SGGA NEWS

September 2021

SGGA PRESIDENT'S MESSAGE

"Talent wins games, but teamwork and intelligence win championships."

– Michael Jordan

For many, the fall season is an ending, a wrapping up. For greenhouse growers, fall is a season for looking forward and planning for next spring. It is a time for reflection and discernment for what went well, and what has to be changed for next year.

Our industry is on an upward trend of success. Our talents and hard work fuel our success. Our input costs and surcharges are also on an upward trend. How do we maintain success while keeping costs low is a frustrating topic. One possible solution is to have cooperative relationships with greenhouses that are close in proximity to you. Minimum orders can be met, and below minimum surcharges can be avoided by everyone working together. It does sound idealistic and simplistic, but working as a team in an industry that is excelling, also helps us when times are tough.

On an association level, the board is constantly keeping our eyes out for scenarios that can benefit members. We encourage any science research that may benefit us, whether it be energy alternatives or technology enhancement. We want a championship win for Saskatchewan and it's greenhouses!

– Tammy Lauinger
President SGGA

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The SGGA will be hosting its Annual General Meeting in November. Please watch your email for the notice and details.

The SGGA organization is flourishing and the SGGA board is excelling at working collaboratively … each director has a great passion for the industry and it shows. We are seeking additional board members to join our team! Please consider letting your name stand and joining a positive and progressive association with setting direction and improving the industry for all greenhouse growers!

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2022 MEMBERSHIPS DUE JANUARY 1, 2022

Saskatchewan Greenhouse Growers Association

- Access to Tag Discount Program
- Access to Tray and Box Discount Program
- Subscription to SGGA's Newsletter
- Industry support through other mentors and Board of Directors
- Member Discount to Annual Conference and Learning Opportunities
- Industry Updates and Networking Opportunities
  - Industry Liaison to Government
  - Covid Support for your Business
- Member on Facebook forum

NEW MEMBERSHIP PERKS

- Covid Support for your Business
- Promotion of your business on New Facebook Group – Flowers & Gardens – Sask Connection for Backyard Enthusiasts
- Copy of the Industry Suppliers Guide
- Access to winter virtual learning events and coffee talks (member exclusive)
- SGGA members tour maps (the SGGA will be creating and sharing with the public, tour maps to guide garden enthusiasts on where to go for local flowers and produce)

On your behalf the SGGA is pleased to represent the greenhouse industry, addressing topics important to your business at the industry and government level. Your membership is important and entitles you to share your opinion and concerns with the board.

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www.saskgreenhouses.com

SGGA verified members will receive SGGA member rates on tag orders placed with:

Horta-Craft

Horta-Craft Limited
www.horta-craft.ca

Qualifying members must provide verification of 2020-21 SGGA membership when submitting orders to Horta-Craft Limited for group pricing.

SGGA Newsletter Advertising

Advertising Option	Member Fee	Non-Member Fee
Full Page 7.25″ x 9.75″	$110.00	$165.00
Half Page 7.25″ x 4.8″ (horizontal) 3.5″ x 9.75″ (vertical)	$ 85.00	$127.00
Quarter Page 3.5″ x 4.8″	$ 60.00	$ 90.00
Business Card (1/8 Page) 3.5″ x 2.3″	$ 35.00	$ 52.00
Full Page Insert	$ 75.00 you print $ 125.00 we print	$ 125.00 you print $ 200.00 we print

Contact the SGGA OFFICE to book your advertising space!

Strawberries for Greenhouse Growers and Their Customers

By Jackie Bantle

I hope that every Saskatchewan greenhouse has strawberry plants to sell to their customers in spring. Do you know what cultivars to recommend and where to get your plants? Can you provide planting and maintenance advice to your customers? If not, take some time to read the following article which hopefully will answer a few of your questions.

