

Questions & Answers for Pollinator Habitat Restoration: Planning and Contracting Webinar, 27 Oct 2020

<http://www.conservationwebinars.net/webinars/pollinator-habitat-restoration-planning-and-contracting>

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1. What does contracting mean? Paying someone to do it? I have worked on MY properties
Contracting in the context of this training means the NRCS financial assistance offered through Farm Bill programs on private land (NRCS or Partners) as a result of conservation planning to address identified resource concerns on private lands.
2. I do not see 420 listed as an available practice in Georgia. Is 420 state specific?
420 is the new national wildlife habitat planting standard and not all states have adopted it yet. In states that do not yet use 420, Conservation Cover (327) and the many other practices discussed Georgia is adopting in FY2021.
3. What is unlabeled/untagged seed?
This is seed that does not have an official seed analysis label associated with the seed noting %germination and % weed content of the seed for more information see technote:
https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/mdpmctn7615.pdf.

For conservation plantings receiving NRCS financial assistance, seed must be purchased on a Pure Live Seed (PLS) basis. Using PLS ensures there is adequate viable seed for successful coverage, for more explanation please see:
https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=stelprdb1261772&ext=pdf.
4. Why do we need winter cover?
For erosion control, soil health (nutrients, biomass, soil pores, etc), or cover and food for wildlife (nesting sites, seeds, foodweb insects eaten by other insects, birds, mammals, etc).
5. Is there a way that we could have these slides to reference back to? This is very helpful.
Yes, they are posted as a pdf with these additional resources on the webinar announcement page at <http://www.conservationwebinars.net/webinars/pollinator-habitat-restoration-planning-and-contracting>.
6. Where can we find these Job Sheets?
Within your state's field office technical guide (FOTG). Visit <https://efotg.sc.egov.usda.gov/>, select your state, click on the "Document Search" tab, then search on key words. Job Sheets (JS) are now called Implementation Requirements (IR), but searching on terms like pollinator, wildlife, or habitat may work well. Also, consult Using Farm Bill Programs for Pollinators to find conservation practices that can support wildlife (<https://tinyurl.com/FBPollinators>). Since presenters were from Oregon and New Jersey, also search within those state FOTG documents.
7. Our local work group priorities tend to be soil erosion, soil quality, and water quality. Do other states put a higher emphasis on wildlife habitat as a primary resource concern? It depends very

much on the landowner goals we work with and state priorities do vary. Conservation planners can help landowners understand the benefits of enhancing diversity in practices to address those resource concerns. There are many programs available to suite the landowner priorities and goals including the Environmental Quality Enhancement Program (EQIP) and the Conservation Security Program (CSP), through these program pollinator habitat establishment is available for sites with an identified resource concern.

8. Is that an example of the national IR for 420?

There is no example national IR for 420. However, here are a couple of state examples:

<https://efotg.sc.egov.usda.gov/api/CPSFile/27610/>

<https://efotg.sc.egov.usda.gov/api/CPSFile/27611/>

You could replace 327 with 420 and these are other examples:

<https://efotg.sc.egov.usda.gov/api/CPSFile/4042/>

https://efotg.sc.egov.usda.gov/references/public/NY/327_Pollinator_Habitat_IR_2_25_2019_Fillable.pdf

SITE PREPARATION

Regarding site prep, refer to the [Organic Site Preparation for Wildflower Establishment](https://www.xerces.org/publications/guidelines/organic-site-preparation-for-wildflower-establishment) (<https://www.xerces.org/publications/guidelines/organic-site-preparation-for-wildflower-establishment>) guide for more information including detailed descriptions of solarization, sod removal, smother cropping, and other organic site prep methods. Additional organic management materials at <https://xerces.org/guidelines-organic-site-preparation/>.

9. Do you think less elimination of competing vegetation is needed if using a no till drill so that seeds can get the soil contact more easily?

No I don't think elimination of competing vegetation is less of a concern with using a no-till drill as competing vegetation utilizes competing resources such as light or water, which may impact the establishment of the desired vegetation. Elimination of competing vegetation is still important when using a no-till drill for seed installation.

10. Seems solarization would have a pretty dramatic impact on soil biota--is this a short term concern?

We think mostly a short term concern. Soil biota may be impacted/killed to a couple of inches down, but then site is planted with permanent cover and left undisturbed for years to come allowing the soil to recover and stabilize from short term loss, if any, of soil microbes (vs. if soil was solarized, tilled, etc. on an annual basis). However, using inoculums for those species that need it is an important consideration when planting a site that was prepared using solarization.

