NATIVE PLANT PRODUCER SURVEY

REPORT OF RESEARCH PROCEDURES AND RESULTS

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Study Design and Operations

The "Native Plant Producer Survey" study was conducted collaboratively by the Survey Research Center at Oregon State University (OSU-SRC) with Gail Langellotto of the Oregon State University Department of Horticulture during winter term 2023. Support for the study came from the United States Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA), Specialty Crop Research Initiative (SCRI) proposal number 2022-05310. The survey is one component of the USDA-supported work of the Native Plant Connection Team. The purpose of this study was to ask native plant producers, vendors, and professional end-users of native plants in ornamental landscapes several questions about the make-up of their organization in order to identify the research, extension, education, and marketing priorities of the native plant nursery industry. The survey was designed and administered using the OSU Qualtrics license. At the closing of the survey, a link was made available to respondents asking if they would be willing to provide their contact name and email to be contacted by someone from the Native Plant Connection for future webinars and professional network planning.

Study Population and Recruitment

A list of U.S. Native plant and seed producers and retailers was assembled by Native Plant Connection team members, Mallory Mead (OSU Department of Horticulture undergraduate) and Cammie Donaldson (Executive Director of Florida Association of Native Nurseries and Executive Director of the Native Plant Horticulture Foundation). The list was delivered to OSU-SRC in December 2022. The list consisted of 840 organizations across the U.S. and included contact name and email address for use with the Qualtrics emailer to recruit participants. OSU-SRC vetted the list and discovered that 15 records were missing an email address and were therefore removed from the study.

A prenotification email signed by Gail Langellotto and the other members of the Native Plant Connection Team was sent via Qualtrics on Monday, January 9 to officially launch the survey (Appendix B). The Qualtrics emailer notified OSU-SRC of 66 "bounced" emails within this initial

contact. Bounced emails are those that are undeliverable and could not reach the intended recipient. Since 66 records is a significant proportion of the population, the list of 66 undeliverable addresses was sent to Gail with a request to correct as many email addresses as possible and return to OSU-SRC to resend the pre-email. The file with updated emails was delivered to OSU-SRC and recruitment resumed according to schedule, although the pre-email for the corrected list was sent one day later than the initial pre-email (Table 1). It was noted that 19 out of the 66 organizations had closed their business and were therefore removed from the population in addition to one entity which was noted as not being a native plant nursery.

Follow-up emails were scheduled and delivered appropriately for each email list. See Table 1 for the email recruitment schedule. Copies of survey recruitment materials are available in Appendix B.

TABLE 1: EMAIL RECRUITMENT SCHEDULE

Pre-email		1st SRC Email	2nd SRC Email (Postcard format)	3rd and final SRC Email
Original	Monday, January 9, 2023	Thursday, January 12, 2023	Wednesday, January 18, 2023	Thursday, January 26, 2023
Corrected	Tuesday, January 10, 2023			

SURVEY DATA COLLECTION AND STORAGE

After 26 days of data collection, the online survey was closed on February 4, 2023. Return dispositions or "outcomes" for all organizations that participated in the survey are coded and placed in the "disp" field in the edited survey response data file. All survey response records were downloaded into Excel and saved as the "Unedited" file while a second copy was saved as the "Edited" file. The edited file was verified and "cleaned" for analysis. "Cleaning" involves editing the data set by coding no response cases and removing break-off records. See "Study Response Rates" for an explanation of break-offs. In addition to the no-response and break-off editing, some open-ended responses to "other" categories in closed-ended questions were recoded. Gail

Langellotto read and provided OSU-SRC a list of "other" comments to be re-coded into an established response category. The final edited data file containing all closed-ended and open-ended survey responses was delivered to Gail Langellotto April 2023 in Excel format.

An additional data file that contains the supplemental contact data for respondents willing to be placed on a list to be contacted for future native plant network operations is available in a separate Excel file sent to Gail Langellotto.

See the printed version of the questionnaire (Appendix A-1) for survey data coding information including no response codes, valid response codes and labels, question labels, variable names, skip patterns, and other survey formatting information. Appendix A-2 provides a printed version of the supplemental contact list survey.

RESULTS

STUDY RESPONSE RATES

Table 2 shows the survey disposition outcomes for the 825 organizations included in the study population and recruited to complete the survey. Fifteen records in the original population of 840 sent to OSU-SRC were incomplete whereby the email address was missing and were removed from the study population prior to recruitment. The table outlines the seven possible return dispositions and coding for this study. Of the 825 organizations, one organization contacted OSU-SRC and asked to be removed from the email list. This organization is coded as "refusal." Another 23 visited the survey site but answered too few questions to be considered complete and are therefore coded as "break-offs." In addition, 15 email records bounced in the Qualtrics system (even after correction) and are coded as undeliverable. Other return disposition outcomes (N=24) include "closed business" or "not a native plant nursery" and are considered outside the population frame. Four-hundred thirty-four organizations did not complete the survey or access the website at all and are coded as "nothing returned." The remaining 328 records are considered complete and were used to run analyses.

TABLE 2: SURVEY DISPOSITION FREQUENCIES

Table 2: Return Dispositions and Adjusted Response Rate, All Groups	Frequency	Percent
Completed	328	39.7%
Refusal/Break-off	24	2.9%
Undeliverable email address	15	1.8%
Deceased	0	0.0%
Closed business/Outside frame	24	2.9%
Nothing returned	434	52.6%
Total	825	100%
Unadjusted Response Rate		**39.7%**
AAPOR RR4 Adjusted Response Rate		**42.5%**

The OSU-SRC uses the American Association for Public Opinion (AAPOR) response rate calculator (available at http://www.aapor.org/Standards-Ethics/Standard-Definitions) to calculate survey response rates. The AAPOR standardized response rate calculator is a standard practice in reporting response outcomes. The AAPOR response rate calculator uses the following formula to determine the adjusted response rate (RR4) for this study:

$$RR4 = \frac{(I + P)}{(I + P) + (R + NC + O) + e(UH + UO)}$$

Where (I + P) = the number of complete and partially completed records, (R + NC + O) = the number of non-completed eligible sampling units, (UH + UO) = the number of unknown eligibility sampling units, and 'e' represents the estimated proportion of sampling units of unknown eligibility that are actually eligible[1]. Based on study return dispositions, the resulting RR4 calculation for 'e' is equal to .936 and the adjusted RR4 response rate for the study is 42.5%.

Table 3 includes survey disposition outcomes, the code used to identify each outcome within the data, and the placement in the AAPOR response rate calculator.

[1] e based on proportional allocation technique (ratio of eligible to non-eligible among known cases applies to unknown cases)

TABLE 3: AAPOR RETURN DISPOSITION CODING AND DEFINITIONS

Disposition Label	Definition	Data Code
Nothing returned	Unknown eligibility, nothing returned (UH)	0
Complete	50% - 100% of applicable questions answered (I, P)	1
Refusal	Request to be removed from list (R)	2
Break-off	1% to less than 50% of applicable questions answered (R)	2.1
Undeliverable email	Email bounced (UH)	3
Closed business/Outside population frame	Unit is outside population frame, closed business, not a native plant nursery, works outside desired industry	5

The supplemental contact request survey was seen by those respondents that completed 100% of the main survey. Of the 328 respondents to the main survey, 140 completed the contact survey.

Survey Responses: Post Data Collection Adjustments and Simple Frequency Results

Following is a discussion of simple frequency results for closed-ended questions. The output of simple frequencies is available in Appendix C. Two adjustments were made to the survey data post data collection. First, questions with "other" open-ended comment categories were reviewed and, if possible, coded as a listed answer category. Second, after data collection it was discovered that a branching mechanism in the survey did not work properly and a subset of questions were skipped by certain types of organizations. Those that had missed the opportunity to answer the subset of questions were contacted again and asked to answer the seven questions. Out of 149 organizations that had missed the opportunity to answer the questions, 88 records were recovered. The coded open-ended responses and recovered missing data are added in the analysis. These results are shown in Appendix D.

