

Webinar: Current Management and Research of Cut Peonies



Questions, Answers, and Comments

Below are a list of questions and comments from the webinar chat feature. Black font corresponds to participant questions, comments, and answers. Some questions were answered during the webinar. Colored font corresponds to comments and answers from the webinar speakers. Please visit <https://cutflowers.ces.ncsu.edu/> to watch the webinar and hear questions answered during the presentations. Always do your own on-farm testing to validate a treatment or recommendation.

Production

Where are the gaps in production?

Sept through late October and a small gap in January.

Mention months again for harvest regions?

Some higher elevation Alaska farms cut into early September

In the central US we start in April in Arkansas and go until July in the UP

When would we expect production for central/midwest?

Late April in southern areas through early July in northern areas.

About production in upstate NY and new England?

New York and New England would see blooms in early June

Is the peony bloom season for the southern hemisphere?

Late October through January (often early January only).

Number one top peony for cut flower production. (General ideas?) And why?

in terms of bud production, which varieties tend to have the highest stem production? How many stems/plant should be expected?

Possibly Sarah Bernhardt, due to having large fragrant flowers, high productivity, average but reliable vase life, reliable producer

This really depends on the variety, the age of the plant, your management practices and environment.

Jules Ellie has been our most prolific and highest gross earner

Do you know how many chilling hours are demanded by variety?

We don't have chilling needs by variety. Six weeks at 40F is recommended. If you're trying to push the limits in a warmer area, search "southern peony" for websites that may have suggested varieties.

What are the best varieties to start in the North east, to begin production quickly? also what is the timing for planting to first reliable crop?

Sarah Bernhardt, Mons Jules Elie, Duchess De Nemours. Figure on getting some harvestable stems after two growing seasons. *Leaving as much foliage on the plant as possible.*

Use of preventative sprays for controlling sooty mold prior to harvest. Are sulfur and copper based sprays effective? If so, what is the recommended protocol?

I rarely see botrytis in my fields but shooty mold can be a problem from the nectar exudant from the buds. I typically rinse the nectar off in the field with a solution of warm water and baking soda (1 tea per gallon) via backpack sprayer. I am curious what other types of sprays are effective, both organic and conventional?

Do you have any pre or post emergent herbicide recommendations?

What pre-emergent were you referencing? I have fast flamed one of my areas late winter and have not seen any damage to root. I basically do this to burn of dead weeds I did not get to last fall. So not active growing weeds.

Any pre emerge or post emerge herbicide recommendations?

Pre- Simazine

Post- Kocide. but once the stems start to foliate use iprodione

High tunnel question. Is the reason you put up 3-4 weeks before growing only to have an earlier crop
Would this work with low tunnels?

The only reason to grow in tunnels would be to get an earlier harvest. Low tunnels would work.

Cover existing plants. Don't waste tunnel space on new plants that are not producing flowers yet.

Earlier harvest = more peony sales overall.

Will voles eat peonies?

Deer don't bother them either.

No

They may like to make nests under the roots though so keep a watch out for that.

And the holes they (voles) make in the ground (tunnels) will let the cold in to the root area.

In pushing and pulling the flowering time, which should be considered the major contributor; soil heat or hours of sun? Or a percentage of both?

Questioning the 6 week below 40F. Dr. Holloway teaches 11-14 weeks??

The difference may be due to minimum cold required (6 weeks x 7 days x 24 hours = 1008 hours and 500 to 1000 hours below 40F is required to meet the minimum chilling requirement). Many parts of Alaska have much, much longer chilling periods.

with what and how do you fertilize peonies

What is a good (NPK) fertilizer to use when initially planting?

We use 13-13-13 post-harvest and again at the end of the year. do not use nitrogen in the spring it can cause bud abortion

is there a resource for average stems counts per variety somewhere?

Kansas State University published multiple extension publications in the late 90s and early 2000s detailing the production stats of many varieties.

Is there any reason to leave 2 inches of stem on peony when cleaning the field at the end of season? I find it annoying so clip to ground level.