11. What about grubbing, line cutting and other mechanical treatments?

Yes these types of site preparation treatments may be necessary when preparing a site for seeding when invaded by woody species.

12. What is Solarization?

Solarization is a method to kill herbaceous plants by installing UV-stabilized 6mm plastic for the entire growing season.

13. Within programs are many states allowing 2 years of site preparation? **It is best to check with your NRCS state office. Technically, the waiver for 315 allows for multiple years of site preparation, so long as the weed abatement is targeting pervasive plant species listed on your state's pervasive plant species list.**
14. 2,4-D containing products can have soil activity a few weeks after application and act as an unintended pre emerge control on broad leaf planted seeds. **Correct; it is important to follow label directions and the waiting period required to address the residual activity time of some chemicals.**
15. How do you suggest removing sod for lawn conversion projects, besides renting a sod remover? **A sod remover or a shovel are the best methods. If using solarization, you may need to remove killed vegetation to ensure good seed to soil contact. If possible, burn off excess plant material. Otherwise, rake or drag site to create a clean seed bed. Careful not to plant too deeply. Planting depth should not exceed 2 times the width of the seed.**
16. How long does the plastic need to be in place to be an effective solarization practice? **A full season of growth is generally recommended, but depending on existing conditions, that could be longer or shorter. See Xerces Organic Site Preparation Timelines and Guidelines <https://xerces.org/publications/guidelines/organic-site-preparation-timelines-checklists> that were developed with the Organic Site Preparation for Wildflower Establishment <https://xerces.org/publications/guidelines/organic-site-preparation-for-wildflower-establishment> and OSP Overview https://xerces.org/sites/default/files/2018-05/18-002_01_XercesSoc_Organic-Site-Prep-Methods-Overview_web4pg.pdf**

Participant comment re solarization: Some folks in CA are using occultation using black plastic to germinate weeds seeds and essentially starve them of sun. Using cardboard and mulch, opaque tarps, or other opaque materials like straw bales to prepare sites can be effective, but solarization is considered best since most weed seeds germinate when exposed to sunlight.

17. What is best way to get rid of Japanese stilt grass? **Burn weekly with a flame thrower?? If not averse to using herbicide, a very light solution of glyphosate can be effective. Be sure to apply before the grass goes to seed.**
18. During the 3 applications of herbaceous weed control, are the herbicide chemistries varied to try to prevent developed resistance of the weeds on the site? **Following label directions of the herbicide are key in preventing herbicide resistance. The type of herbicide utilized should be dictated by the main weed species treated.**

SEEDING/SEED MIXES/SEED SOURCES

Clarification: Using a no till drill does not lessen the need for eliminating competing vegetation

19. Will no-till seeding work following a burndown herbicide? **Yes, as long as the herbicide does not have residual activity on the seeds planted.**
20. Is there a rule of thumb for adding inert material to seed for drilling, let's say sand? **When adding inert materials for drilling you may want to consider rice hulls as sand may be hard on your equipment. See: <https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.nrcs.usda.gov%2FInter>**

[net%2FFSE_PLANTMATERIALS%2Fpublications%2Fidpmctn11458.pdf&data=04%7C01%7C%7Cdac9694384e049cd3b8d08d87aaf8702%7Ced5b36e701ee4ebc867ee03cfa0d4697%7C0%7C0%7C637394241589351681%7CUnknown%7CTWFpbGZsb3d8eyJWIjoimc4wLjAwMDAiLCJQIjoiV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=ivlTgJE%2F9kd7Xrk4RYDWor3Cflfv08NiDIXhnm%2FAzA%3D&reserved=0](https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/azpmctn8030.pdf) for the amount of rice hulls.

It really depends how much bulk you have for your seeding project. Many times if seeding larger sites the quantity of seed is large enough not to require inert material. You may want to experiment with the material in the drill before combining it with seed. Static electricity in some broadcast seeders makes rice hulls not the best material. Some seed vendors recommend pelletized lime, which is inexpensive, readily available, and light (the bulk rate will not affect soil pH).

One participant said that his supplier recommended adding cat litter to seed mix 97. If using a seed drill you may not need a bulking agent for seeding sites greater than 10 acres. Be careful with drills bulking agents are best when broadcasting smaller areas to be seeded.

