¼	5⁄8	70
Developed by Dr. Roy Magruder at the Ohio Experiment Station. Pods resemble Henderson's Bush but are smaller and thicker, tightly filled with 3-4 small plump seeds of high quality, deep green early, lightening in color lately. Seed light cream: 65 per oz.			
★ CLARK'S BUSH	2¾	¾	65
Exclusively a product of the Asgrow breeding program and introduced in 1940, this is an entirely new variety of Henderson's Bush type, resembling the original in plant and pod but distinguished by its freedom from white beans at all harvesting stages. Of great value to processors through the reduction of labor on the picking belt. Dry seeds mainly pale green: 70 per oz.			

★ Suitable for quick freezing.

LIMA BEANS—Continued

	Length of pod inches	Width of pod inches	Days
★ FORDHOOK BUSH	4	1	75
Large seeded potato lima type. Plant large, very sensitive to environment, highly productive. Pods straight, long, with thick fibrous walls; contain 3-4 large, thick-oval beans of excellent quality. Dry beans white with tinge of green: 20 per oz.			
★ FORDHOOK, ASGROW STRAIN, CONCENTRATED	3¾	1	70
Bred at our Milpitas, California, station. Markedly different from the old Fordhook in that pods are concentrated not only in regard to position but also in time of reaching maturity. The plants are stocky, without tendrils, and very prolific.

Fordhook, Asgrow strain: very prolific and concentrated. A single plant.

★ HENDERSON'S BUSH	2¾	¾	65
Sometimes called Baby Lima, and known in the South as a Butter Bean. The Asgrow strain has been bred particularly for increased yielding power and concentration in season. Plant small, dark green, erect, bushy, very early. Pods flat, containing 3-4 flattish, small oval beans. Dry beans creamy white: 70 per oz.			
★ ILLINOIS LARGE PODDED	3¼	¾	71
Developed by Prof. W. A. Huelsen, University of Illinois, primarily to make available for the Midwest a variety of Henderson's Bush type but with ability to set in hot weather and mature under droughty conditions. Plants, pods and seeds resemble Henderson's but are distinctly larger: seed 65 per oz.			

POLE LIMA BEANS

CHALLENGER, IMPROVED (Fordhook Pole: Burpee's Best)	4	1¼	92
A potato lima, similar in pod and seed to Fordhook Bush Lima. Plant vigorous, hardy, good climber, very productive.			

★ *Suitable for quick freezing.*

Edible Soybeans

In recent years many varieties of edible soybeans have been imported from the Orient by the U. S. Dept. of Agriculture and detailed studies on their adaptation to North American growing conditions have been made, mainly at the University of Illinois.

As a result a number of varieties eminently suitable for table use in this country have been developed. The most promising of these, listed as follows, have been multiplied for seed on the Asgrow farms. They are very prolific, highly resistant to disease and insect pests, of attractive appearance and eating qualities when cooked and served similarly to Lima beans.

The number of days refers to picking for use as green shelled beans; full maturity, for dry shelled beans, is reached about 30 days later.

Note: At green eating stage all the following varieties have medium dark green beans, more or less oval in shape though varying in size. The particulars given below refer to the dry stage.

	Days
BANSEI	90
Plants erect and of medium height, very prolific, well adapted for short season areas. Beans glossy yellow, elliptical, of mild and pleasing flavor.	
EMPEROR	108
Plants vigorous, branchy and sprawling. Pods large, gray. Beans large, oval, yellow.	
GIANT GREEN	77
The earliest variety. Plants short and erect; pods large; beans plump, large, oval, green with dark eye-ring; for use shelled green.	
HOKKAIDO	98
Plant erect and of medium height. Pods large, gray. Beans large, almost spherical, yellowish, of nut-like flavor. A good mid-season variety, green or dry.	
WILLOMI	95
Plant fairly erect, of medium height. Beans large, nearly spherical, yellow. Of fine quality.

Asgrow Wonder

Asgrow Canner

BEET

In the production of the leading varieties of beet we have bred pedigreed strains for many years. Earliness, evenness of maturity, depth of color and small tap roots are features of these stocks grown from mother beets selected with discriminating care.

The number of days shows the time required under average conditions in the North from planting of seed to the production of roots about $1\frac{3}{4}$ " in diameter.

	Days
ASGROW CANNER	66

All-America Silver Medal 1936. Bred by us especially to meet canners' requirements; notable for its very deep, attractive color and superior quality. Tops strong and erect, medium tall, about 14 inches, green with red ribs. Roots smooth, globe-shaped, with small neck; dark maroon-red. Flesh lively deep ox-blood red; exceptionally vivid and attractive when cut; richly colored juice. Recommended for small whole, diced or sliced beets.

ASGROW WONDER	57
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All-America Gold Medal 1934; since then has been confirmed in leadership by growers. A pedigreed stock, the result of many years of breeding; unsurpassed in earliness, uniformity, and in depth of interior color. Roots round when young, semi-globular later, deep red, smooth, with small neck and tap root. Flesh deep dark red, tender, and of excellent quality.

DETROIT DARK RED	68
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The Asgrow pure-bred strain of this standard variety is of excellent quality. Tops medium, dark green tinged with red. Roots globular, smooth, uniform, attractive, with small tap root. Color deep ox-blood red. Flesh dark red with indistinct lighter red zones. Fine quality, sweet and tender.

OHIO CANNER

Days
73

Developed by Dr. Roy Magruder at the Ohio Agricultural Experiment Station, and awarded the All-America Silver Medal for 1933. Tops medium small, erect. Roots flattened globe in shape, smooth, ox-blood red; flesh dark red with slightly lighter zones, sweet and tender.

PERFECTED DETROIT

70

Tops tall, green and red. Roots globular, medium smooth, deep red; flesh dark red and practically free from zoning; of good quality and very suitable for canners.

BROCCOLI

★ CALABRESE, ITALIAN GREEN

70

The leading variety for canning and quick freezing. The tall branching plant forms a compact head of bluish green flower buds resembling a head of cauliflower. After the main head has been removed, side shoots with small heads continue to develop.

★ FREEZERS' SPROUTING GREEN

75

A new variety of true sprouting type developed at our Milpitas, California, breeding station. Bred especially to meet a need of the quick-freezing industry. Many individual sprouts with small heads are formed, but are not concentrated into a central head, thus allowing a better growth for their special purpose and facilitating picking and packing.

BRUSSELS SPROUTS

★ HALF-DWARF IMPROVED

70

Plants 22"-26" tall; stems thickly set, with firm cabbage-like balls of 1½" diameter, maturing successively.

Freezers' Sprouting Green: especially suited to the frozen pack

★ Suitable for quick freezing.

CABBAGE

Our cabbage seed is produced largely in the Puget Sound section at our western Washington production branch from seed stocks of highest quality. Each year the various varieties are checked at our Eastern breeding station, Milford, Conn., to guard the vital factors of earliness, evenness of maturity and uniformity.

The column of Days gives relative period to maturity from setting out plants.

Varieties marked y.r. have been developed, mainly at the University of Wisconsin, for resistance to the cabbage-yellows disease. It is recommended that only these varieties be planted in infested areas.

	Diameter of head inches	Weight of head pounds	Days
ALL HEAD SELECT, y.r.	9	6	78
Resembles standard strains of All Head. Firm heads, flat to slightly rounded at top. Uniform and of fine quality for early sauerkraut.			
COPENHAGEN MARKET	6½	3½	69
Dependably early and uniform, used largely for early kraut. Outer leaves few and of gray-green color, short stem; heads round, solid, and of superior quality. An excellent short season type.			
DANISH BALL HEAD (HOLLANDER)	7½	6½	103
Most widely used and best type of late cabbage for kraut or storage. Plant fairly large, sturdy, with short stem; outer leaves medium. Heads deep round, very hard; interior decidedly compact, leaves composing head smooth and closely arranged. Texture tender, crisp; flavor good; ideal for high quality kraut.			
GLORY OF ENKHUIZEN	8	6	77
An attractive second-early variety, used largely for kraut. Heads large, round, solid, with few outer gray-green leaves; of excellent quality.			
GOLDEN ACRE	6	3	64
An extra early Copenhagen type with small, round, quite solid heads, maturing with Jersey Wakefield. Plant dwarf, with few outer leaves.			
GREEN ACRE	6	3	66
An attractive strain of Golden Acre. The type and general characteristics are the same, but Green Acre holds its green color longer.			
IMPROVED GLOBE, y.r.	8	6	77
An improved resistant strain of Glory of Enkhuizen. Large, round, solid heads.			
MAMMOTH RED ROCK	7	7	100
A large strain of the standard red cabbage. Heads round, very hard; color purplish red; an excellent keeper.			
MARION MARKET, y.r.	6½	4	79
A development from Copenhagen Market but with slightly larger, later maturing, round, firm heads; leaves more blue-green. Good for kraut or market.			