Survey Responses: Simple Frequency Results

The first question (Q2) asked respondents to identify (by a check all format) what type or types of operation for which they are answering. Cases with more than one answer to Q2 were filtered to question 3 and asked to narrow down their organization to a single type of entity based on the type that generates the most revenue. According to the frequency output, 157 respondents affirmed more than one answer to question 2 and therefore answered question 3. Some branching in the questionnaire depended on the type of entity affirmed. Graphical representations of questions 2 and 3 are available in Figures 1 and 2 respectively.

Figure 1: Type of Organization responding (Check-all-that-apply, Question 2, n = 328)

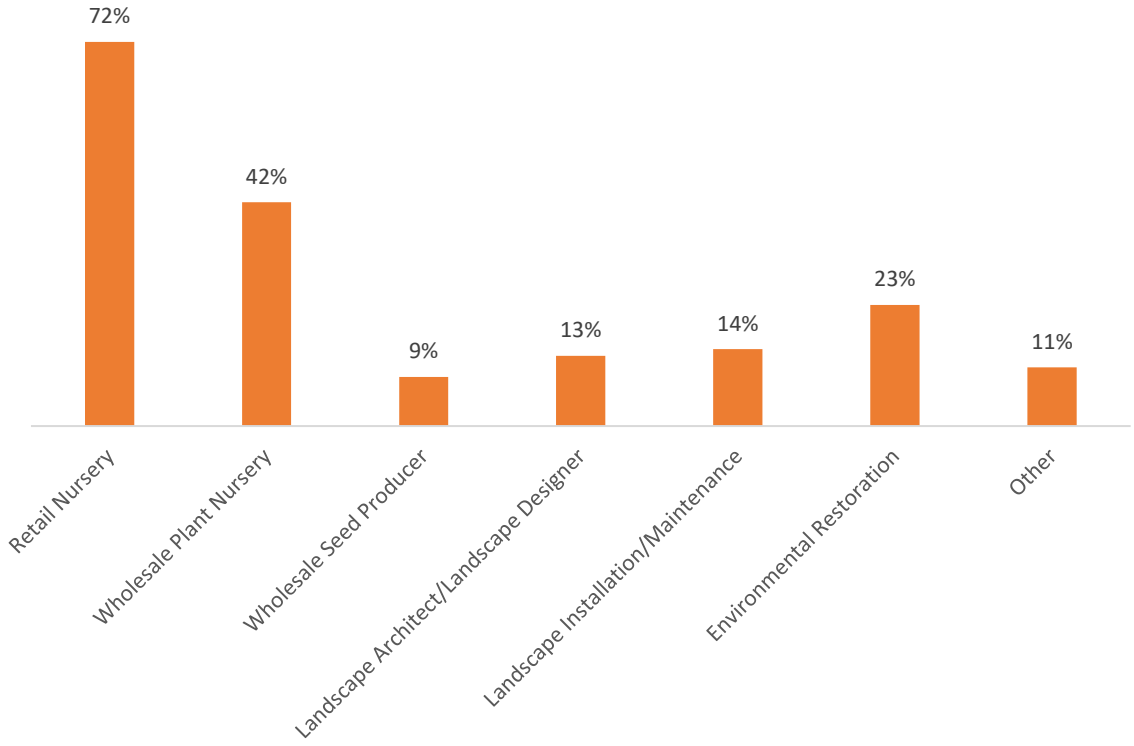
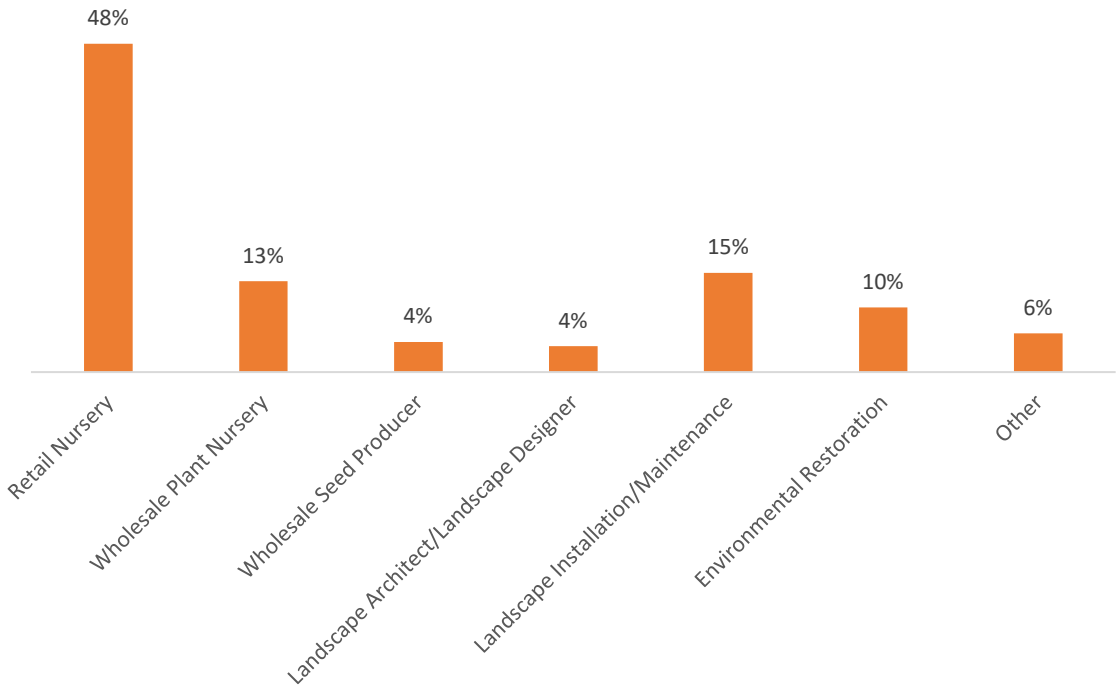
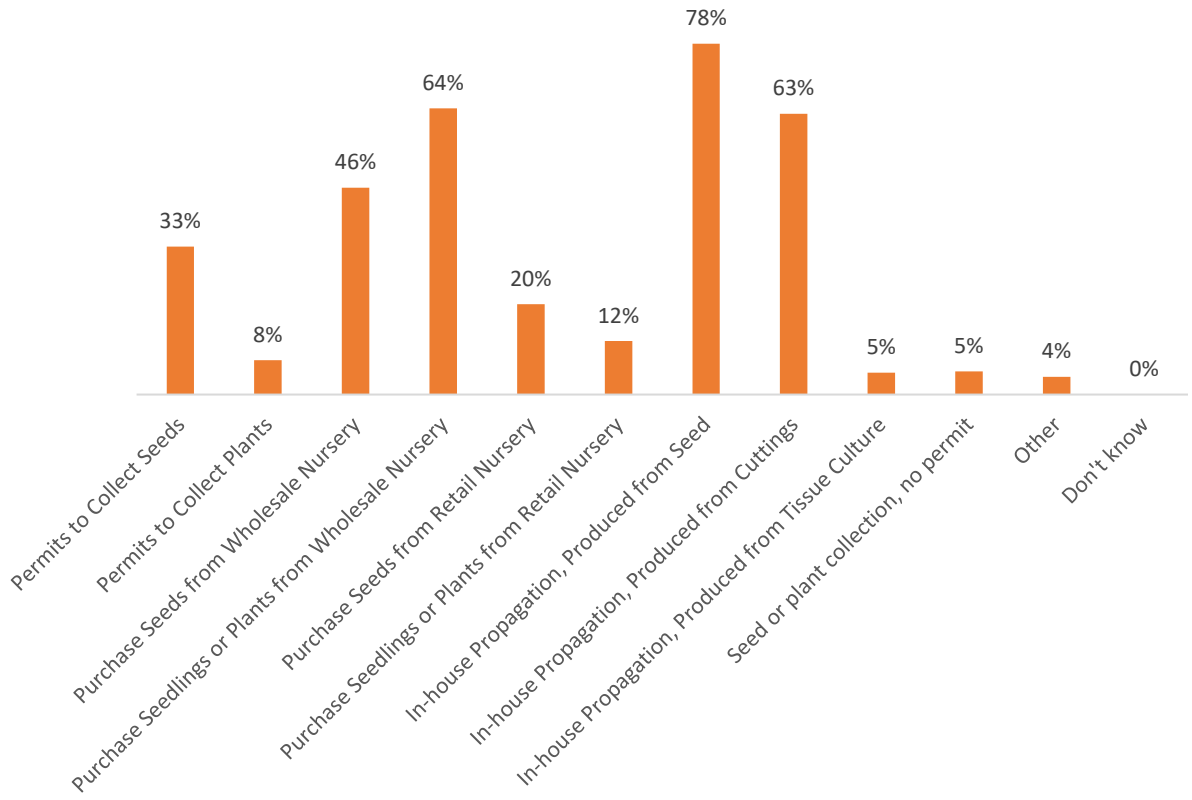