21. Did someone say during the webinar that you can find sample seed mixes for your specific area?
Work with your state NRCS staff for seed mixes specific to your area as they should be site specific to address the site needs and landowner goals.
22. Do you recommend an emphasis on perennials, or annuals or a mix of both? Generally speaking a diverse seed mix would include early mid-and late-successional species which would include some annuals, biennials, and perennials. Knowing that the early successional species largely function to establish early cover to compete with competing vegetation.
23. Are those seed mix sheets available somewhere?
It is best that you work with your local NRCS field office for a locally adapted seed mix.
24. Do you know of any suggested pollinator mixes for steep slopes that will also address erosion issues?
Yes, a seed mix could be designed to address this type of natural resource concern. It is best that you work with your local NRCS field office for a locally adapted seed mix.
25. Do you have a list of regional certified seed companies for local ecotypes?
The NRCS plant materials program has some information on seed companies see: https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/azpmctn8030.pdf. Most companies list in their catalogs if they have local ecotype seed available, for example see [Ernst](https://www.ernstseed.com/) (<https://www.ernstseed.com/>) or [Prairie Moon](https://www.prairiemoon.com/) (<https://www.prairiemoon.com/>) as examples.
26. Is there a site where I am able to look at various seed mixes?
You can explore NRCS's eFOTG and work with your local NRCS field office. One participant shared this resource for native seeds in Texas: Native American Seed is a great source for Texas <https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.seedsources.com%2Fcatalog%2Fcategory.asp%3Ftxtsearchparamtxt%3D%26txtsearchparamcat%3D7%26txt&data=04%7C01%7C%7Cdac9694384e049cd3b8d08d87aaf8702%7Ced5b36e701ee4ebc867ee03cfa0d4697%7C0%7C0%7C637394241589351681%7CUnknown%7CTWFpbGZsb3d8eyJWIjoimc4wLjAwMDAiLCJQIjoiV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=1as5KQeZLbOFLcea6ked13awRUkpcwr3UEYaYddV2Y%3D&reserved=0>

27. Could you repeat the recommended seeding rate?

The seeding rate depends on Major Land Resources Area (MLRA) and precipitation. It can range from 20 seeds per square foot in western states to 40 seeds per square foot in central states. These rates may be doubled for broadcasting versus seed drilling. So check with your local NRCS field office.

28. Any suggestions for sowing a diverse seed mix that doesn't go through a hand spinner easily? I've ended up just sowing by hand because the seed was too light, or varied in size and shape to use the spinner. You can use a five gallon bucket and mix the seed 50:50 sand (moistened) and seed as a carrier for broadcasting. Break the seed into at least two batches as you would when using a drill and broadcast 2nd or 3rd batches starting opposite or other corners of the planting site to be sure seed is spread across the whole site (that you don't run out with one batch).

Is there a threshold when forb weeds are beneficial and not a problem? Depending on the nature of the weeds. Are they native or are they non-native. Are they annual or perennial? Sometimes annual weeds don't pose a huge problem (this is particularly in the Midwest and east) other times they do such as cheatgrass out west. So the question is very much site specific. Work with your local NRCS office to address your local needs. Most generally speaking good weed control (less than 5% weed cover) at the onset of your project will ensure your planting success. Also, in an annual cropping system, many annual weeds provide valuable forage without harm to crops or the environment (eg without being invasive). One participant commented, "Need to emphasize that TYPE OF WEED is important - annual, low threat weeds may act as a cover/nurse crop for the perennial planting."

29. In the west we usually have to use cover crops to avoid wind erosion issues. Having fields clean can create this erosion issue. What do you recommend, especially when our seeding window runs from Nov. 1 to April 30?

Look for cool season cover crop opportunities to provide winter cover. Winter wheat and oats would be preferred as they should not persist or have allelopathic affects such as those associated with cereal rye. Brassicas are excellent for pollinators if left to flower in spring, as well as legumes like Austrian winter pea and crimson clover.

30. Is there a list of plants that do better with broadcast seeders versus drill seeding?

Not really, however, broadcast seeding is helpful particularly with very small seeded species as sometimes it is difficult not to place the seed too deep when drill seeding although it is absolutely possible to get proper seed placement with a drill as well.

31. Participant comment: I really like drop seeding, it meters everything very well, can you explain that more for people, I think it is underutilized 115.

See this blog about drop vs broadcast seeding <https://turfmechanic.com/drop-spreader-vs-broadcast-spreader/>.

32. Wouldn't mixing seed with cracked corn invite excessive seed predation by birds and rodents by putting so much food out there to attract them?

Yes that may occur. I would only use a bulking agent if absolutely necessary and prefer sand for broadcasting and rice hulls for drill seeding.

33. Are inoculants needed for the more commonly used seeds if the site was previously cropland? Use the genus specific inoculant for any legume seed in your seed mix.