	Diameter of head inches	Weight of head pounds	Days
PENN STATE BALL HEAD	7½	5½	105
Heads extremely hard, flattened globe, 6"-7" deep. Desirable for winter storage and for kraut in districts free of the cabbage-yellows disease.			
PREMIUM LATE FLAT DUTCH	10	8	100
Deservedly popular for its heavy yield. Heads very large, flat, and solid; leaves light gray green; 6½"-7" deep; of high quality.			
RED DANISH (Red Dutch)	7	7	98
A superior strain of Red Rock developed by careful selection for uniformity and quality. Heads round, hard and heavy, deep colored throughout. A good pickler.			
RED HOLLANDER, y.r.	7	6	100
As its name indicates, this variety combines red color with the round, hard head of the Hollander type.			
RESISTANT GOLDEN ACRE (RESISTANT DETROIT), y.r.	6	3	65
A Golden Acre type from Denmark into which yellows-resistance has been bred. Medium small, round heads. While earlier than Racine Market, is not so resistant.			
WISCONSIN BALL HEAD, y.r.	7	7	100
Heads very hard, smaller but more uniform and smoother than Wisconsin Hollander, short stem, blue-green leaves.			
WISCONSIN HOLLANDER, y.r.	7½	8	105
Selected from Danish Ball Head, the first yellows-resistant variety of the series developed by Prof. L. R. Jones and Dr. J. C. Walker at the University of Wisconsin; now greatly improved in quality and resistance. Heads round, becoming slightly flattened, color blue-green. A heavy cropper.

Danish Ball Head: A favorite variety for kraut

Roots are carefully selected for transplanting to seed-production fields

CARROT

Planting stocks are developed at our breeding stations from individual progenies which have met the most exacting specifications in performance. Smoothness and shapeliness of roots with depth of exterior and interior color are vital factors in rating parent lines.

In giving the number of days for the development of roots, we have used the average of readings for a period of years. These will vary considerably in different locations.

	Length of root inches	Diameter at shoulder inches	Days
★ CHANTENAY, IMPROVED LONG	5½	2	72
A well known and popular all-purpose variety; desirable for canners in packing diced carrots; a good cropper. Roots deep orange, smooth, tapered, stump-rooted; flesh deep orange.			
★ CHANTENAY, RED CORE	5	2	72
Developed and introduced by C. C. Morse & Co. A desirable Chantenay with good interior color; excellent for dicing and in frozen pack of peas and carrot. Roots somewhat shorter than Improved Chantenay; flesh reddish orange, with indistinct core of nearly the same color as the surrounding flesh.			
IMPERATOR	8	1½	77
A long slender type, introduced by us primarily for shippers and awarded the All-America Silver Medal for 1933. Flesh of rich orange color to center, fine-grained and tender.			
★ NANTES IMPROVED CORELESS	6	1¼	70
Excellent for forcing for canning and for quick freezing whole carrots. Tops very small. Roots bright orange, cylindrical, blunt ended. Flesh reddish orange, crisp, tender, and of very delicate flavor; practically coreless.			

★ Suitable for quick freezing.

CAULIFLOWER

	Diameter of head inches	Days from Setting of plants
★ DANISH GIANT (Dry Weather)	7	67
Well adapted to dry weather conditions; later than Early Snowball and of larger growth. Heads creamy white, and of excellent quality.		
★ EARLY SNOWBALL	6½	55
The best and most widely used early variety; good for use in packing mixed pickles. Plants dwarf, with short pale green leaves. Heads medium, firm, compact, solid, pure white, and of finest quality; a dependable header. Well adapted to freezing.		
★ SNOWDRIFT	7½	57
Plant of medium height with upstanding, medium green outer leaves. Head slightly larger than Snowball, firm, solid, very white, well protected by inner folding leaves; curd has fine texture and is free from small protruding leaves.		
★ SUPER-SNOWBALL	7	56
A highly desirable main crop variety, also used for early planting. Starts heading early and uniformly. Heads medium large, compact, very white; much used in the fresh vegetable industry and has given satisfactory results in Eastern freezing.

Snowdrift: a well known and reliable variety

CELERY

EASY BLANCHING (SANFORD SUPERB)

An excellent second early green variety. Vigorous and compact in habit of growth, it blanches readily to attractive white, and is a good keeper. Stalks slightly taller than Dwarf Golden Self Blanching; thick, solid; of good flavor.

UTAH (Golden Crisp)

A very desirable green type. Plant stocky, full hearted and compact; blanches readily. Stems thick, solid, medium broad and full rounded; of nutty flavor and fine quality.

★ Suitable for quick freezing.

Corn trials: Asgrow Midwestern breeding station, Franklin, Indiana

SWEET CORN

Sweet corn has been a leader with us for over eighty years during which time we have originated many well-known varieties. Our production program includes the maintenance of excellent strains of standard sorts and the development of new, superior lines.

Through the use of more recent breeding methods for the improvement of sweet corn varieties, we have developed, through nearly twenty years of controlled pollination, many inbred lines of high merit. The crossing of these produces hybrids of outstanding vigor, uniformity and productivity. Disease resistance is also a vital factor and we can now furnish various varieties that are highly resistant to Stewart's disease or bacterial wilt.

The number of days indicated for each variety represents average trial row readings for many years at our Eastern breeding station, Milford, Conn.

In some sections maturity dates will naturally be different.

Varieties marked (y) have yellow kernels; those marked (w) have white.

HYBRIDS

A hybrid is the first generation of a cross between strains of different parentage and involving one or more inbred lines of corn or their combinations.

Ohio State Law.

	Height of stalk feet	Length of ear inches	Days
ALLEGHENY (y)	7½	7½	89
All-America Bronze Medal, 1941. An exclusive Asgrow hybrid. Tall, vigorous plant, highly resistant to Stewart's disease (bacterial wilt) and a heavy yielder. Ears 2" diameter, mainly 18-22 rowed, well filled to tips with very narrow, long kernels of medium yellow color.			

	Height of stalk feet	Length of ear inches	Days
COGENT HYBRID 19 x 24 (w)	8	8	94

A Country Gentleman hybrid variety of our breeding and exclusive production. Has a somewhat thicker ear and larger kernel type than Shoepeg Hybrid 19 x 9. Well adapted for areas of heavy, rich soil in the Eastern States. Stalk erect, with good foliage, and prolific. Ears $1\frac{7}{8}$ " diameter, long, slightly tapered, well filled at tips.

COUNTRY GENTLEMAN HYBRID (Ill.) 8 x 6 (w)	7	8	99
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An extremely drought-resistant variety originated by Prof. W. A. Huelsen of the University of Illinois. Ears $1\frac{7}{8}$ " diameter. Well adapted to the Midwest and especially for the needs of canners. Notable for its high percentage cut-off.

COUNTRY GENTLEMAN HYBRID (Ill.) 5 x 10 (w)	$7\frac{1}{2}$	$7\frac{1}{2}$	98
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Also originated by Prof. Huelsen and admirably adapted to Midwestern conditions. Ears 2" diameter. A prolific variety, giving high yields except in extreme drought when it is easily outclassed by Hybrid 8 x 6.

★ GOLDEN CROSS BANTAM (y)	6	8	85
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Originally developed by Glenn M. Smith and introduced jointly by the U. S. Department of Agriculture and Purdue University. Extremely uniform in plant and ear characteristics and in maturity. Highly resistant to Stewart's disease. Now the most extensively used hybrid. Widely adapted to canner's use and excellent for quick freezing. Stalk sturdy and upright. Ears 10-14 rowed, $1\frac{3}{4}$ " diameter, cylindrical. Kernels rich in color, medium in width and depth.

Golden Cross Bantam: the most widely used yellow hybrid

★ Suitable for quick freezing.

CORN—Continued

	Height of stalk feet	Length of ear inches	Days
★ GOLDEN HYBRID NO. 2439 (y)	7	7¾	87

An exclusive Asgrow development from crossing inbred lines Asgrow 24 x P39. Exceptionally valuable to canners and freezers. Plant tall, vigorous, uniform, comparatively free from suckers; leaves wide, dark green and numerous. Ears 17/8" diameter, cylindrical, 14-16 rowed, with long husks affording considerable resistance to ear worm. Kernels lustrous yellow, medium-narrow and deep, with tender hull; sweet and of excellent quality. Highly resistant to Stewart's disease.

This variety is sometimes spoken of as Bantam Evergreen Hybrid but is quite distinct from any other of that name.