FIGURE 2: TYPE OF ORGANIZATION RESPONDING, BASED ON MOST REVENUE GENERATING (SINGLE-ANSWER, QUESTION 3, N = 157)



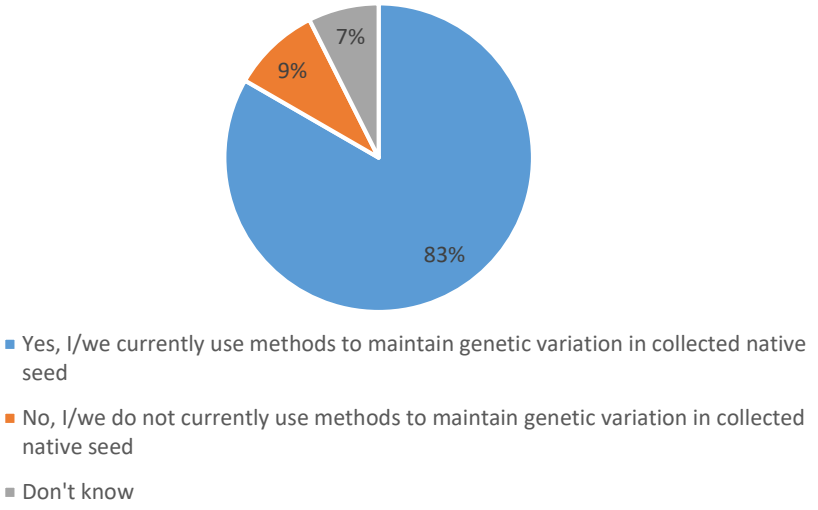
Methods for sourcing native plants for responding entities were indicated in question 4. Figure 3 shows the percentage of entities that fall into each of the 11 categorical methods. “In-house Propagation, Produced from Seed” was indicated by 78% of responding entities, followed by “purchase Seedlings or Plants from Wholesale Nursery” at 64% and “In-house Propagation, Produced from Cuttings” at 63%.

FIGURE 3: METHODS FOR SOURCING NATIVE PLANTS (QUESTION 4, N = 328)



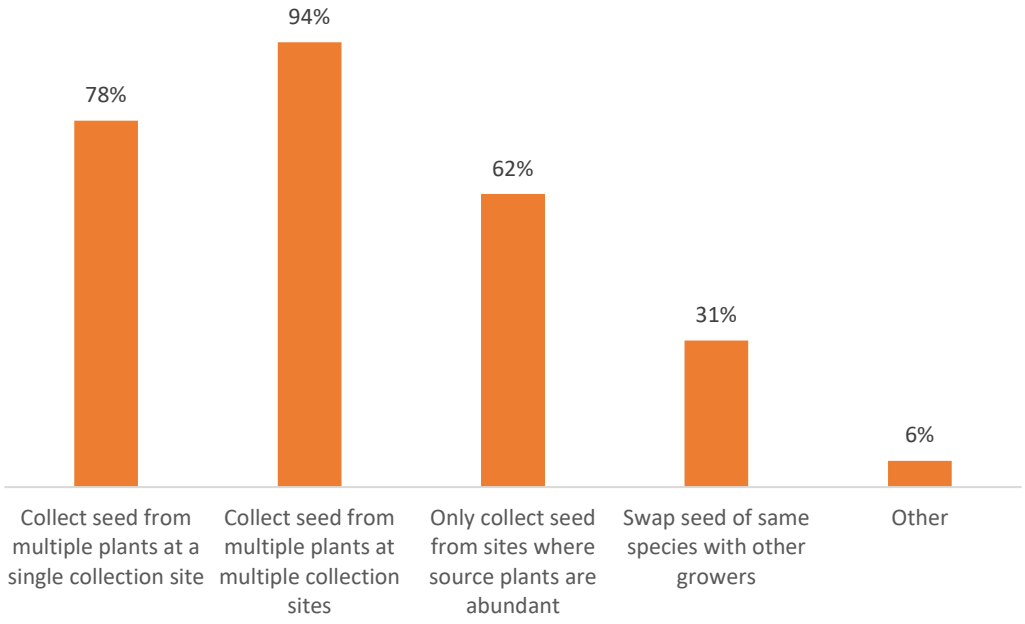
The next series of questions were asked to determine methods used to maintain genetic variation and/or reduce inbreeding in plants. Questions 5, 7, and 9 served as filter questions with 6, 8, and 10 as follow up questions to these filters. Question 5 was displayed to a respondent if they had indicated "Permits to Collect Seeds" as the method to source their native plants in question 4. Thirty-three percent of responding organizations indicated this method and were asked question 5: "For collected native seed, do you currently use methods to maintain genetic variation and/or to reduce the loss of genetic variation?" Eighty-three percent responded in the affirmative (Figure 4) and were then directed to question 6 to report the methods used to maintain genetic variation or reduce the loss of genetic variation in collected seed.

FIGURE 4: PERCENT OF ORGANIZATIONS THAT USE METHODS TO MAINTAIN GENETIC VARIATION IN COLLECTED NATIVE SEED (QUESTION 5, N = 108)



Of the four methods listed to maintain or reduce loss of genetic variation, "Collect seed from multiple plants at multiple collection sites" was selected more than all other methods at 94%. Second and third most selected methods were "Collect Seed from multiple plants at a single collection site" (78%) and "Only collect seeds from sites where source plants are abundant" (62%), Figure 5. Question 6 is a multiple answer format so some entities responded with more than one method and may have provided a comment in the "Other" category. Hence, percentages do not add to 100%.

FIGURE 5: METHODS USED TO MAINTAIN GENETIC VARIATION AND/OR REDUCE THE LOSS OF GENETIC VARIATION IN COLLECTED SEED (QUESTION 6, N = 90)



Question 7 was displayed to a respondent if they had indicated "In-house propagation, Produced from Seed" as the method to source their native plants in question 4. Of those that indicated this (n=254), 66% indicated that they currently use methods to maintain genetic variation and/or to reduce inbreeding in seed-propagated plants (Figure 6). When directed to Q8 that asked the organization to indicate the methods used to maintain genetic variation, more said that they maintain onsite parent lines that represent genetic variation found in natural populations (68%) than the additional category to introduce plants from other sources (e.g. customers or other growers) to increase genetic variation of onsite parent plants (56%). Some (14%) indicated another method (Figure 7).