No, just remove it all the way to the ground once the plants have gone dormant.

I also have red charm that appears deformed. I think it may be a late freeze.

Row space?

Space the rows wide enough for your equipment to access the field for working, and to haul out the flowers. Large tractor or small cart?

Row spacing should depend upon the equipment you are using in a commercial production

Does removal of side buds increase the size of the primary bud?

Yes, side bud removal can increase size of the primary flower, but the side buds need to be removed very early to have much of an effect. Late removal will have little, if any, affect.

Does disbudding make the plants more susceptible to disease?

aborted buds. get rid of or let them alone. seems like wound would harbor botrytis

Alaska grower here. I remove all small in-saleable buds.

Any time a plant is wounded there is potential for infection, but it has not been an issue commonly associated with disbudding. Work on healthy plants first.

I'm moving to a bigger farm in February. Right now I have 300 peonies that are well established. I would like to divide these to move to the new farm next fall 2020. Is it worth dividing or should I dig up the clumps and buy new root stock to get more? What is your recommended fertilizer for new plantings? Thank you Dave!

This may have been answered in the webinar. It largely depends on how soon you want to have a large number of flowers. You could divide half and transplant the other to have some early producing plants, but also increase your numbers.

Hate to disagree with Dave, but I think peonies do need some sort of support. I never did have any supports on mine but the last few seasons the intense storms/very heavy rain we've gotten have ruined quite a few blooms by flattening the plants and then the buds grow towards the sun and the stems are then crooked. I now have permanent T-posts up around my beds and we just run a line of tomato twine around them about 2 feet up from the ground and that's enough to keep the plants from getting totally flattened. Good ol' climate change...

We get some pretty tough wind up our way as well, and I do a little bit of support too. Better safe than sorry!

I know where you are and yes you have clearly been impacted by wonky weather. I don't support my commercially grown but always ready to do as needed with our changing weather. My farm has wind so I may be adjusting my method too.

I only support my Mon. Jules Elie. they fall over and then have bent heads.

Is it a bad idea to use lawn mower to clean up in the fall?

Yes. You should *remove* the plant debris, not chop it up and leave it in the field.

Living in the desert of Colorado we have to irrigate all season. Start with overhead and switch to drip for summer.

What is the proper stem length?

Short answer – whatever the customer wants. Most common is probably 15 - 18 inches. Stems as short as 12 inches can be used for small arrangements and bouquets. Longer stems may be requested by some customers. The large flower heads often mean that the stems can't be too long anyway.

I've heard that you are supposed to leave 1/3 of flowers on the bush and not harvest those. Do you harvest every single flower or do you leave some on the bush?

Is there any reason to leave 2 inches of stem on peony when cleaning the field at the end of season? I find it annoying so clip to ground level.

We have heard to that when you cut you need to leave 2-3 leaves to feed the plant. IS this true? IF you cut harder than that will it deplete the plant the following year?

How many stems should a plant have before you start harvesting from it?

We try to leave 3 to 4 stems on a bush.

We don't start cutting until about 5 years on our stems here in Alaska as it takes us longer; however, we have started cutting more stems per plant as was just suggested. We leave as many leaves as possible.

Cut stems only as long as needed. Don't cut a 36" stem, just to trip it in the packing shed and trash 12" that should have been left on the plant. The more leaves on the plant, the better the plant will grow.

Most growers wait 2 to 3 years before harvesting off of a plant, but some also harvest the first year as stated in the webinar.

I have been told to only cut 10 stems per plant. You mentioned "pick them all and sell them". How many stems with buds would you recommend leaving on the plant?

It is not a matter how many stems to leave, but how much foliage. You can cut all of the good flowers if you leave foliage on the plant (see question about stem length). Also, many plants will have a few buds that are unharvestable for various reasons. Those stems can be disbudded and allowed to remain to fuel the plant.

I have always been advised to limit the harvest to about 50% of the long stems, leaving the rest for short cuts. Do you actually cut all of your stems?