Golden Hybrid No. 2439: an Asgrow hybrid of exceptional quality

★ IOANA (y)	6½	8	87
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Originated by Dr. E. S. Haber of Iowa State College, commercially developed and entered by us in the All-America Selections trials for 1939 when it was awarded a Bronze Medal. An attractive and productive variety, highly resistant to wilt. Plants tall and sturdy, with broad and numerous leaves. Ears 7½"-8" long, 17/8" diameter, 12-14 rowed, cylindrical; well filled with medium-narrow, light yellow kernels.

★ NARROW GRAIN HYBRID 26 x 15 (w)	8	7	98
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An exclusive product of Asgrow inbred lines. Very uniform and highly desirable for canning and freezing. Stalk sturdy, upright with no suckers; leaves wide, dark green. Ears 2" diameter, uniformly tapered, with 18-22 rows. Kernels narrow, deep, tender.

★ Suitable for quick freezing.

	Height of stalk feet	Length of ear inches	Days
PONTIAC (w)	8½	7½	90
An exclusive Asgrow hybrid. High yielding wilt-resistant and well adapted to Midwestern as well as Eastern conditions. Stalks strong, with ears relatively free of flag leaves. Ears 2" diameter, trim and well filled with 16-20 straight rows of very white kernels, narrow and of good depth. Husks long, affording considerable resistance to ear worm.			
★ SACHEM (y)	6	7¾	82
An exclusive Asgrow hybrid, produced from our own inbred lines as an early companion to Golden Cross Bantam, and thus affording a longer season of this most desirable type. Plants vigorous and very resistant to bacterial wilt. Ears 1⅝" diameter, long, trim, and well filled to tips with 10-14 rows of medium-deep, bright yellow kernels. A very attractive and promising variety for canning and freezing.			
SHOEPEG HYBRID 19 x 9 (w)	8½	7¾	96
Exclusively an Asgrow production from our own inbred lines. Particularly suitable as a fine-kerneled corn for canners in Eastern areas only. Stalk sturdy, upright with ears 3½-4 ft. from ground. Ears long, cylindrical, 1⅝" diameter, well filled at tips. Kernels very fine and deep, tender and of excellent quality.			
STOWELL'S EVERGREEN HYBRID 14 x 5 (w)	8	8	93
Our development from crossing inbred evergreen lines Asgrow 14 x Asgrow 5. All-America Bronze Medal for 1934. Highly valuable to canners, especially in the East. Stalk sturdy with close growing upright ears, 4 ft. from ground; foliage medium green. Ears 2" diameter, very slightly tapered, uniform, with 16-18 rows. Kernels very white, medium-wide, deep; medium cob.

Top Cross Maine Bantam: An Asgrow hybrid of special adaptation

★ Suitable for quick freezing.

CORN—Continued

	Height of stalk feet	Length of ear inches	Days
★ TENDERGOLD (TOP CROSS SUNSHINE) (y)	5½	7½	83
A good variety maturing ahead of Golden Cross Bantam. Stalk sturdy with good foliage; highly resistant to Stewart's disease. Ear nearly cylindrical, 1¾" diameter, 12-16 rowed, kernels medium in width and depth, golden yellow, tender and of good quality. Desirable for canners and freezers in northerly sections.			
★ TOP CROSS MAINE BANTAM (Maine Bantam P39) (y)	6	7½	83
Our development; has proven highly successful for canners and freezers in short season areas. Stalk sturdy with deep green foliage; ear slightly shorter than Golden Cross Bantam, 1¾" diameter, very slightly tapered with 12-16 rows; kernels medium-narrow and golden yellow, tender and of excellent flavor. Highly resistant to Stewart's disease.			
WINNEBAGO (w)	7¾	7¾	96
A new hybrid of Country Gentleman type developed at our Midwestern breeding station particularly for canners in that area. The plant is tall and sturdy, with strong root system and very resistant to drought. Has relatively few suckers. The ears are medium long, 2" diameter, with deep, narrow, shoe-peg kernels, giving a high percentage of cut-off.

Winnebago: A new Asgrow hybrid for Midwestern canners

★ Suitable for quick freezing.

Evaluating kernel texture for our annual performance records

OPEN-POLLINATED

	Height of stalk feet	Length of ear inches	Days
CLARK'S EARLY EVERGREEN (w)	8½	7½	90
One of the best known of the older canning varieties. Originated by Everett B. Clark on our Milford, Connecticut, farms many years ago. Ears 2" diameter, 16-20 rowed. Kernels very deep, ivory white, sweet and tender.			
COUNTRY GENTLEMAN (SHOEPEG) (w)	7	7	95
A prolific variety of excellent quality. Stalk often with two ears, 1⅞" diameter. Kernels very deep, slender, sweet, with tender hull, and set irregularly without row formation.			
STOWELL'S EVERGREEN (w)	8½	8	95
The best known late variety of open-pollinated white sweet corn. Used extensively by canners for a standard product; also for home and market gardeners. Stalk sturdy and erect; ears 2⅞" diameter, 16-20 rowed. Kernels clear white, deep, rather broad, sweet and tender: 112 per oz. Holds well in prime condition at eating stage.

Stowell's Evergreen: An old variety esteemed for its large, white ears

CUCUMBER

The breeding of new strains and improvement of standard sorts of cucumbers is carried on at breeding stations in Colorado and California. Exceptional care is exercised in the isolation of breeding plots to prevent hybridization.

The number of days indicates the relative time required from planting of seed to first picking of fruits. The figure should be reduced by several days for small pickles. The letters b.s. indicate black spined varieties.

	Length of fruit inches	Diameter of fruit inches	Days
CHICAGO PICKLING, b.s.	6½	2½	59
A sturdy well-known pickling variety. Fruits medium green, nearly square ended; very prolific; well warted and ribbed at pickle size; uniform and attractive; largest of the pickling sorts.			
DAVIS BLEND, b.s.	6	2¾	57
A desirable strain for pickle packers; deep green, squarish ended, uniform, productive. Resembles National Association Pickling.			
EARLY RUSSIAN, b.s.	4	2	54
A small, exceptionally early, and prolific pickling variety. Short oval, medium green.			
GHERKIN, WEST INDIA	2½	1	60
Not a true cucumber. Used for very small pickles. Fruits pale green, covered with prickly spines; oval and uniform.

A comparative study of pickling varieties at one of the Asgrow stations

	Length of fruit inches	Diameter of fruit inches	Days
NATIONAL ASSOCIATION PICKLING, b.s.	6	2½	56
A highly desirable, very extensively used pickling strain developed at the Michigan Agricultural College in collaboration with the National Pickle Packers' Association. Fruits dark green, symmetrical with thick walls; full ended; slightly shorter than Chicago Pickling.			
SNOW'S PERFECTION PICKLING, b.s.	5½	2¾	56
A somewhat smaller sort than Chicago Pickling. Early, prolific, and rightly popular. Fruits deep green, and distinctly square ended, uniform, and attractive.			

DILL

LONG ISLAND MAMMOTH

Plant 2-2½ feet high, with leaves cut into thread-like divisions. Seeds very flat; of strong, bitter flavor. Used for flavoring pickles.

KALE

	Height of plant inches	Days
DWARF BLUE SCOTCH	14	55
Plant has wide-spreading, finely curled blue-green, plume-like leaves. Used as a vegetable, and for ornament. The Asgrow pedigreed strain is exceptionally uniform and handsome.		
DWARF GREEN SCOTCH	14	55
A hardy sort, similar in habit of growth and appearance to Dwarf Blue Scotch, except for color, which is bright, deep dark green. The Asgrow pedigreed strain is large and very attractive.		

MUSTARD

CHINESE BROAD LEAVED

Plant medium large, vigorous; leaves broad, large, slightly crumpled, oblong, medium green, scalloped at edges; seed reddish brown.

FORDHOOK FANCY (OSTRICH PLUME)

A handsome, upright growing, mild variety, slow to bolt seed stalks; leaves bright green, plume-like, and deeply fringed on the edges; seed reddish brown.

MUSTARD SPINACH (TENDERGREEN)

A quick growing variety particularly suited to the South. Leaves oblong, thick, fairly smooth, dark green with lighter green ribs; slow to seed, resistant to heat and drought; combines flavors of mustard and spinach.

SOUTHERN GIANT CURLED

The best known and most popular sort for canning "greens." Leaves long and wide, light green, tinged with yellow, heavily crumpled and curled at the edges. Seed small, reddish brown. Used widely in the South.