FIGURE 6: PERCENT OF ORGANIZATIONS THAT USE METHODS TO MAINTAIN GENETIC VARIATION IN SEED PROPAGATED PLANTS (QUESTION 7, N = 254)

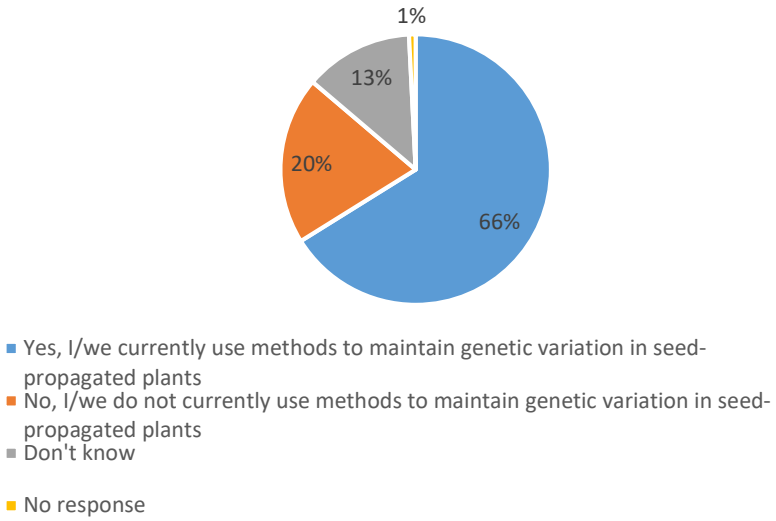
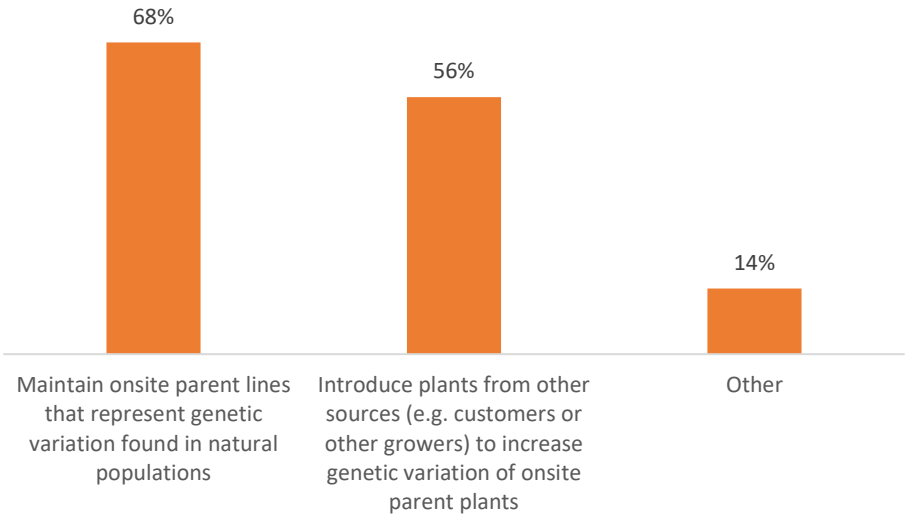


FIGURE 7: METHODS USED TO MAINTAIN GENETIC VARIATION AND/OR REDUCE THE LOSS OF GENETIC VARIATION IN SEED PROPAGATED PLANTS (QUESTION 8, N = 168)



Question 9 was displayed to a respondent if they had indicated “In-house Propagation, Produced from Cuttings” as the method to source their native plants in question 4. Of those that indicated this (n=327), 54% indicated that they currently use methods to maintain genetic

variation in native plants propagated from cuttings (Figure 8). When directed to Q10 which asked the organization to indicate the methods used to maintain genetic variation, more said that they use cuttings from multiple plants grown onsite (76%) than to obtain cuttings from multiple plants in the wild from multiple collection site (66%). An additional 25% and 26% indicated they obtain cuttings from multiple plants in the wild from a single collection site and obtain cuttings from other growers respectively. Two percent indicated another method (Figure 9).

FIGURE 8: PERCENT OF ORGANIZATIONS THAT USE METHODS TO MAINTAIN GENETIC VARIATION IN NATIVE PLANTS PROPAGATED FROM CUTTINGS (QUESTION 9, N = 204)

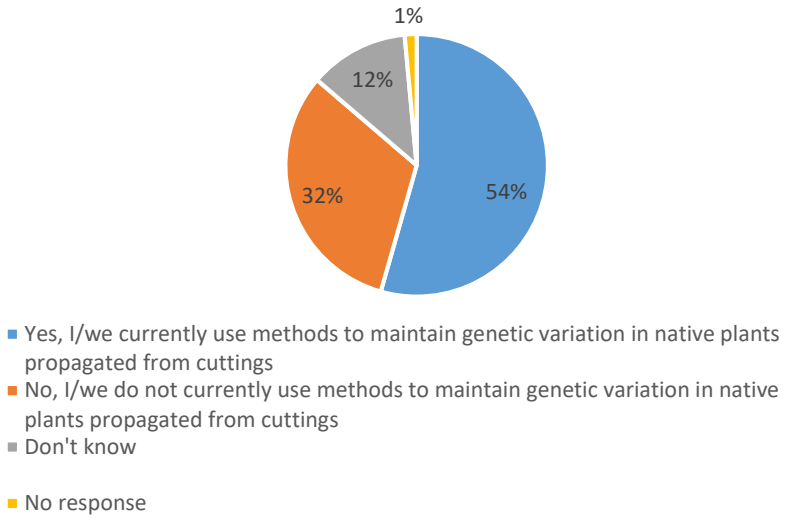
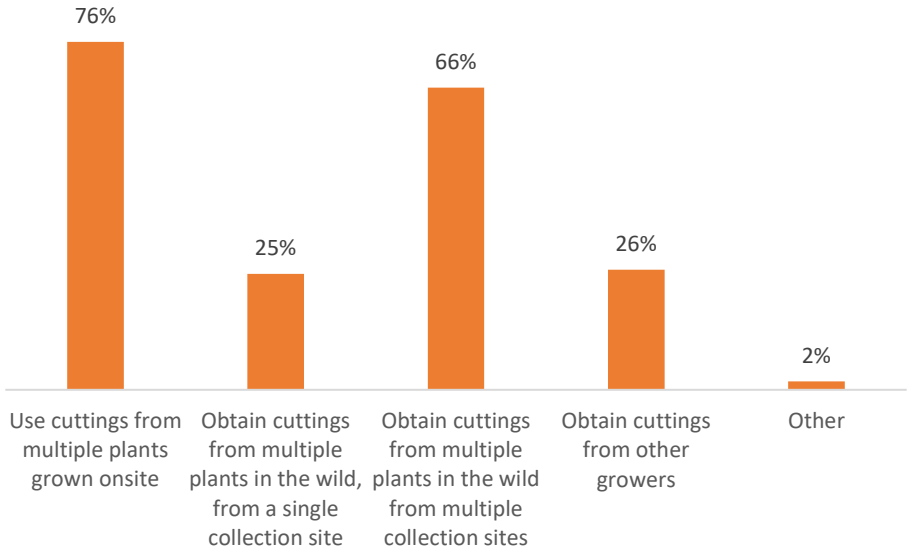


FIGURE 9: METHODS USED TO MAINTAIN GENETIC VARIATION AND/OR REDUCE THE LOSS OF GENETIC VARIATION IN NATIVE PLANTS PROPAGATED FROM CUTTINGS (QUESTION 10, N = 111)



Questions 11 through 15 on the survey were displayed to those that indicated the organization for which they were responding is either a retail nursery, wholesale plant nursery, or wholesale seed producer in questions 2 or 3.

Question 11 ask the respondent to report the percent of the operation's typical plant inventory that is composed of native plants. Survey results show that not a single organization reported a 0% native plant inventory. The majority, 74%, reported their inventory typically is composed of 76% to 100% native plants (Figure 10). Question 12 piped the response percent bracket from question 11 and asked what percent of this composition is made up of cultivars. Here, 41% did report that none (0%) of their typical native plant inventory is made up of cultivars and 42% reported that 1% - 25% is made of cultivars (Figure 11).