Have you ever wondered how the large strawberry that we eat today was developed from the tiny strawberries we find in nature? Wild strawberries have been consumed by people around the world since ancient times. The wild strawberries of ancient times are like the ones we find today in the wild; small in size with a wide array of flavours and textures from bland and tough to tender and sweet. Because the wild strawberries, were so small, initially, there was not a lot of interest in cultivating them. However, by the 1300's the strawberry was in cultivation in France, where the wood strawberry *(Fragaria vesca)* was being transplanted from the wilderness to the garden. Late in the 1500's, the musky strawberry *(Fragaria moschata)* was also being cultivated in European gardens. By the 1600's, the Virginia strawberry *(Fragaria virginiana)* of North America reached Europe. Even though this new species was relatively hardy, its spread through Europe was slow and was not really appreciated until the early 1800's when it became more popular in England. English gardeners used this Virginia strawberry to raise new varieties from seed. During this time, the number of strawberry varieties increased from a few to nearly thirty.

Day neutral strawberries for sale at the farmer's market

In 1714, the Chilean strawberry *(Fragaria chiloensis)* was brought over to France from Chile by a French spy. This species of strawberry had fewer flowers but larger fruit. Unfortunately, the Chilean strawberry was not hardy and was difficult to grow inland, away from mild coastal climates.

The modern strawberry that is popular today, *Fragaria ananassa,* originated from crosses of those two New World species of strawberries, *Fragaria chiloensis* and *Fragaria virginiana*. The transition from these native species to the modern varieties that we eat today was a long process. The English did most of the early breeding work to develop the ancestors of the varieties we enjoy today.

Commercial strawberry field near Oxnard, California

The earliest North American bred strawberry was 'Hovey', developed in 1834 followed by 'Wilson' in 1851. The availability of 'Wilson' to U.S. growers resulted in a strawberry industry that grew 50-fold, to one hundred thousand acres in the 1800's.

Strawberry breeders over the last two centuries were able to determine that all species of strawberries have the same 7 chromosomes in common, but the species vary in how many pairs of chromosomes they possess. Some species are diploid (two pairs of chromosomes) others are tetraploid (4 pairs) while the modern strawberry is octoploid (8 pairs of chromosomes).

Cultivars

There are three main types of modern strawberries: June-bearing, Ever-bearing and Day neutral. The main differences between the different types of strawberries involve the time of year of fruit production and winter hardiness.

June-bearing strawberries produce one strawberry crop/year. Plants flower in spring and fruit is ready to be picked in late June and early July (about a 3 week fruiting time). The runners that the plants send out in fall will produce fruit for the following summer so it is important not to remove these runners. Common June-bearing strawberry cultivars include; 'Kent' (winter hardy, mid-season maturity, high yielding, produces abundant runners, slightly susceptible to powdery mildew), 'AC Wendy' (early, one of the top commercial producers, good winter hardiness), 'Bounty' (late season maturity, average yields of larger berries), 'Honeoye' (mid-season maturity, firm fruit, produces over a longer time period) and 'Cavendish' (mid-season, originated from Nova Scotia, has good winter hardiness, large, firm, dark red fruit with excellent flavour).

Ever-bearing and day-neutral strawberries are often confused as the same type of strawberry, however, ever-bearing strawberries were in production long before day-neutral strawberries were popular. Ever-bearing strawberries have two distinct fruiting periods: late-June into mid-July and again in late August to mid-September. Day neutral strawberries also start producing in late-June to early July but continue to produce throughout the summer and into the fall until freeze-up. Typically, ever-bearing strawberries have smaller fruit size than other types but have better winter hardiness than day neutral strawberries.

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Day-neutral strawberries are usually planted as annuals but can be overwintered with mulch in a mild winter. When planted in spring, ever-bearing strawberries will produce fruit in late summer or fall of that same year. Runners should be left on the ever-bearing fruit plants as they will provide more plants and fruit for the following year. 'Ogallala' and 'Fort Laramie' are two common cultivars of ever-bearing strawberries. gallala' fruit can be bitter if produced during hot weather. 'Fort Laramie' fruit is large and bright red in colour. With the wider availability of day-neutral strawberries, ever-bearing strawberry types are uncommon.