CLASSIFICATION OF PEA VARIETIES LISTED IN ASGROW DESCRIPTIVE CATALOGUES

Berry Color	Stem	Pod Shape (end)	Seed Surface	Cotyledon Color	*1st Bl. Node	Vine Color	*Ave. Sieve Size	Variety	General Type Group
Light Green berry. Primarily canning types. Pods usually small to medium, with peas filling the pod cavity.	Tall (straight)	Blunt	Smooth	Green	8-10 9	Lt.	3.	Alaska Winner	Alaska
				Yellow	9-10 9	Lt.	2.75	Ped. Extra Early Willett's Wonder	Ped. Extra Early
			Wrinkled	Green	10 10 11	Lt.	3. 3. 3.2	Surprise Resistant Early Harvest	Early Sweet
				Yellow	12 15-16 18	Dk. Med. Med.	3.5 3.2 4.5	No. 71 Green Admiral Champion of England	Admiral
				Green	15	Med.	3.2	Yellow Admiral	
		Pointed	Smooth	This unimportant group has no varieties represented in our catalog. This unimportant group has no varieties represented in our catalog.					
				Green	19-20	Med.	3.	Petit Pois	Petit Pois
			Wrinkled	Green	10	Dk.	4.	Nott's Excelsior	Gem
					11	Dk.	3.2	Imp. Premium Gem	
					13	Dk.	4.5	Pride	Perfection
	Short (zigzag)	Pointed	Smooth		13	Lt.	5.	Canner King	
					15	Dk.	4.	Early Perfection	
			Wrinkled		16	Dk.	4.	Perfection	
					17	Dk.	4.5	Horsford	
					16	Dk.	5.	Everbearing	
		Blunt	Smooth		18	Med.	5.	Major	Large Perfection
					18	Dk.	5.	Wisconsin Merit	
			Wrinkled		17	Med.	5.	Profusion	
					18	Med.	5.	Prince of Wales	Wales
					No varieties catalogued in this group.				
		Pointed	Smooth	Green	14	Lt.	5.	Daisy	Daisy Mkt.
					14	Med.	4.75	Senator Charles I	
			Wrinkled		15	Dk.	4.5	Lincoln	Senator
				Yellow	12-14	Med.	4.5		

* As variations inevitably occur under differing conditions of growth, these figures are to be understood as averages.

Berry Color	Stem	Pod Shape	Seed Surface	Pod Roundness	Seed Color	1st Bl. Node	Vine Color	Sieve Size	Variety	Gen. Type Group					
<i>Dark Green Berry.</i> Primarily types adapted either to freezing, market or home garden. Pod and berry size generally larger than in canner's types.	Tall (straight)	Blunt	Smooth	Flattened	Green	11	Lt.	4.75	Bountiful	Pilot					
						10	Dk.	5	Foremost						
			Pointed	Wrinkled	Inflated	Yellow	9-10	Lt.	5	Pilot	Evergreen				
							12	Med.	5.5	Miracle		Gradus			
							9-10	Lt.	5.5	Frostie					
		Short (zigzag)	Blunt	Smooth	Inflated	Green	11	Lt.	5.5	Banqueter	Tall Mkt & Freezer				
							17	Dk.	6.0	Alderman					
				Pointed	Wrinkled	Flattened	Yellow	9	Lt.	5.5	World's Record	Marvel			
								10-11	Dk.	4.5	Little Marvel		Dwarf Freezer		
								13-14	Med.	5.0	Shasta				
		Blunt	Smooth	Inflated	Green	14	Lt.	5.0	Onward	Marvel					
						14	Dk.	4.25	Wyola		Dwarf Freezer				
						15	Dk.	5.5	Sun Valley						
						Pointed	Wrinkled	Flattened	Yellow		10-11	Lt.	4.5	Early Dwarf	Marvel
											11	Dk.	5.	Laxton's Superb	
		9	Dk.	4.	Eight Weeks										
			Wrinkled	Inflated	Green					10-11	Dk.	5.	Multifold	Dwarf Market	
										15	Dk.	5.5	Stratagem		
						16-17	Dk.	6.	Dwarf Alderman	Round Podded Dwarf Market					
						9-10	Med.	5.	Laxton's Progress						
	10					Dk.	5.	Hundredfold							
		Short (zigzag)	Pointed	Wrinkled	Inflated	Green	11	Med.	5.5	Pres. Wilson	Round Podded Dwarf Market				
							12	Dk.	5.5	Gilbo					
							14	Dk.	5.5	No. 40					
							15-16	Dk.	6.	Rondo					
12							Med.	5.5	Morse's Market						

OKRA

	Height of plant feet	Mature pods inches	Days
CLEMSON SPINELESS	4½	7	55
Developed by the South Carolina Experiment Station. All-America Silver Medal for 1939. A very uniform spineless strain of the Perkins long-podded type. Plant has less foliage than Perkins; pods rich green, straight, ridged.			
LOUISIANA VELVET (LADY FINGER)	5	6½	58
An improved strain of White Velvet. Plant tall, early and prolific. Pods creamy white, slender, spineless, ribless.			
PERKINS' MAMMOTH (TALL GREEN)	5	7	56
Pods bright, deep green, slender, meaty, tapered, and ribbed. A valuable canning variety.			
WHITE LIGHTNING	5	8	50
All-America Bronze Medal for 1939. An excellent development of White Velvet type, introduced by H. G. Hastings Co. Long tapering pods, greenish-white, round, smooth and entirely spineless, stay tender to larger size than most other varieties.			

PICKLING ONIONS

	Days
WHITE BARLETTA (WHITE PEARL)	90
An early sort, used for pickling. Bulbs small, more or less spherical when young, flattening later, pure white, of mild, sweet flavor.	
WHITE PORTUGAL (SILVERSKIN)	100
The most widely used all-purpose white onion. Bulbs medium sized, thick-flat, clear white, hard, fine grained, and of pleasing flavor. A dependable cropper.	
WHITE QUEEN	90
Very similar to White Barletta; a well known pickling variety. Bulbs small, flat, clear white, firm and mild.

The familiar trade mark grown on a low hill at our Eastern breeding station

PEAS

By breeding pedigreed stocks through generations of pure-line cultures, we are continually improving existing leading varieties of peas. This intensive process, supported by careful inspection and checking of field crops, produces exceptionally high grade stocks. In addition to maintaining standard varieties, new strains are developed by means of hybridization and selection, which enables us to combine desirable plant characters such as disease resistance, productiveness, and quality of two or more parents in new and more useful introductions.

Since the time from planting to first picking varies widely in different seasons and in different sections, we have indicated in the column of days, average results under normal rainfall conditions in the North. These figures will be of assistance in comparing the relative earliness or lateness of the various varieties when planted in any locality.

Smooth seeded sorts are commonly handled on the basis of 120 lb. to the bag and wrinkled varieties 112 lb.

	Smooth-Seeded	Height of plant inches	Length of pod inches	Days
ALASKA	The Asgrow strain—the first progeny line, pedigreed stock of this variety ever developed—is noted for its pod size and productivity. Fully resistant to Fusarium wilt. Used very extensively for first early canning. Vine slender, light green, very uniform in maturing. Pods single, blunt, light green, round, straight, contain 6-8 peas of good quality; sieve sizes 1 to 5, largely 3 and 4. Seed small, round, smooth, bluish green: 130 per oz.	28	25/8	57
ALASKA HF 30	Vine more vigorous but less uniform than regular Alaska and about two days later to picking. Pods are similar but in general slightly larger; sieve sizes 1 to 6, largely 3 to 5.	35	27/8	59
WINNER	Developed and introduced by Rogers Bros. Seed Company. A canning variety, used where small sizes are desired. Vine light. Pods single, narrow, light green, blunt, straight; contain 6-7 peas, sieve sizes 1 to 3, largely 3. Seed small, deeply dimpled, light green.	24	2	60

Spring scene at the Asgrow pea-breeding station, Hamilton, Montana

PEAS—Continued

Wrinkled-Seeded

	Height of plant inches	Length of pod inches	Days
★ ALDERMAN (DARK-PODDED TELEPHONE)	60	4½	74
A handsome large podded variety, excellent for freezing. Vine dark green, coarse, resistant to Fusarium wilt. Pods single, large, plump, straight, dark green, pointed; contain 8-10 peas of highest quality. Frozen peas oblong, dark green; sieve sizes 4 to 8. Smaller sizes should not be frozen. Seed large, light green: 90 per oz.			
★ BANQUETER	42	4	63
Belongs to the Gradus class but has a distinctive round pod. Has given particularly good results in quick freezing. Vine medium green, fairly stocky. Pods single, round, plump, pointed; contain 8-10 large, succulent peas; sieve sizes 3 to 7, largely 5 to 7. Seed large, green: 95 per oz.			
CANNER KING	34	3½	67
A popular Asgrow development. Vine similar to Perfection but with more open habit of growth; color medium green. Resistant to Fusarium wilt. Pods slightly curved, single and double, medium green, blunt, contain 7-9 peas; sieve sizes 2 to 7, largely 4 to 6. Seed green, of medium size: 100 per oz.			
CLIMAX	36	2¾	66
A prolific sort for second early canning. Vine of Admiral type, medium green and slender. Resistant to Fusarium wilt. Pods single and double, light, blunt; contain 6-7 peas. Sieve sizes 1 to 5. Seed small, green: 140 per oz.