FIGURE 10: PERCENT OF RETAIL NURSERIES', WHOLESALE PLANT NURSERIES', AND WHOLESALE SEED NURSERIES' TYPICAL PLANT INVENTORY COMPRISED OF NATIVE PLANTS (QUESTION 11, N = 185)

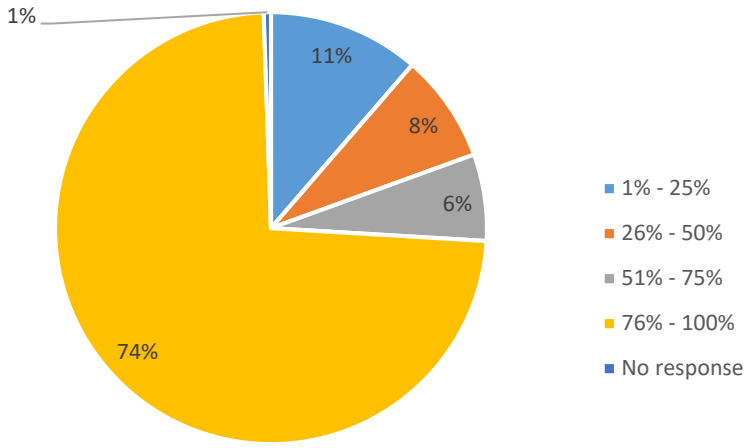
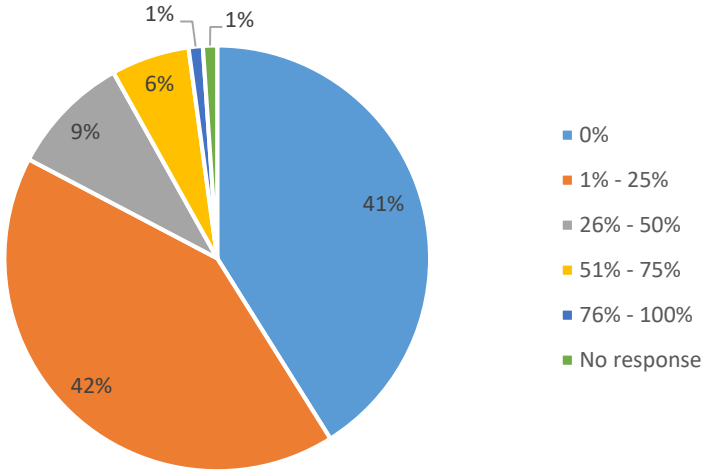


FIGURE 11: PERCENT OF RETAIL NURSERIES', WHOLESALE PLANT NURSERIES', AND WHOLESALE SEED NURSERIES' TYPICAL NATIVE PLANT INVENTORY COMPRISED OF CULTIVARS (QUESTION 12, N = 185)



Questions 13, 14, and 15 were used to inquire about the forms and types of native plants that are sold, as well as the native plant features for which they are currently bred or selected. Nearly all (92%) of these organizations sell container forms of native plants (Figure 12) and nearly all (91% and 90%) sell wildflower or grass native plant species respectively (Figure 13).

FIGURE 12: FORMS OF NATIVE PLANTS SOLD BY RETAIL NURSERIES, WHOLESALE PLANT NURSERIES, AND WHOLESALE SEED NURSERIES (QUESTION 13, N = 185)

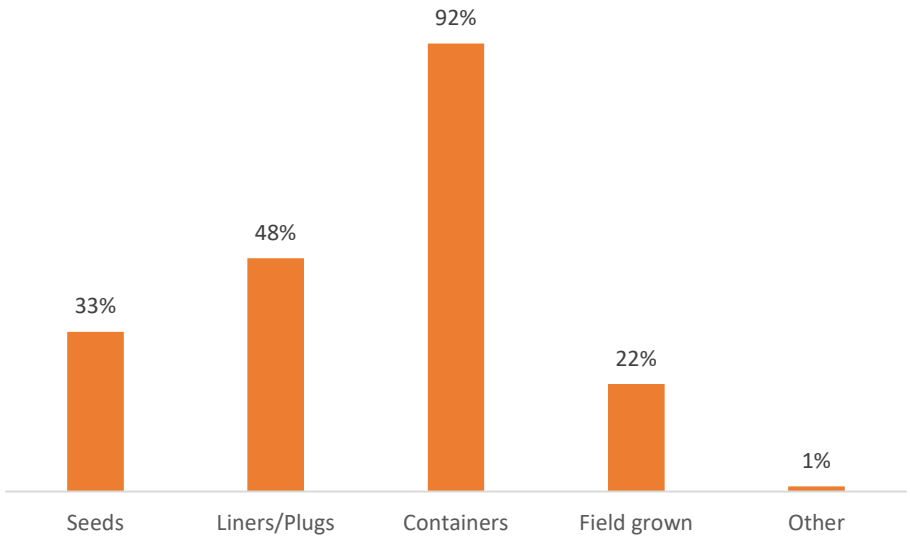
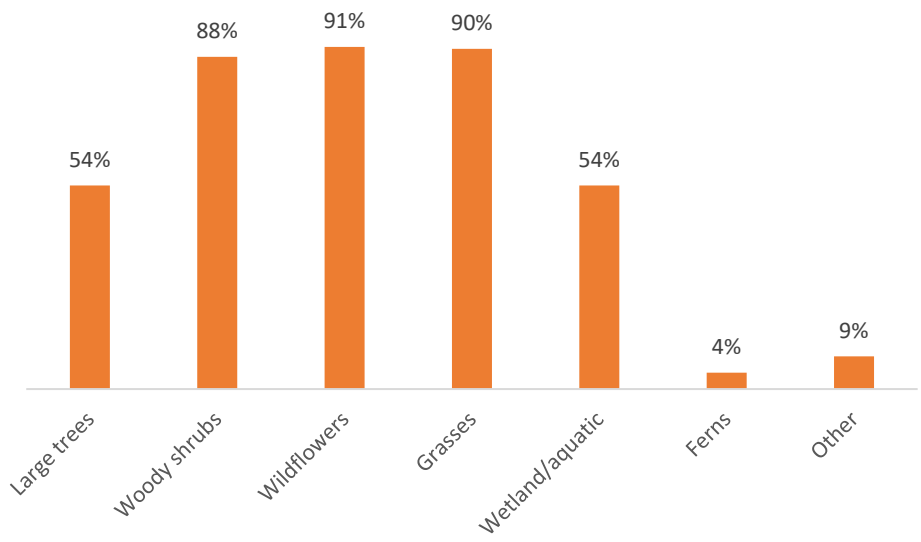
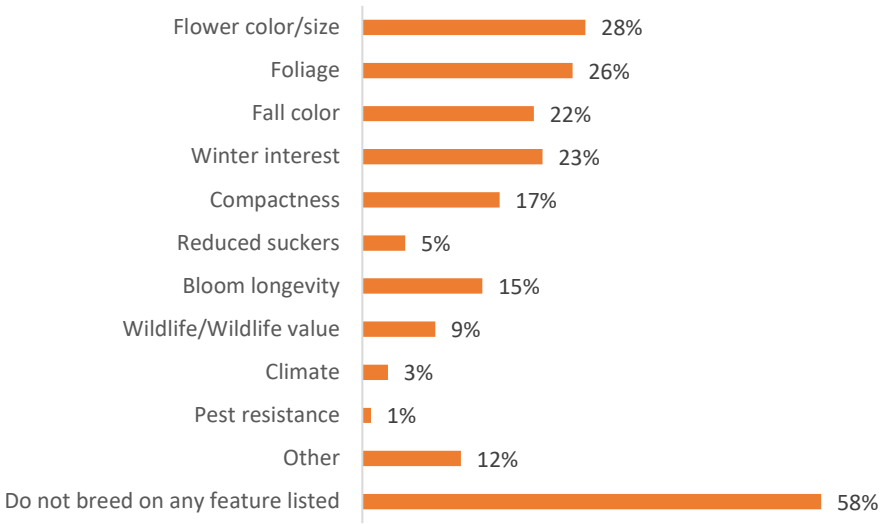


FIGURE 13: TYPES OF NATIVE PLANTS SOLD BY RETAIL NURSERIES, WHOLESALE PLANT NURSERIES, AND WHOLESALE SEED NURSERIES (QUESTION 14, N = 185)



The set of features that responding organizations use to breed/select native plants is widespread (Question 15). Four features (flower color/size, foliage, winter interest, and fall color) are bred for by more than 20% of these organizations while the other 7 types of features are sought by less than 20% of these organizations (Figure 14). However, 58% of these organizations indicated they do not breed native plants based on any of the features listed.