Day-neutral strawberries are usually treated as an annuals since they do require winter protection. Commercial growers find it more economical to replant their strawberry crop every year as opposed to covering and uncovering their plants. Winter hardiness for day-neutral strawberries is uncertain and dependent on the weather. One big advantage of growing day neutral strawberries is that they will produce a good crop of fruit in the same year that they are planted. Additionally, they will also produce fruit on runners that have not rooted, although, runners that develop early in the season should be removed. Day-neutral strawberry cultivars recommended for northern locations include: 'Tristar' (medium sized plants and fruit with good flavour, resistant to verticillium wilt, leaf scorch and leaf blight however, excessive heat creates small fruit), 'Fern' (medium to high yielding, firm fruit with good texture, one of the best day neutrals for hardiness), 'Seascape' (firm large fruit with good texture, most of the fruit are produced later in summer), 'Albion' (not winter hardy in northern locations, long, narrow, firm fruit, produces fruit later in the season)

Seascape strawberry plant in the field in late August

There are many more strawberry cultivars available than I have listed. I have suggested cultivars that I have personal experience with or that I know have been tested locally. There are probably other worthy cultivars to grow in Saskatchewan.

Sourcing Plants

Strawberries are rarely started from seed for commercial production or backyard gardeners. Strawberries are propagated by tissue culture in the lab or rooting runners under high humidity conditions. The plants that Prairie growers and greenhouses receive from suppliers in the spring are often young plants that have been dug from fields in the fall or winter and stored at temperatures just below freezing until transporting and transplanting.

Sources of strawberry plants for Saskatchewan growers include:

- G.W. Allen Nursery, Centreville, Nova Scotia, **https://gwallen-nursery.ca/**
- Lareault Nursery, Lavaltrie, Quebec, **https://lareault.com/en/**
- Lassen Canyon Nursery, Redding, California, **https://www.lassencanyonnursery.com/**
- NorCal Nursery, Red Bluff, California, **https://www.norcal-nursery.com/**
- Novafruit Inc., St-Paul-d'Abbotsford, Quebec, **http://novafruit.ca/en/**
- Strawberry Thyme Farms Inc., Simcoe, Ontario, **https://strawberrytyme.com/**

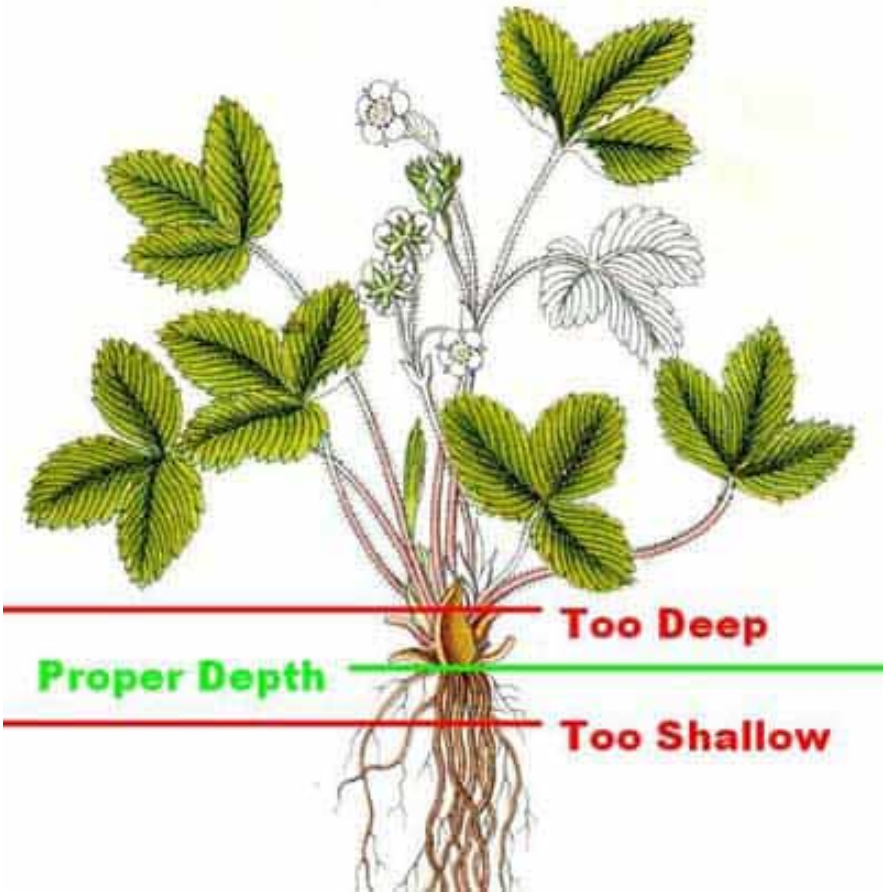
- C.O. Keddy Nursery Inc., Lakeview, Nova Scotia, **https://keddynursery.com/**