See above. Cut all the flowers as long as you leave lots of foliage on the plant.

if growing in a tunnel... do they need to be heated? I'm thinking cold nights could damage the developed buds...

No heat should be needed. You don't start them more than 3-4 week earlier than in the field.

Which varieties would you recommend for tunnel production (varieties that would flower for mother's day) - would the corals be best?

Whatever color or variety you think you can sell. Any variety will work.

I believe some Alaska farmers use high tunnels to extend the season in the fall so the plants can build up reserves before the next season.

For the past three years ours form buds sooner than previous years creating risk of damage from late April freezes (zone 7). We keep Tposts and remay ready

What do you do about first year plants that are much, much smaller than the other plants. Could they be too deep?

Some varieties are more vigorous growers. You can't compare a Sarah Bernhardt to Coral Charm, etc.

Are other mulches acceptable to use? such as wood chip, leaf, straw, or compost? Also, What is the time frame from plant sprout to flower harvest--that is, how would I determine best time to set up covering in spring?

A variety of mulches are acceptable such as the ones you have listed. The main factors are the cost and labor involved with each. Purchase organic mulches from a reliable source as they can often harbor weed seed.

From sprouting to bloom is about 8-9 weeks

If you have X dollars to spend in the fall is it wiser to get 1000 cheaper roots (Sarah B) vs 500 of a more expensive (Ann Cousins). Will you get return on your money on more expensive varieties.

For the fastest return on your investment, go with larger roots. It's not always easy to get a higher price for expensive varieties. Grow both low price (Sarah B.) and medium priced. Both will make you money. Once planted, the cost to maintain the plant is the same no matter what the root cost.

Thoughts on red Sarah's? cheaper root but desirable flower? as strong as Sarah b?

Is there a point at which it is worth the labor to divide your older plants?

Is there a point one has to divide the plants?

Between 15 and 20 years you should divide your peonies because the crown wall becomes too thin to generate hardy stems and buds

Is compost tea acceptable for the foliage?

Which company would you suggest buying wholesale roots?

There are many suppliers to choose from. I (Dave) have to say Gloeckner/Ednie. :o)

But there are others. Walters Gardens, Oregon Perennials, Botanical Trading/Zabo, Hollingsworth.

Look around and compare minimums and prices.

How much are you irrigating during harvest? I would think that would factor into whether or not to pulse for 2H before dry storage?

Flowers were obtained from local NC growers who do not have irrigation setup in their fields. Yes, preharvest moisture content could be a factor in pulse uptake.

Water is extremely important, not only for peony growth, but during the storage time so that they don't dry out while being stored. We've found that while using drip irrigation we put emitters about 6 -10 inches from the root on either side.

How many flowers can a grower harvest per acre once established?

22,000 stems plus per acre is you have about 4,000 plants per acre

10,000 to 15,000 stems/acre depending on variety and age of plants there can be a large variation.

have you trialed using cover crops such as oats and rye on Peonies?

Postharvest handling

Do you recommend some of that extender chemical for cut peonies?

what are your pre-storage treatment recommendations?

Based on our data pre-storage treatments were not beneficial. However, a commercial hydrator maybe be helpful prior to shipping, during which stems can experience sub-optimal temperatures that can cause wilting. Floral food packets, which contain a small amount of carbohydrates and are consistently in the vase water, have been known to improve vase life.

No pre hydrating at all if storing for long term??

There was no obvious benefit for all three cultivars in our research.

Did you treat stems such as spraying with a antimicrobials before long storage?

Kansas State University did publish a few extension publications on this and it was helpful in reducing the number of stems that developed disease. However, you must consult the label prior to using any pesticides to see if can be used on peonies and in that postharvest situation.

Have you heard of sealing cut ends with wax for long term dry storage?

No, we have not heard of this. It could be beneficial, However, water content it lost throughout the stem and leaf tissue so it may not be helpful for long-term storage.