FIGURE 14: NATIVE PLANT FEATURES BRED OR SELECTED FOR BY RETAIL NURSERIES, WHOLESALE PLANT NURSERIES, AND WHOLESALE SEED NURSERIES (QUESTION 15, N = 185)



All organizations were asked to answer question 16 which asked if they request source-identified plants from their suppliers. Twenty-one percent always request source-identified plants and 47% sometimes do. Question 17 was displayed for the three nursery types (retail, wholesale plant, and wholesale seed). Source identified plants are always provided to clients/customers by 17% of these organizations and sometimes provided by 57%.

FIGURE 15: PERCENT OF ORGANIZATIONS' THAT REQUEST SOURCE-IDENTIFIED PLANTS FROM THEIR SUPPLIERS (QUESTION 16, N = 328)

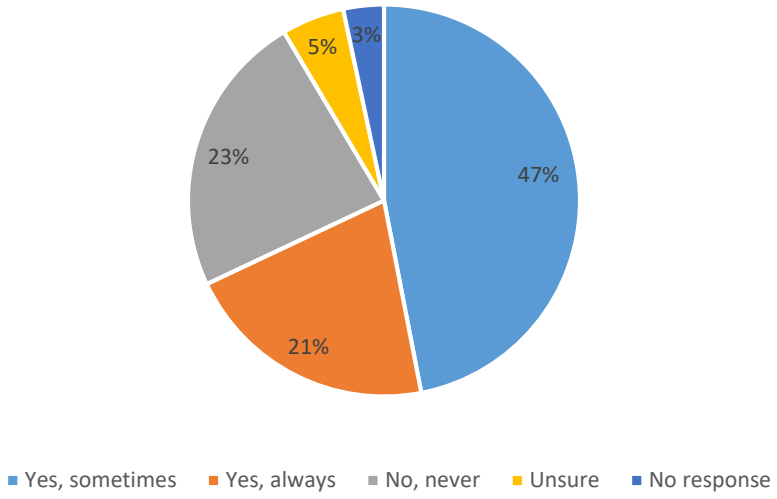
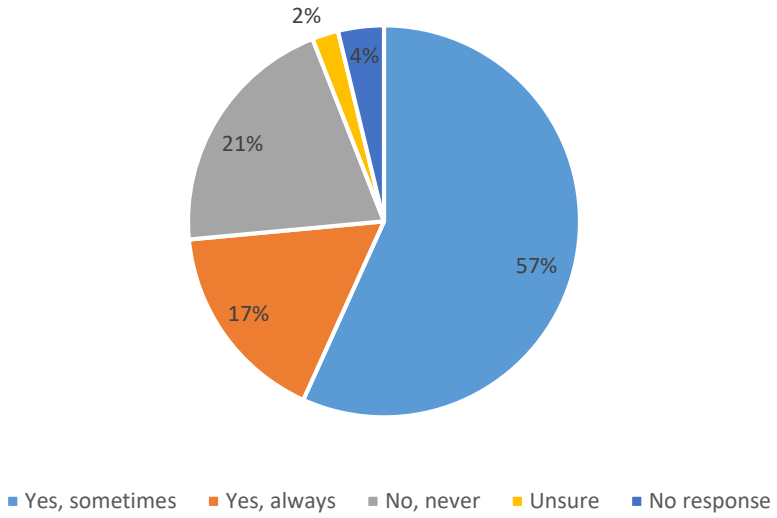


FIGURE 16: PERCENT OF RETAIL NURSERIES', WHOLESALE PLANT NURSERIES', AND WHOLESALE SEED NURSERIES' THAT PROVIDE SOURCE-IDENTIFIED PLANTS TO CLIENTS/CUSTOMERS (QUESTION 17, N = 185)



Questions 18 and 19 refer to ecotypes and whether they are purchased from or sold to entities outside the organization's region. When it comes to using/purchasing ecotypes outside the region (Q18), 57% of responding organizations currently use/purchase these, another 11% consider using/purchasing these, and 30% do not use/purchase or consider using/purchasing them (Figure 17). When it comes to selling ecotypes from outside the region (Q19), 56% of retail, wholesale plant, and wholesale seed nurseries sell these, 8% have considered, and 35% do not (Figure 18).

FIGURE 17: PERCENT OF ORGANIZATIONS' THAT USE/PURCHASE ECOTYPES FROM OUTSIDE THEIR REGION (QUESTION 18, N = 328)

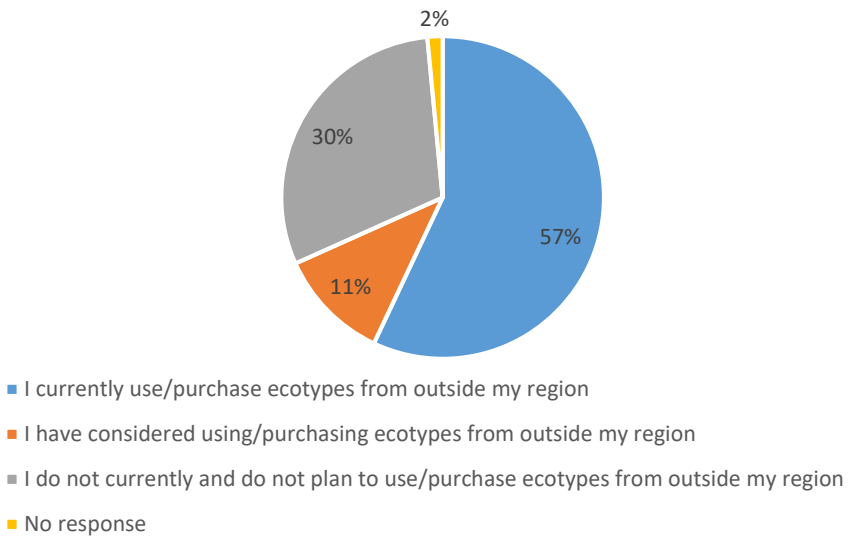
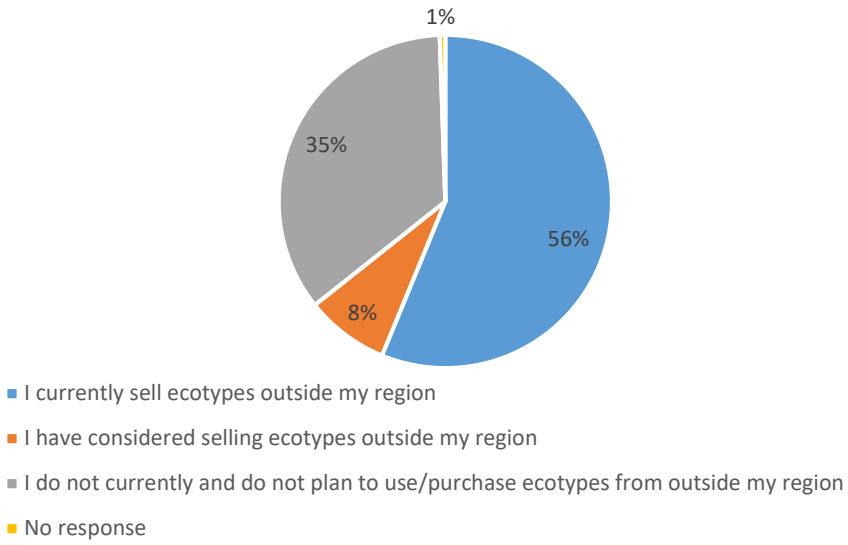
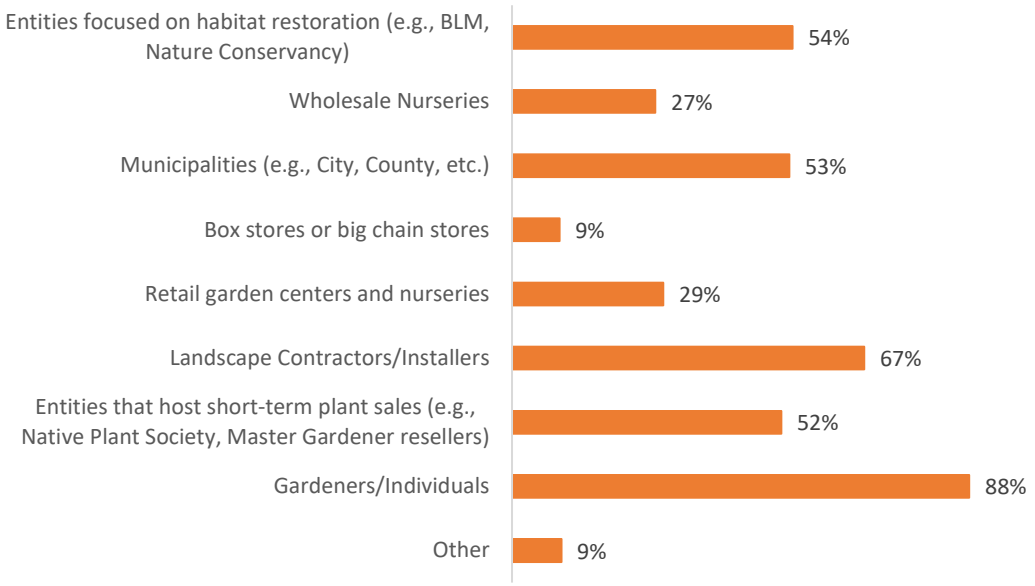