*Note that shipping plants from the United States will require a Phytosanitary certificate from the shipping company as well as a Import Permit from Agriculture Canada.

Planting

Expect to receive your bare root strawberry plants as early as the first week in May although later shipments can be scheduled. As the name suggests, 'bare-root plants' have no soil around their roots. In Canada, these plants have usually been harvested in the fall and stored over winter in cool, moist storage. Plant your strawberry plants within a few days after receiving them or plan to store plants at 70-80% humidity and just above 0°C. If bare-root plants are in plastic bags, open the bags at least every couple of days for some air exchange and to prevent mold on the plants. New strawberry plants can withstand a slight frost in spring. For spring sales, one strawberry plant per 3 inch pot is ideal.

Strawberry plants are very particular about their planting depth. Plant strawberries so that the mid point of the crown is level with the soil surface. If the crown is covered by soil, the plant will either rot or fail to send out runners. If the strawberry plant is planted too shallow, the crown and roots will dry out. Gently firm the soil around all strawberry plants for good soil to root contact. Thoroughly water strawberry plants immediately after transplanting, preferably with water soluble 10-52-10 fertilizer. Mix according to label directions. Keep strawberry plants well-watered throughout the growing season, especially for several weeks after transplanting. Regular watering is necessary for strawberry field production; ideally, 2-3cm per week should be available to plants.



Recommended depth for planting strawberries is just above the roots and just below the crown.
https://strawberryplants.org/growing-strawberries/

Field in-row spacing for June bearing strawberries should be 30 cm whereas everbearing and day-neutral strawberries can be planted in double rows 15 cm apart. Runners from the June bearing strawberries will fill in the row. Between-row spacing for strawberries can vary from 0.5-1m, depending on how weed control is managed between rows.

Maintenance

Control weeds in the strawberry patch on a regular basis. Strawberries are a shallow rooted crop so do not cultivate too close to the plants. Removing flowers and runners for the first 4 weeks after planting helps plants get established. Remember that June bearing strawberries produce fruit in

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spring on runners that were sent out the previous fall. Many commercial growers remove runners from day neutral strawberries throughout the season to encourage larger fruit. Some backyard gardeners may try to overwinter their day neutral plants: if this is the case, allow some runners to remain later in the season to help form new plants the following year. All strawberries should be mulched in fall with straw, grass clippings or leaves to provide protection from cold winter temperatures. The best mulching material is weed-free wheat or rye straw. Apply the straw when the temperature reaches -5°C for three or four nights (before temperatures reach -7°C). Cover the plants to a depth of 10 to 15 cm. Remove the mulch early in the spring after the danger of severe frost has passed or when plants begin to grow. (early to mid-May) If mulch is removed too early, first spring blossoms may be destroyed by a late spring frost.