I've had good luck storing vertically dry. Is there a reason NOT to store vertically? Horiz seems to give me more crushing/damage.

Storage horizontal vs vertical?

Is storing horizontal better than vertical? Why?

is horizontal storage better because of space or for storage time?

Is storing horizontal better than vertical? Why?

We store horizontally in crates with usually no more than 5 rows per crate. We've not had any crushing damage

We store horizontally also and no damage.

How did the newspaper compare to wrapping in plastic? I wrapped about 50 in ziploc bags this year (WA State). About 50% of them survived three months.

All of the stems in our experiments were wrapped in newspaper during storage. There are some plastic products that improve water retention, but we did not test them.

How do you monitor your refrigeration temperatures? What tools and methods do you use?

We use Hobo temp/rh monitors

I am curious about the use of Bio Turbo units in the cooler. I understand that peonies are not ethylene sensitive, but I am hearing these units may be helpful in extending life in cold storage, reducing botrytis in the cooler as well. Is there evidence the investment in these units is justified?

We strive for 20 minutes from field cut to cooler. I am curious what is the general time recommendation for getting fresh cut stems into the cooler?

As soon as possible, but it also depends on the weather.

how treat buds do once removed from cold storage and shipped for two days?

Depending on storage length, rehydrate stems with a commercial hydration solution prior to shipping.

Anyone have a good fan set up recommendation to ensure stems are dry (from dew, rain...) before stems go in the cooler?

I sit them by a fan in a bucket/no water. Make sure the head is dry. I try not to cut when wet but have had to...

What about the effects of removing field heat by placing in 33F water immediately after harvest?

33F chilled water immediately after harvest to remove field heat? Your thoughts?

We have not studied this, but it may reduce stem temperature prior to placing into your cooler.

why not use a liner inside the box to reduce dehydration?

You mentioned plastic lined crates for storage - should the stems be wrapped completely in plastic so they don't dry out?

can they be completely wrapped in the liner? would you have botrytis problems?

Plastic can be used if the stems are at a similar temperature as the cooler. However, if there is not enough air circulation or the temperatures are too different then condensation could form on the plant or plastic providing a location for disease development.

exactly which floralife/ chrysal products should we be using?

You can contact your sales rep or go online to find their standard hydration solution, general holding solution, or floral food packets.

any research on MAP for peonies?

Dry and 80% humidity in storage. This is confusing for me. please elaborate

It is important to have the stems dry before going into the cooler

Dry means stems should have no liquid on their surfaces prior to placing them into the cooler. Relative humidity is the amount of water content that the temperature can hold in the air. High relative humidity will help reduce water loss while stems are in the cooler.

so how do you get the humidity up to 80%

Our chillers run at around 95% Rh

Large amount of plant material in the cooler will increase humidity. You can also put a bucket of water in the cooler. As the water evaporates, the humidity will increase.

Other

What is the species native to USA?

P. brownii is the second species

Paeonia brownii - I think is the other native one.

Yes, it is. Thanks.

John, what are the medicinal uses of peonies?

The medicinal references are mainly East Asian. As with a number of plants, many benefits have been attributed to peony. Here is one thorough article: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3108611/>

What is the treatment you spoke of in Israel?

Gibberellic acid can be applied to peony plants to partially substitute for the cold treatment needed to break dormancy and promote shoot growth. A lot of this work has been done in Israel, which uses the techniques to produce cut peonies very early in the year.

The following article explains the process:

https://www.researchgate.net/publication/268180795_Flowering_Advancement_in_Herbaceous_Peony

Wondering whether cut flower production declined in general during the 70's/80's or was this specific to peonies?

The 70's and 80's decline was due to the change in favor to novelty flowers coming into favor

Can you keep the list of plants up, or will you share the slides with us after?

Has anyone developed a market for Peony Petals?

Not that I am aware of, but I am sure they have been used many times in various ways. Some of the cultivars have dozens of petals on each flower that often fall completely off all at once. I am sure enterprising folks use the petals in various ways.