34. Do you ever recommend mulching lightly after seeding, or keep it exposed? Yes mulching may be helpful after broadcast seeding (be sure to obtain certified weed free mulch) and is generally not necessary after drill seeding as seed is generally sown into some type of stubble (crop or treated weed). Light straw mulch can help retain moisture, reduce surface wind, and may discourage birds.
35. What recommendations do you have for a site that might have some plants that you want to retain, how can you do site prep while maybe keeping remnant native species.
This is tricky, you will need to clearly delineate the areas you want to maintain intact so that weed treatment is avoided in these area or only done by spot spraying or hand treatment. Site treatment of areas with remnant vegetation may include a prescribed burn or mowing and racking the stubble off the site.
36. How long should you wait before you determine that a seeding was a failure? 2 growing seasons? 3? You should be able to recognize seedlings in the first growing season, but do not expect to see all the full diversity of species in mix until the planting is fully established (typically third growing season and beyond)
37. What is your experience with using annual nurse crop along with the perennial native seeding, particularly if seeding must occur in spring due to wet fall? This can work very well when using oats for instance.
38. You said best seed in dormant season, but the pictures you show are seeded in May. What is best time?
Depending on your site and seed mix, both spring and fall work. Fall is beneficial as many wildflower seeds need cold, moist stratification which they receive if planted in the fall. Many seeds planting in spring will germinate, but those needing stratification will not germinate until the following spring. Check with your local NRCS office for ideal planting time.
39. How common is the use and availability of local ecotype seed?
When available it seems to be readily utilized. State biologists generally encourage the use of local ecotypes whenever possible since they may establish and persist better than seed from other areas.

MAINTENANCE

40. How often do you irrigate a wildflower meadow during establishment? Or do you leave it up to the elements? Irrigation should not be necessary for establishing pollinator habitat with locally adapted forb species in the mix.
41. For long term maintenance, you still recommend mowing. Is it ok to disc instead?
Disking may adversely impact establishing the planting, so is generally not recommended. Sometimes sites are disked to create early successional habitat or when grasses have become too dense (widely spaced disks can cut through clumps and open space for more wildflower species, as long as invasive species are not a problem). For establishing vegetation, a graduated mowing regime (mowing more frequently year 1 of seeding followed by mowing less frequently in subsequent years (two and three) to only spot mowing areas with high weed pressure.

Disking can mimic early succession by opening up space in established grasslands if prescribed fire is not an option. Disking may allow more forb seeds to germinate and improve habitat for bumble

bees and ground-nesting birds, who nest below lodged grasses (birds especially need space to move so more likely to nest if grass not too dense).

42. Does anyone have any tips for decreasing Canada goldenrod populations in older stands? It has taken over a lot of our prairie projects in WI.

This sounds like possibly due to an imbalanced seed mix, try diversifying with native legumes. If the site is predominately Canada goldenrod and relatively weed free otherwise. If other non-desirable species such as smooth brome are also dominant you may need to apply a herbicide for one to two seasons to eliminate the competing vegetation followed by a diverse legume rich seed mix.

For those of you not with NRCS, remember to contact your local NRCS field office for assistance and desirable treatment methods.

43. After a 2-3 year establishment period, should mowing continue? If so, how often?

Mowing needs for the long term will depend on landowner goals, location, how fast vegetation grows, how well the planting established by year 3, and what equipment is available. To maintain meadow/grassland open habitats, some sort of disturbance (mowing or burning) may be needed every 1 to 3 years to prevent woody plant growth. Also, mow if weedy vegetation is still an issue. If well timed, mowing or spot mowing may do the trick. To support wildlife, try to break up the habitat into 4 or 5 parcels and avoid disturbing more than one third of the whole area at any one time. Also avoid bird nesting season. However, when fire is used, sometimes burning the whole area is necessary. The benefits of prescribed burns generally far outweigh the downside of disturbing the habitat at one time (ideally the burn will be patchy).

44. I mowed this summer but it seemed like weeds would flower at a 6-7 inch level after mowing to 8 inches? What next?

Besides preventing weeds from going to seed, a goal of mowing is allowing sunlight to reach the slower growing perennial seedlings.

45. How often do you destroy and reestablish an area if you start to see a species starting to take over as the dominant species?

You may be able to spot treat problem areas in order to not destroy portions of the site well established. Such decisions will depend on the species.

46. What mid-contract management techniques are best for plantings with high forb diversity?

Depending on your site, mowing and removing the mulch, prescribed burning, inter-seeding additional forbs, etc. are helpful management techniques. Check with your local NRCS office.

47. Participant comment: Mowing is not allowed in CRP in our state.