Pests

A number of disease and insect pests affect strawberries in northern locations. Careful management of water, nutrients and airflow can help reduce the effects of pests and diseases.

Birds love strawberries. To deter birds from the strawberry patch, hang brightly coloured flags above the crop. Aluminum pie tins or old CD discs suspended from a stake can also help deter birds. Covering the patch with bird netting (available from your local garden centre) is another option. Encouraging your favorite '4-legged friends' to hang out near the berry patch is another 'natural' method of bird control.

Tarnished plant bug *(Lygus lineolaris)* is a 0.5cm long oval shaped bug, bronzy in color with a distinctive white triangle or v-shape behind their head. This bug tends to eat the flower parts of the strawberry as the flower develops, causing deformed berries often described as "cat-facing" or 'button berry'. Tarnished plant bugs overwinter in leaf litter and survive on weeds until strawberry flowers are available. To prevent tarnished plant bug infestations, control weeds in and around the strawberry patch. Remove leaf litter in fall to reduce the number of overwintering sites. Keep lawn and garden edges mowed to reduce habitat areas for the bug. If your patch is small enough, physically remove the tarnished plant bug by tapping the flowers and dislodging the insects into a pan of soapy water. If the infestation cannot be brought under control, you may need to destroy your current strawberry patch and start a new patch in a different area of your yard.

Mice and voles can cause considerable damage to overwintering plants. Setting traps or using our four-legged friends as 'security' may be necessary.

Diseases

Leaf spot, caused by *Mycoshpaerella* fragariae fungus, appears as small purple spots on the leaves. The leaves eventually turn yellow and fall off. This fungus will not kill the plant and the plant should emerge healthy next spring. Avoid leaf spot by keeping leaves dry and providing sufficient air flow around the plants.

Powdery mildew *(Sphaerotheca macularis)* first appears as leaves covered with a white film. As the infection progresses, the leaves turn brown and fall off. Sulfur powders and garlic sprays can help prevent infections but will not cure the disease once it is present. Like leaf spot, powdery mildew thrives in high humidity situations. Avoid late evening watering and provide ample air flow in the strawberry patch.

Anthracnose *(Colletotrichum spp.)* is a fungus affecting all parts of the strawberry plant; flowers, fruit, buds, foliage, runners, crown. Anthracnose appears as water soaked lesions which turn black and sunken. This disease usually comes from infected plants and/or soil and is exacerbated by warm temperatures and high humidity. Be sure to purchase only disease free plants, avoid watering in the evenings and provide adequate air flow around strawberry plants.

Botrytis *(Botrytis cinerea)* or grey mold is commonly found in the environment. Botrytis can be a problem on strawberry fruit that is grown on wet soil or has overripened on the plant. Mulching

strawberries with wood or straw mulch can help prevent botrytis. Remember that straw mulch may include a large number of weed seeds which will become a problem in your strawberry patch. To prevent botrytis, harvest fruit in a timely manner and avoid watering plants late in the evening.

Harvesting and Storing Fruit

Strawberries do not improve in flavour or quality once they are picked. Pick the fruit as soon as the entire berry is entirely red. Harvest berries every other day at the peak of the season, preferably in the coolness of the morning. Wash berries and remove the stems just prior to eating. Strawberry skin is very delicate and can be easily damaged. Excess moisture around strawberries will encourage botrytis (mold). If you are eating your strawberries the same day as you picked them, they can be left on the counter at room temperature. For eating tomorrow or later in the week, store them in the fridge – unwashed! Strawberries can be frozen to enjoy during the winter. Simply remove the stems, wash the fruit. Either slice the fruit into halves or as desired or leave them whole. Place strawberries on a baking sheet a place them in the freezer. As soon as they are frozen, transfer the frozen fruit to a plastic bag or plastic container than can be tightly sealed. The fruit may not be as firm once thawed as when it was fresh but the flavor will still be there.