Canner King: An Asgrow introduction of high canning quality

★ Suitable for quick freezing.

	Height of plant inches	Length of pod inches	Days
★ DWARF ALDERMAN	28	4½	76
Vine dark green, stocky, resistant to Fusarium wilt. Pods single and double, dark green, plump, pointed, slightly curved; contain 7-9 large peas, sieve sizes 3 to 7 and a few larger. Seed large, green, wrinkled.			
EARLY HARVEST	32	2¾	60
Our development, resistant to Fusarium wilt. An early sweet wrinkled canning type showing more vigor than either Surprise or Wisconsin Early Sweet. Vine thrifty, medium green. Pods single, light green, plump, blunt; contain 6-8 peas having tender skins and excellent flavor. Canned peas round, light green sieve sizes 1 to 5, average 3.2. Also very attractive run-of-pod. Seed small, green: 140 per oz.			
EARLY PERFECTION	28	3¼	66
An Asgrow introduction valuable to canners as a desirable sweet wrinkled pea maturing between Surprise and Perfection. Vine dark green, thrifty. Pods single and double, blunt, light green, plump; contain 7-8 peas of good quality. Canned peas semi-round, medium green; sieve sizes 1 to 6. Seed medium sized, green, wrinkled.			
★ FROSTIE	38	3¾	63
An improved Gradus type for canning and freezing. Vine medium green, stocky. Pods single, broad, plump, pointed, medium green; contain 8-10 large, sweet, delicious peas. Frozen peas oblong, deep green; sieve sizes 3 to 7. Seed large, cream and green: 100 per oz.			
★ GLACIER	32	3¼	61
An attractive Asgrow variety developed at our Montana pea breeding station to meet the need for a variety somewhat earlier than Thomas Laxton but of the same general type and fully resistant to Fusarium wilt. The vines are dark green and medium heavy. Pods single, dark green, blunt ended, plump and well filled with 7-8 deep green, semi-round peas of excellent quality for canning or freezing; sieve sizes 3 to 7. Seed large, cream and green: 102 per oz.

Glacier
similar to
Thomas Laxton
but earlier
and wilt
resistant

★ Suitable for quick freezing.

PEAS—Continued

	Height of plant inches	Length of pod inches	Days
HORSFORD'S MARKET GARDEN	28	3	76
Principally a canning variety. Vine productive, dark green, thick stemmed and branching. Pods double, light green, plump, blunt, straight; contain 6-7 uniform peas of good quality; sieve sizes 1 to 5, largely 3 to 5. Seed medium sized, green.			
KAY	30	2½	68
Used by canners in some sections where small sieve sizes are desired. Vine slim, medium dark. Pods double, blunt, light green; contain 6-7 small peas. Canned peas nearly round, medium green; sieve sizes 1 to 5, largely 2 and 3. Seed small, wrinkled, green.			
★ LAXTONIAN	18	4¼	63
A large podded dwarf variety for canning and freezing. Vine dark green. Pods single, broad, dark green, slightly curved, pointed; contain 7-8 large, oblong, deep green peas; sieve sizes 3 to 7. Seed large, flattish, yellow and green.			
★ LAXTON'S PROGRESS	16	4½	62
The largest podded and most attractive of the Laxtonian family. Vine medium dark green. Pods single, 7/8" wide, dark green, somewhat curved, pointed, handsome; contain 7-9 large, oblong, deep green peas of good quality; sieve sizes 3 to 7. Seed large, cream with green: 85 per oz. The Asgrow strain of this important variety is noted for its solid deep green color.			
MAJOR	40	3¾	72
Developed at our pea breeding station, this recent variety combines the best qualities of Perfection and Profusion. Resistant to Fusarium wilt. Vine stocky, of open growing habit, medium green. Pods mostly double and well concentrated, nearly straight, blunt, well filled with 6-7 large bright green peas of excellent quality. Sieve sizes 3 to 7, largely 5 to 7. Seed large, mainly green: 95 per oz.			
★ MULTIFOLD	24	4⅜	66
Our recent introduction of large Hundredfold type, developed at our pea-breeding station for quick freezing and general use. Resistant to Fusarium wilt. Vine dark green, strong and prolific. Pods single and double, broad, dark green, pointed and slightly curved; contain 8 large, dark green peas of excellent quality, sieve sizes 3 to 7. Seed large, green: 100 per oz.			

Teton
similar to
Thomas Laxton
but later
and wilt
resistant

★ *Suitable for quick freezing.*

	Height of plant inches	Length of pod inches	Days
★ NUMBER 40	28	5	74
Resembles Stratagem, but 4-5 days earlier; exceptional in pod size. Vine dark green, stocky and branching; resistant to Fusarium wilt. Pods single and double, round, dark green, plump, pointed, curved at tip; contain 8-10 large, succulent peas; sieve sizes 3 to 7, and a few larger. Medium dark green when frozen. Seed large, green: 90 per oz.			
NUMBER 71	36	2¾	66
A reliable and prolific canning variety. Vine slender, medium-dark green; resistant to Fusarium wilt. Pods blunt, single and double, with 6-7 peas of sieve sizes 2 to 5. Seed small, wrinkled and green: 140 per oz.			
PERFECTION	30	3¼	70
An important main crop canning variety, resistant to Fusarium wilt; concentrated in pod development and very productive. The Asgrow strain is known particularly for its uniform, large, attractive pods. Vine medium green, stocky. Pods double, medium green, blunt, slightly curved; contain 7-9 peas. Canned peas semi-round, medium green; sieve sizes 1 to 6, largely 3 to 5. Seed green, of medium size: 130 per oz.			
PRIDE	30	3½	65
Developed at the Asgrow pea breeding station in Montana and introduced in 1936. A vigorous variety, exceptionally productive. Resistant to Fusarium wilt; excellent for canning, especially the larger sieve sizes; similar in color and texture to Perfection. Vine dark green, open at top, sturdy, very uniform, quite resistant to aphids. Pods mainly double, straight, plump, dark green, well filled with 7-9 medium deep green, semi-round peas; sieve sizes 1 to 6, largely 3 to 5. Highly concentrated in season and produces crops of quality peas under adverse conditions. Seed medium, green: 120 per oz.			
PRINCE OF WALES	40	3½	75
A desirable sort for canning large sized run-of-pod peas; resistant to Fusarium wilt. Vine medium green, coarse. Pods single and double, light green, blunt; contain 4-6 large, oblong, medium green peas; sieve sizes 3 to 7, and a few larger. Seed large, cream and green; a light cropper: 95 per oz.

Pride
a distinctive variety
for canners
highly resistant to
pests and adverse weather

★ Suitable for quick freezing.

PEAS—Continued

	Height of plant inches	Length of pod inches	Days
PROFUSION	42	3¾	76
A medium late canning variety; resistant to Fusarium wilt. Vine medium green, with stout stem. Pods single and paired, light green, plump, straight, blunt; contain 5-6 large, oblong peas of good quality; sieve sizes 3 to 7, and a few larger. Seed large, cream and green: 90 per oz.			
RESISTANT GEM	22	2¾	64
Resistant to Fusarium wilt. Vine dark green, medium, productive. Pods single and double, light green, round, straight, blunt; contain 6-7 peas of good quality. Canned peas oblong, medium green; sieve sizes 1 to 5, largely 3 and 4. Seed green, medium sized: 120 per oz.			
RESISTANT SURPRISE	28	2⅝	57
Developed at the Asgrow pea-breeding station to provide a variety with the desirable canning qualities of Surprise, plus resistance to Fusarium wilt. The new variety is somewhat more prolific, but plant and pod type are, in general, identical with Surprise.			
★ SHASTA	28	3¾	70
A new variety developed at the Asgrow pea-breeding station to meet the need for a late-maturing Thomas Laxton type. Plants medium green and sturdy; resistant to Fusarium wilt. Pods dark green, a little larger than Thomas Laxton and of similar shape, borne mainly in pairs. Peas deep green, of excellent quality and highly suitable for freezing. Seed large, green: 100 per oz.			
★ STRATAGEM, IMPROVED	28	4½	79
A superior late variety for canning and freezing. Resistant to Fusarium wilt. Vine deep green, stocky and branching. Pods single and paired, 7/8" wide, nearly round, straight, pointed, dark green; contain 8-10 tender, dark green peas; sieve sizes 3 to 7, and a few larger. Seed large, green: 95 per oz.			
SURPRISE	28	2⅝	58
A popular early canning sort of first quality. Vine medium green, slender. Pods single, light green, plump, blunt; contain 6-8 round, light green peas; sizes 1 to 5, average 3, also excellent when ungraded. Seed small, green. This variety excels in tenderness of skin and sweetness of flavor. The Asgrow long podded pure-line strain is outstanding.			
★ TETON	34	3¾	67
Developed at our Montana pea-breeding station: All-America Silver Medal for 1937. An attractive variety fully resistant to Fusarium wilt. Excellent for canning and freezing. Vine dark green, medium heavy. Pods single, large, straight, blunt, dark green, concentrated in season; well filled with 7-8 large, semi-round, olive-green peas of very fine quality; sieve sizes 3 to 7, average 6. Seed large, cream and green: 105 per oz.			
★ THOMAS LAXTON, DARK PODDED	36	3½	62
The Asgrow improved dark podded strain is very attractive in both plant and pod. Excellent for canning and freezing. Vine deep green and medium heavy. Pods single, rich deep green, plump, broad, blunt; contain 7-8 large, tender peas of splendid quality, semi-round, olive-green; sieve sizes 3 to 7, average 5.5. Seed of medium size, cream and green: 100 per oz.			