FIGURE 18: PERCENT OF RETAIL NURSERIES', WHOLESALE PLANT NURSERIES', AND WHOLESALE SEED NURSERIES' THAT SELL ECOTYPES TO OUTSIDE THEIR REGION (QUESTION 19, N = 185)



Question 20 was displayed to all respondents and asked who makes up responding organization's customers? More customers (88%) fall in the gardener/individual category with landscape contractors/installers showing 67% of their customer base (Figure 19). Box stores or big chain stores represent the lowest percent of customers (9%).

FIGURE 19: TYPES OF CUSTOMERS (QUESTION 20, N = 328)



Two questions focused on strategies that can help expand the native plant industry. Question 22 listed a set of sourcing/production strategies while question 23 listed a set of marketing strategies and asked how important each listed strategy is for the industry expansion. Looking at the strategies that were chosen as the most important for sourcing and production, "Information/support for sustainably sourcing native plant starts or seeds" was selected as very important by 67% of responding organizations while "propagation protocols for difficult to propagate species" was selected as very important by 66% (Figure 20A). Figure 20B shows the very important and somewhat important combined ratings for each sourcing/production strategy. The combined importance ratings for sourcing/production show similar results for the top two positions.

Looking at the strategies that were chosen as the most important for marketing/end-use, "developing landscape designs that support/promote the use of native plants" was selected as very important by 72% of responding organizations while "pollinator and wildlife use by plants by region/locality" was selected as very important by 71% (Figure 21A). Figure 21B shows the very important and somewhat important combined ratings for each marketing/end-use strategy. When looking at the combined importance ratings, "determining the ecological benefits of native plants" and "pollinator and wildlife use by plants by region/locality" share the top at 90%.

FIGURE 20A: IMPORTANCE OF SOURCING/PRODUCTION STRATEGIES TO EXPAND THE NATIVE PLANT INDUSTRY (QUESTION 22, N = 328)

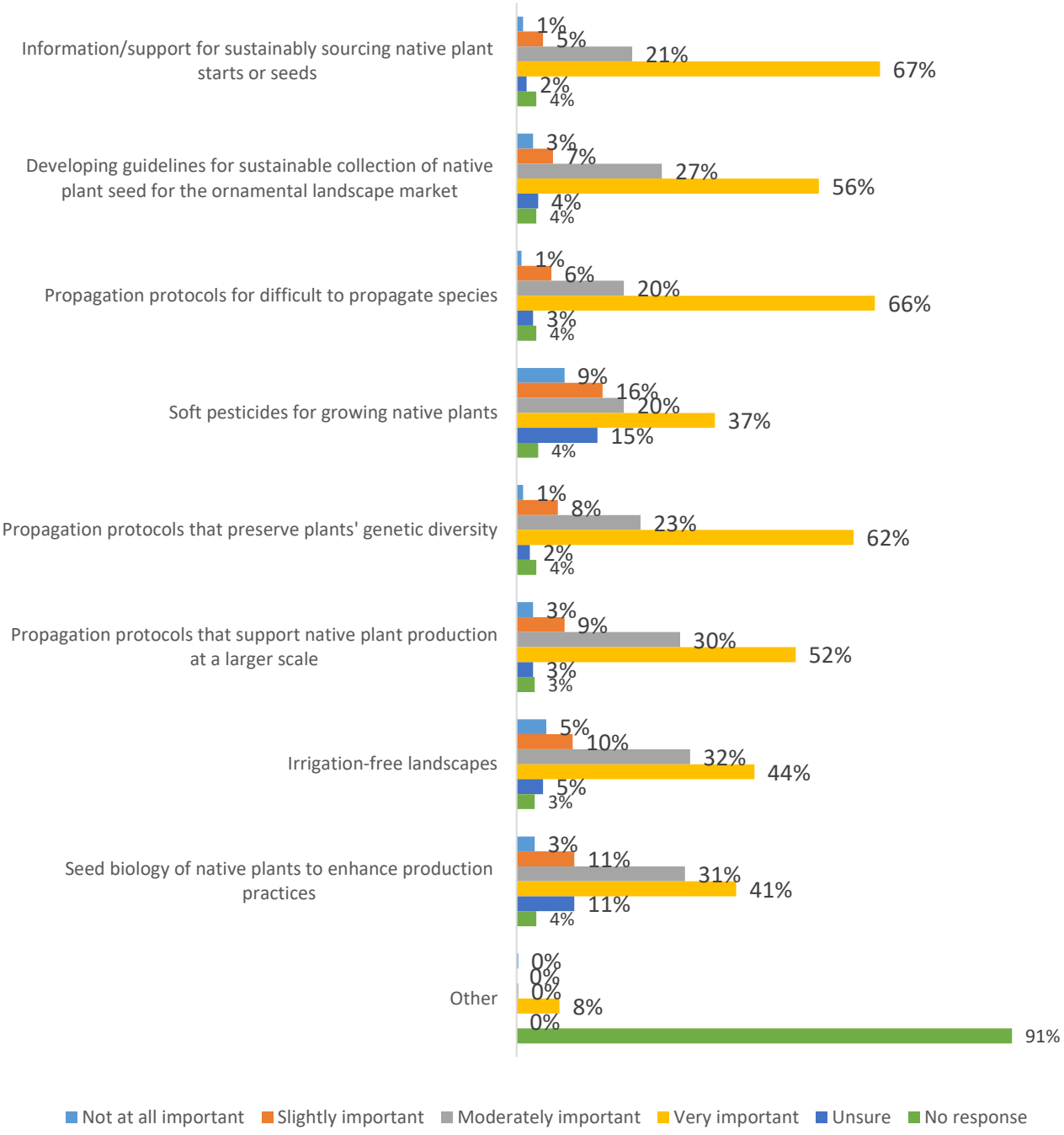


FIGURE 20B: (COMBINED VERY AND MODERATELY) IMPORTANCE OF SOURCING/PRODUCTION STRATEGIES TO EXPAND THE NATIVE PLANT INDUSTRY (QUESTION 22, N = 328)