Strawberries and Container Planting

Strawberries can be grown in containers as long as ample water and nutrients are available throughout the growing season. Use day neutral strawberry cultivars for containers as plants do not overwinter in above ground containers.

A space saving way to grow strawberry plants is in an upright barrel at least 60cm in diameter and 1.5m high. Remove the lid of the barrel, cut 7.5cm holes in the side of the barrel at 30cm spacing on-centre. Fill the barrel with a mixture of soilless media (2/3 volume) and compost (1/3 volume). Plant one strawberry plant in each hole and four on top of the barrel. Nearly 70 strawberry plants will be growing in this barrel taking up less than 1m^2 of area!

Strawberries also grow very well in hanging baskets, tiered planters made of wood or used eavestroughs attached to the side of a house.

The SGGA board and staff are currently planning for 2021-2022 winter learning and networking events.

Many of our events will continue to be held virtually as this method brought great success last winter. Pending the covid situation, the SGGA is considering hosting one in-person event.

More details will be shared as plans are confirmed. Watch for updates.

FOR SALE:

- Gutter connected greenhouse (48' x 72')
- Gothic greenhouse (20' wide)
- Nursery pots (4 & 10 gallon)
- 5.5" pots and carry trays
- 606 cell packs
- Various ornamental pots
- Hanging baskets (14")
- Black plastic carry trays
- Galvanized steel plant stands (8.5" x 11")

For inquiries, email West 25th Greenhouse at west25th@sasktel.net or call (306) 536-5394

Canadian Greenhouse Conference "Seeds of Change" October 6 & 7

The 2021 Canadian Greenhouse Conference (CGC) will take place online October 6 & 7. The popularity of the 2020 virtual conference gave CGC organizers the confidence to go even bigger this year and the conference is committed to delivering another first-class event for Canadian growers. "The CGC's mandate is to provide a connection point for commercial growers and showcase innovative production techniques, research and technology and we are committed to fulfill that directive by presenting an exceptional event that offers great value to the sector" states CGC Program Coordinator, Glenna Cairnie. "The 2021 CGC will continue its 40-year tradition of supporting growers and is embracing the potential offered by the virtual format."

A first-class education program anchors the show with eighteen live sessions, 45+ speakers, and on-demand content addressing the sector's current challenges, trends, and issues. The speaker list features the industry's top authorities from across Canada and around the world. Conference elements such as the New Variety Showcase, Research Poster Session, New Product Display and Exhibitor Directory will provide growers with easy access to valuable information and connections.

The CGC is pleased to acknowledge Syngenta Flowers as the presenting sponsor of the 2021 show and is thankful for Syngenta Flowers' ongoing support for both the conference and the Canadian grower community.

Full conference details are on the CGC website www.CanadianGreenhouseConference.com

Registration is open and required to access the conference program. Follow us on social media for the latest information as it becomes available.

About the Canadian Greenhouse Conference

The Canadian Greenhouse Conference is a not-for-profit corporation and Canada's foremost event for commercial growers of crops produced in a controlled environment. The conference attracts growers from across North America, gathers experts from around the world and showcases innovative production techniques, research, products, and technology.

cgc canadian greenhouse conference

On July 22, 2021 the SGGA was pleased to host the 2nd Annual Saskatchewan event NEW BLOOMS.

The SGGA would like to extend a huge THANK YOU to …

… Michiel from High Q and Debbie Foisy for covering many of the details and presentations and for travelling to Sask with the many beautiful pots

… Paul & Dianna and their staff from Misty Gardens their hard work in preparation and for opening their greenhouse to our members for the second year in a row

… our speakers / presenters

- Fall Bulbs with Jackie Bantle, U of S
- New Introductions from Plant Haven with Robert Bett, President
- 2022 Introductions from Dummen Orange with Chris Berg, Director of Marketing

Participants viewed new varieties and enjoyed the opportunity to Mix & Mingle and enjoy a snack and the signature drink "like a diva".

We look forward to hosting this event again in 2022!

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