★ Suitable for quick freezing.

Shasta: A new Asgrow variety of late maturing Thomas Laxton type

	Height of plant inches	Length of pod inches	Days
WISCONSIN EARLY SWEET	28	2½	59
An early, sweet, canning variety, similar to Surprise, resistant to Fusarium wilt. Vine medium green, slender. Pods single, light green, plump, blunt; contain 6-7 round, light green peas; sieve sizes 1 to 5. Seed medium small, green.			
WISCONSIN MERIT	28	3½	72
Developed by Dr. E. J. Delwiche at the University of Wisconsin. A canning variety somewhat of Perfection type. Plant medium green, pods blunt, slightly curved, with 7-8 large, medium green peas; sieve sizes 3 to 6, largely 4 and 5.			
★ WORLD'S RECORD	26	3	57
Of Gradus type, but earlier, and very uniform in maturing; of excellent freezing quality but not a heavy cropper. Vine light green, medium heavy. Pods single, medium green, pointed, broad, plump; contain 7-8 large, oblong, deep green, thin-skinned, tender peas; sieve sizes 3 to 7. Seed large, cream and green: 100 per oz. The Asgrow strain is noted for earliness and size of pod.			

For Southern Canners

BROWN (SUGAR) CROWDER	28	7	45
An early edible podded variety. Vine dark green, thick-stemmed and branching. Pods round, plump, blunt, medium green, filled with brownish peas crowded tightly together. Seed smooth, buff-brown with darker brown eye. Through breeding work at our Southern station, the Asgrow strain has been made suitable for shelling in viner equipment. The hulls are thicker than other varieties and do not fit too tightly around the seeds.			

★ Suitable for quick freezing.

PEPPER

Development of new varieties and the improvement of standard sorts is carried on at our Eastern breeding station, Milford, Conn. Our pedigreed stocks are noted for earliness in maturity and thickness of flesh. The seasonal relationship among varieties is shown by average reading of maturity dates, the column of Days indicating relative time from setting-out of plants to picking.

	Length inches	Diameter at stem inches	Days
ANAHEIM CHILI	7	1	80
An all-purpose hot variety, planted mainly in the South and in California. Long, smooth, tapering, deep green fruits, changing to bright scarlet at maturity.			
CALIFORNIA WONDER, IMPROVED	4½	3¾	75
Plant vigorous, upright, prolific. Fruits mostly 4-lobed, upright, slightly longer than standard strains, chunky; very attractive, smooth, uniform and deep green, changing to bright crimson; flesh very thick, sweet and mild.			
CALWONDER	4	3½	69
An Asgrow early strain of California Wonder maturing a week to ten days earlier than others. Plant stocky and sturdy, vigorous, prolific. Fruits 3- and 4-lobed, upright, very attractive. Smooth, uniform, deep green changing to bright crimson at maturity; thick, sweet and mild. Particularly desirable in areas of shorter season.			
FLORAL GEM	2¼	1	75
A very pungent pickling variety, used extensively in Southern California. Plant large, upstanding, very prolific. Fruit tapering, waxy yellow with reddish cheek when half mature or at pickling stage, changing to full red at maturity. Rarely used at ripe stage.			
HUNGARIAN YELLOW WAX	6	1¼	65
A first early, hot sort, valuable for canners. Plant dwarf and prolific. Fruits pendent, medium slender, tapering, smooth and very pungent. Color waxy yellow changing to bright crimson at maturity.			
LONG RED CAYENNE	5	¾	70
A favorite hot variety, used largely for canning, and in pickles; also for drying. Plant large and productive. Fruits tapering, pendent, frequently twisted; very pungent; deep green changing to brilliant red.			
PAPRIKA	4½	1½	70
Long grown in Europe, a new crop in the U. S. A. Plant of medium size, very prolific. Fruits medium long, tapered, deep red at maturity, flavor mild and sweet.			
PIMENTO (PERFECTION)	3½	2½	73
A valuable canning variety. Plant large, erect, prolific. Fruits heart-shaped, pendent, very smooth; color dark green, changing to bright crimson, flesh exceptionally thick, sweet and mild.			
RED CHERRY	1	1	82
Popular for use in pickles. Plants vigorous, upright, prolific. Fruits round, smooth, solid, very pungent; color deep green changing to deep scarlet.			
RED CHILI	1¾	½	82
Plant of low spreading growth, 18" tall, very productive. Fruits erect, conical, extremely pungent; color light to medium green, changing to deep red; used in making pepper sauce.			
TABASCO	1	¾	95
A late, hot variety, used in pickles and pepper sauce. Plants large and spreading. Fruits small, tapering, smooth; color greenish-yellow, turning to scarlet-red.			

PUMPKIN

	Length inches	Diam- eter inches	Days
CONNECTICUT FIELD	12	14	118

Extensively grown for canning; often planted in corn fields. Fruits large, partly globe shaped; 15-20 lb. Surface hard, smooth, somewhat ribbed; deep orange in color; flesh thick, orange-yellow, coarse and sweet.

KENTUCKY FIELD	10	13	120
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A heavy yielding variety widely used for canning, particularly through the South. Fruits large, slightly ribbed, not fixed in shape, some being flat, others globular and elongated; 10-15 lb.; color dull orange; flesh deep yellow, coarse, and of good flavor.

LARGE CHEESE	6	12	108
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Our pedigreed strain, exceptionally early and uniform, is particularly valuable to canners. Fruits very flat, 10 lb.; slightly ribbed, cream colored; flesh very thick, orange-yellow and of fine quality.

SMALL SUGAR (NEW ENGLAND PIE)	8	10	108
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Of small handy size, but tonnage equals others. Fruits round, flattened at ends, 6-8 lb.; skin hard, smooth, somewhat ribbed, deep orange; flesh thick, sweet and dry, of bright orange color and high quality.

Small Sugar: a favorite variety for pumpkin pie

SPINACH

Spinach seed was commonly grown in the Netherlands of Europe where conditions are well suited to its production, but for some years past Asgrow spinach seed crops of the finest quality have been grown in the Northwest.

This necessary vegetable has been frozen more in the West than in the East, but in both sections satisfactory results have been achieved, particularly with the thick leaved sorts, though all varieties may be successfully packed if care is taken in processing to avoid loss of firm texture.

The time from planting to cutting of plants varies considerably with the season of the year in which sowings are made. The column of Days applies to spring plantings in the northern States.

Varieties marked s.s. are smooth seeded; those marked p.s. are prickly seeded.

Giant Nobel: Productive, thick leafed and well flavored

★ BLOOMSDALE SAVOY, LONG STANDING, s.s.	Days
42
Only a few days later than other Bloomsdales, it holds 12-14 days longer before throwing seed stalks. Plant large, very uniform, erect and sturdy, with very attractive, highly crumpled and blistered dark green leaves. Aristocrat is a selection from Long Standing.	
★ GIANT NOBEL (GIANT THICK LEAVED: MATADOR), s.s.	45
The best of the smooth thick-leaved sorts. Plant large, vigorous, and spreading; slow to form seed stalks, and an extremely heavy yielder. Leaves very large, thick, smooth, pointed, with rounded tip; medium green, tender.	

★ *Suitable for quick freezing.*

Bloomsdale Savoy, Long Standing: popular for spring sowing

	Days
★ HOLLANDIA (GIANT PRICKLY WINTER: DARK GREEN), p.s.	43
More attractive and productive than the old Prickly Winter, it is highly desirable for canners. The leaves are large, broad, arrow-shaped, and dark green. Used extensively in California.	
★ KING OF DENMARK, s.s.	46
An exceptionally long standing sort, highly desirable for canning, and for market gardens. The large, spreading plants carry broad, rounded, very dark green leaves, which are somewhat crumpled. Excellent for spring planting as seed stalks are slow in forming.	
★ OLD DOMINION, s.s.	40
A popular variety in Texas, resistant to mosaic and of long-standing character. Plant similar to the Savoy but leaves somewhat more pointed.	
★ VIKING, s.s.	45
A darker leaved selection from Nobel. Excellent for canning. Plant large, spreading, vigorous, long standing and heavily productive. Leaves very large, thick, medium dark green.	
Heavy Pack is a good type of Viking; plants are strong and vigorous, with large, medium green, slightly crumpled, thick leaves on short stalks. Color intermediate between Nobel and King of Denmark.	
★ VIRGINIA SAVOY (Blight Resistant), s.s.	39
Bred at the Virginia Experiment Station for mosaic resistance. Upstanding, vigorous plants; seeding rather early; highly desirable for planting in infested soil. Leaves somewhat smoother than other strains of Savoy.	
★ VIROFLAY, s.s.	45
An old extremely large, mid-season, vigorous growing variety, with long, broad, pointed, thick, smooth leaves of deep green color. Giant Nobel is now generally preferred in this class.	
Tempo is an improved Viroflay: hardy, darker, heavier yielding and a week earlier.	

★ Suitable for quick freezing.

SQUASH

Of all the vegetables, squashes exhibit the greatest range in plant and fruit characters and hybridize most readily under average field conditions. Consequently they are given special care and attention at our breeding stations in Colorado, California and Connecticut. Pedigreed lines are established by controlled pollination. Increase blocks are grown in fields well isolated from any kindred variety.

The column of Days indicates the relative time from planting of seed to marketable fruits. The measurements apply to fully grown fruits.

	Length inches	Diameter inches	Days
BOSTON MARROW	12	9	97
A very productive, late fall variety, extensively used for canning. Resembling Hubbard in size and shape, the fruits weigh 6-8 lbs. The deep orange skin is somewhat rough, and quite hard; flesh is yellow, thick, firm, fine grained, moist. Vine of trailing type.			
GOLDEN DELICIOUS MARROW	11	8	100
Highly desirable for canning, on account of its extremely dry flesh. Vine of trailing type. Fruits top-shaped, weigh 7 lbs. Color bright reddish orange, with deep green tip at blossom end. Flesh thick, medium grained, golden orange, sweet and dry.			
GOLDEN HUBBARD	11	8	100
A useful canning variety. Fruits somewhat pointed at each end, weigh 8-10 lbs., moderately warted, orange-red, with faint cream colored stripes toward blossom end; flesh deep orange, dry, and of fine quality; it keeps well.			
★ZUCCHINI	12	5	60
Of the Italian marrow type, with large bushy vines. The immature fruits when 4"-5" long and about 1½" in diameter are frozen after splitting, and removing the seeds. Color medium green, mottled and striped; flesh firm and delicately flavored.

Boston Marrow: Extensively used for canning

★ *Suitable for quick freezing.*

Asgrow tomatoes harvested for seed saving

TOMATO

New varieties are being developed at our breeding stations and older varieties improved through individual cultures produced under expert handling. Disease resistance, attractiveness of color, thickness of walls, and heavy cropping qualities have been attained to a high degree. Seed is also available of leading shipping and canning varieties, certified as to purity and freedom from disease by various State Departments of Agriculture.

The number of days indicated represents the time required from setting of plants to produce marketable fruits. It takes 4-5 weeks to produce plants for field setting.

	Days
BONNY BEST	73
Standard second early variety for canners. Vine medium, not very hardy. Fruits slightly flattened, globe shape, of medium size; smooth, solid, bright scarlet in color, of excellent quality.	
CARDINAL	78
An Asgrow introduction bred to provide an earlier Improved Stone type in the main crop class. Strong dark green, very prolific vines which retain their foliage through a long bearing season. Large, handsome, semi-globe fruits of rich scarlet with unusually deep interior color; smooth, thick-walled and solid, of excellent color and flavor.	
CHALK'S EARLY JEWEL	74
A second early sort good for canning in the North. Vine medium, with open growth; prolific. Fruits medium large, smooth, scarlet, flattened globe-shaped. Very similar to Bonny Best.	
CLARK'S SPECIAL "B"	81
Bred and introduced by us in 1922 as a main crop canning variety. Vine vigorous, somewhat open, prolific. Fruits large, deep-flat, bright red, quite free from cracks, solid; interior color deep red; small seed cells. Resembles Indiana Baltimore, but is deeper and somewhat smoother.	
CLARK'S SPECIAL "C"	87
Also an Asgrow variety; to follow Clark's Special "B" in season. Vine heavy, vigorous and prolific. Fruits very large, deep scarlet-red, flattened globe shape; very smooth and mild.	

TOMATO—Continued

	Days
CLARK'S SPECIAL EARLY	72
Vine of medium growth, open, very prolific. Fruits medium large, globe-shaped, bright scarlet, smooth, solid, with thick walls.	
EARLY BALTIMORE	73
Developed by Prof. W. A. Huelsen, University of Illinois. Fruits oblate, smooth. Particularly adapted to Midwestern conditions.	
EARLY SANTA CLARA	83
An early strain of this standard California canning tomato. Very uniform; fruits large, flat, deep red and meaty; of sub-acid flavor. Highly suitable for the solid pack.	
GREATER BALTIMORE	82
Vine large, vigorous, somewhat open. Fruits flat, medium large, deep scarlet, fairly solid and firm.	
ILLINOIS BALTIMORE	84
Developed by Prof. W. A. Huelsen for resistance to Fusarium wilt and conditions of drought. Vine vigorous and holds its foliage well. Fruits large, smooth, and somewhat more globe shaped than Greater Baltimore.	
INDIANA CERTIFIED ASSOCIATED BALTIMORE	79
This earlier, deeper-fruited Asgrow strain is particularly desirable for canners of the East and Midwest; certified free from seed-borne diseases by Purdue University Agricultural Experiment Station. Vine large with medium heavy foliage. Fruits large, thick-flat, smooth, deep red, solid and attractive; good for juice as well as regular pack.

Indiana Certified Associated Baltimore: a very desirable strain

Pearson: A California variety. Foliage removed to show heavy set

JOHN BAER	Days 70
An early sort maturing between Earliana and Bonny Best. Excellent for canning. Vine of medium height and open growth. Fruits medium size, smooth, semi-globular, attractive deep scarlet, with medium walls and small core. The Asgrow strain is exceptionally early.	
MARGLOBE	77
Vine vigorous, with heavy foliage, resistant to Fusarium wilt and nail-head rust; moderately productive. Fruits medium large, nearly globular, deep red, smooth, solid, with thick walls and cross-sections; of fine quality.	
CERTIFIED MARGLOBE	78
The Asgrow strain of this well known variety is distinguished for its freedom from puffiness, increased depth and heavier yield. Vine vigorous, dark green, resistant to Fusarium wilt and nail-head rust, quite productive. Fruits large, nearly round, smooth, bright deep scarlet with solid interior and small seed pockets; flavor mild.	
NORTON	88
A wilt-resistant variety, similar to Stone, introduced by the U. S. Dept. of Agriculture. Vine medium heavy and productive. Fruits large, flattened globe-shaped, deep cardinal-red; solid, and of excellent quality.	
PEARSON	76
Developed at the College of Agriculture, California. A new variety in the main-crop class primarily for canning. Vigorous vines with ample foliage to protect the fruits, which are medium large, semi-globe and of good red color. Its tough skin is of value to both the canner and the shipper in California.	
PRITCHARD	76
Introduced by the U. S. Dept. of Agriculture. All-America Gold Medal 1934. Vine self-topping, resistant to Fusarium wilt and nail-head rust. Fruits globular with thick walls; color light scarlet, not as intense as could be desired.	

TOMATO—Continued

Rutgers: the most popular tomato variety of recent years

RUTGERS

Days
86

A valuable introduction by the New Jersey Experiment Station which has deservedly achieved general popularity. An excellent canning variety of wide adaptation. Bred from Marglobe and J.T.D., it combines the best qualities of both, including Marglobe's resistance to disease and J.T.D.'s habit of ripening from the interior outwards. Vine large with thick stems and vigorous foliage. Fruits globular; bright red, smooth with thick walls and small seed cells.

CERTIFIED RUTGERS

86

By careful selection over a period of years, we have developed a very choice deep fruited strain of Rutgers, notable for its uniformity and high yield of U. S. No. 1 fruits. It is available only in Asgrow containers, and bears Experiment Station certification as to trueness to type and freedom from seed-borne diseases.

PAN AMERICA

73

Recently developed by the U. S. Department of Agriculture at Beltsville, Md., from a cross of a small-fruited Peruvian variety and Marglobe. Highly resistant to Fusarium wilt. Fruits globular, of medium large size, bright red color and thick walls, heavily borne.

STOKESDALE

73

Introduced by the Francis C. Stokes Co., an attractive second early variety of wide adaptability and heavy yielding ability. Fruits smooth and practically spherical medium large in size and of good red color.

VICTOR

66

Recently introduced by Michigan State College and awarded the All America Bronze Medal for 1941. Plants rather small and sparse in foliage, of self-topping habit. Bright scarlet fruits of medium size which turn red all over at same time. A promising first early variety.

SAN MARZANO (IMPROVED KING HUMBERT)

Days

80

A small fruited variety used for canning solid pack and for puree, also for preserves. Vine medium, rather open, very prolific. Fruits largely rectangular, $3\frac{1}{2}$ " long x $1\frac{1}{2}$ ", two-celled, borne in clusters, deep red, with little juice and of very mild flavor. The Asgrow strain is notably thick, uniform and solid.

SCARLET DAWN

70

Developed at the Asgrow Eastern breeding station from a cross of Clark's Early and Marglobe; earlier in season than either parent. All-America Gold Medal for 1935. Vine of medium growth, fairly open, very prolific. Fruits medium large with thick wall structure, globular, smooth, free from flat sides; bright scarlet, ripening well to the stem, exceptionally attractive. Handsome in appearance and very uniform.

STONE, IMPROVED

86

Vine large, dense, very productive. Fruits large, flattened but deep, smooth, attractive scarlet-red of fine flavor. The Asgrow strain ripens evenly and is uniform.

YELLOW FRUITED**GOLDEN QUEEN**

84

The leading large yellow variety. Plant of medium size. Fruits medium large, deep golden yellow; smooth, rather solid, of mild flavor.

MINGOLD

73

Developed at Minnesota Experiment Station. All-America Silver Medal for 1940. An excellent yellow-fruited variety, early and prolific. Fruits medium large, globular, smooth; of mild and pleasant flavor.

SMALL FRUITED

Red or Yellow Cherry, Pear and Plum—a variety of shapes in either color, very prolific and disease-resistant.

Certified Rutgers: A 38-acre field of this notable Asgrow strain

Purple Top White Globe
the popular turnip

TURNIP

The number of days represents the time required from sowing of seed to roots of marketable or storage size, at our Eastern breeding station, Milford, Connecticut. The Asgrow pure bred stocks of the leading varieties are standards of quality.

	Diameter inches	Days
PURPLE TOP WHITE GLOBE	4	57
The most popular variety for general use. Tops dark green, large, erect, cut leaved. Roots large, globe-shaped, very smooth, upper part purple-red, white below; flesh white, sweet, crisp and tender. The Asgrow strain is very uniform and attractive.		
SEVEN TOP		35
A very hardy sort used in the South for canning "greens." The young shoots are very tender; roots tough and unsuitable for food.		
SHOGGIN (JAPANESE FOLIAGE)		30
A popular fast growing variety, for early greens and small roots. Tops 18"-20" tall, erect, bright green, strap leaved. Roots semi-globular, white throughout, mild and tender.		
WHITE EGG	2¼	60
Tops medium sized, upright, cut leaved. Roots white, egg-shaped, 3"-3½" long, white throughout; smooth, fine grained, and of fine quality.		

RUTABAGA: SWEDE TURNIP

AMERICAN PURPLE TOP	5	90
Also called Long Island Improved. A dependable variety; keeps well in storage. Roots large, globular, inclined toward top shape with relatively small neck; yellow with purple top; flesh light yellow, firm, of good texture and quality.		

WATERMELON

	Weight pounds	Days
CITRON, GREEN SEEDED (COLORADO PRESERVING)	12	95
Used only for preserving: extremely productive. Fruits round with alternate dark and light green striping. Flesh white and solid; seed quite heavy, smooth, glossy green.		
CITRON, RED SEEDED	10	95
Practically identical with Green Seeded Citron, except slightly smaller and with bright red seed. Used for preserving.		

The Asgrow Program of Research and Breeding

As research based on chemistry, physics and mathematics is the foundation of mechanized industry, so plant breeding based on genetics and its allied subjects is the basis of modern seed production.

The food standards of today are not satisfied by Nature's products as they would normally grow, unaided by man. Some plants, indeed, such as corn, could not continue to exist without cultivation, while others would revert to coarser forms unacceptable as food.

Particular conditions of environment, including soil, climate and the devastating effects of ever-increasing insects and diseases, demand new varieties or the adaption of others. Advancement in the knowledge and technique of preserving foods calls for types especially suited to canning, freezing and dehydrating. In addition, the quality of older varieties which are in general use for whatever purpose must continually be maintained, so that they may not deteriorate from their accepted standards.

To attain these ends it is necessary to employ highly trained specialists in particular fields such as genetics, applied plant breeding, pathology and entomology, some of whom concentrate their work upon individual species, as peas, corn or beans.

As growers of vegetable seeds, we have long recognized the great importance of a sound breeding program and have kept pace with the progress of plant science by increasing the number of our research and breeding stations, and by establishing our central analytical and germination laboratory at New Haven, Conn. Our scientific staff has grown proportionately and now comprises 29 highly trained men and women, the majority being university graduates, including eight with the higher degrees, all of them having had years of experience in their particular fields.

Eight Asgrow breeding stations are now in operation, situated in as many different parts of the country, their locations having been determined by the needs of the species to be grown at each. For example one Asgrow breeding station is chiefly concerned with the maintenance of sweet corn inbreds in an environment similar to that in which they were originated. Another has as its major objective the production of strains or varieties of vegetables well adapted to the southern states.

The stations are charged primarily with the following duties:

- (1) The maintenance of high quality parent Asgrow stocks to be multiplied annually in seed crops destined for distribution to our customers.
- (2) The production of new or improved types to meet special needs. Taking at random a few from the many, examples are Clark's Bush Lima bean, Pride and Canner King peas, the Asgrow strain of Golden Cross Bantam, and Golden Hybrid No. 2439 sweet corn.
- (3) To cooperate with federal and state agricultural experiment stations.
- (4) To determine the value of new or improved strains for particular localities.
- (5) To render service to customers by the investigation of special problems or furnishing specific information.

1. A partial view of the alternating temperature room germinator used for testing seed in sand or soil. Fluorescent light is used to allow chlorophyll production.

Three prerequisites for "good" seed are that the seed shall be (1) Viable, (2) Clean, (3) Disease-free.

The most essential character of any Asgrow seed is its ability to germinate and produce normal plants under average conditions.

One of the primary functions of a seed laboratory is that of determining seed viability so that such seed may be evaluated for use by our customers. Viability implies ability to germinate and grow when proper environmental conditions are provided. A seed may be considered to have germinated when it develops those structures which are commonly recognized in different varieties, species, or families of plants as essential to normal seedlings. Broken, malformed or other seedlings which are known to be incapable of producing plants under suitable laboratory conditions are to be considered as not having germinated.

2. Part of the laboratory—the doors on the left lead to the germinating rooms. The analyst in the center of the picture is using a vacuum counter to count out and place 100 seeds on germination media.

A second function of a seed laboratory is to determine the purity of a seed stock. This is accomplished by computing freedom from dirt, chaff, other crop seeds, and weed seeds. If weed seeds or other crop seeds are present, it is necessary to identify them accurately and to report if any noxious weeds are present.

A third function of a seed laboratory is to determine if seed may be contaminated either internally or externally with bacterial or fungous organisms that are pathogenic to the seed or the plants that are expected to develop from the seed.

The Asgrow germination and analytical laboratory located at New Haven, Connecticut, is properly equipped and staffed to perform the functions mentioned above, both efficiently and effectively on a large scale. In order that we may handle a large number of samples at any one time, we use "room" germinators (Fig. 2). These rooms are sealed with 2" to 3" of cork; the temperature and humidity are accurately controlled by thermostats and humidostats; and they are lighted by fluorescent lamps. One room is capable of holding 3,000 samples in duplicate when tested by the blotter method, or 670 samples in sand test.

The best equipment available is used in connection with the purity work (Fig. 3); Binoculars, Iowa air blast separators, sieves, Boerner seed sampler, Chain-o-matic Balance, and special Neon lighted counting plates.

Complete and accurate records are made and kept of all operations in the laboratory. These records are on permanent file, so that they may be referred to readily. Purity and germination samples are retained in a systematic file, usually for at least one year beyond the receipt of the sample in the laboratory.

3. A part of the laboratory in which purity tests are conducted.

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