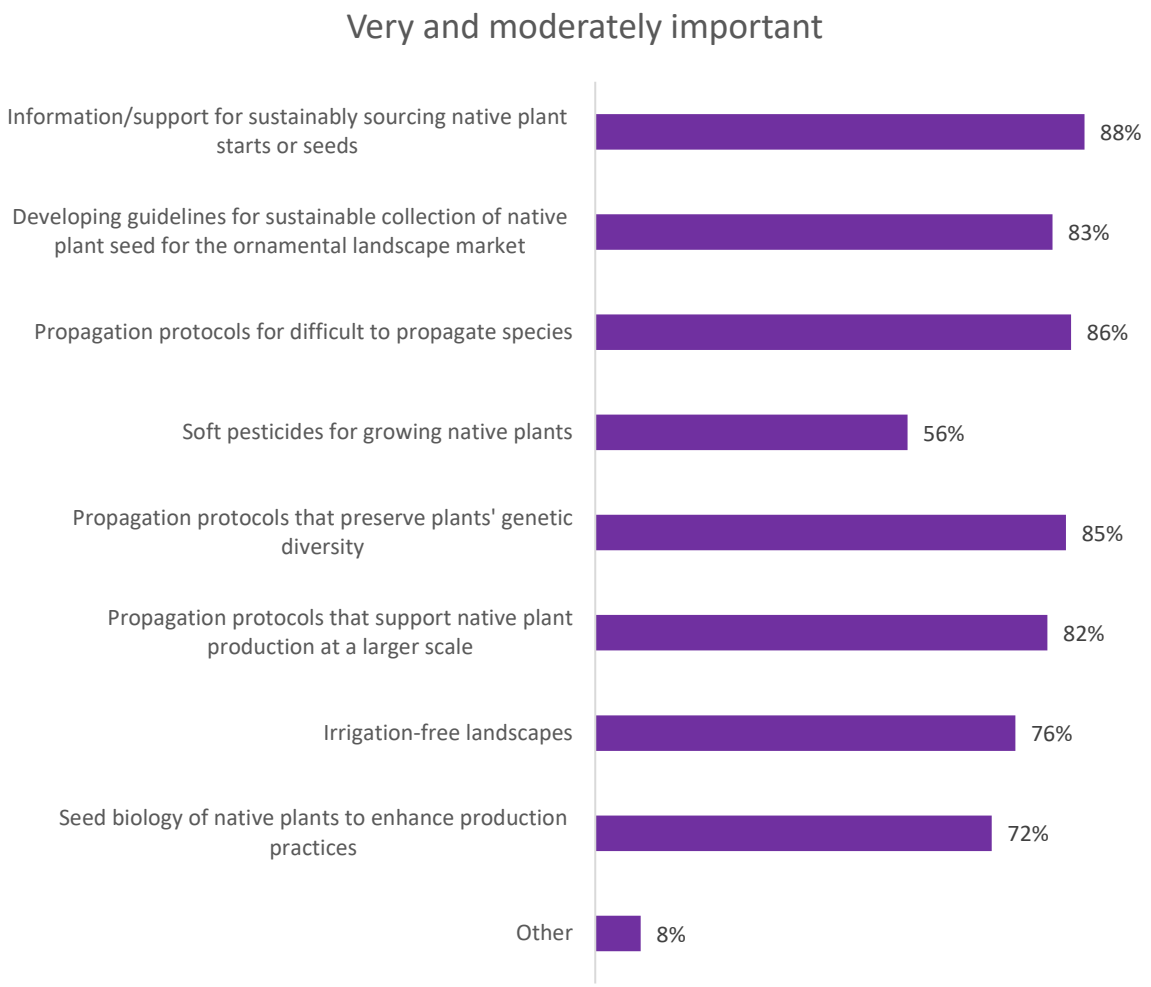


FIGURE 21A: IMPORTANCE OF MARKETING/END-USE STRATEGIES TO EXPAND THE NATIVE PLANT INDUSTRY (QUESTION 23, N = 328)

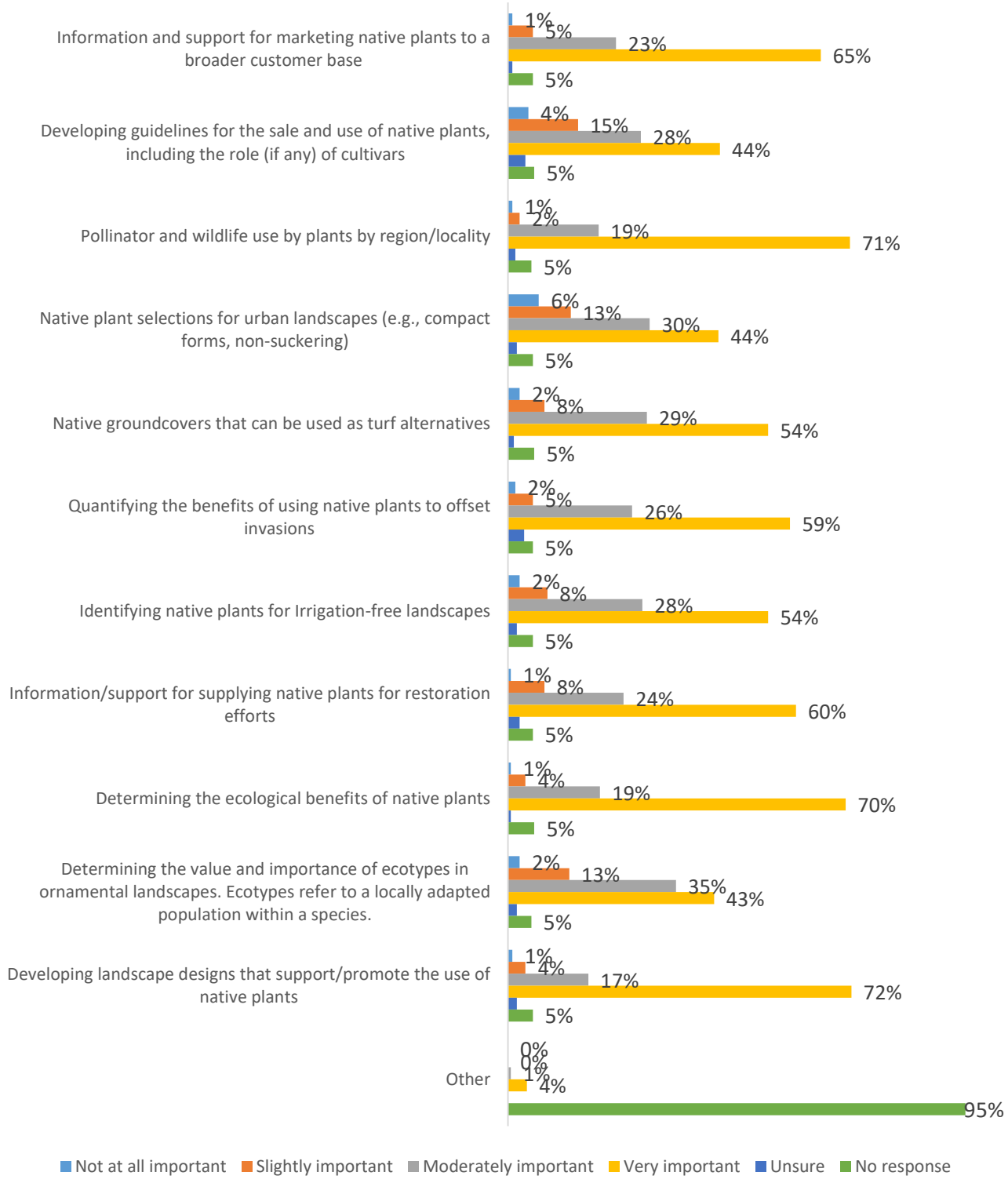
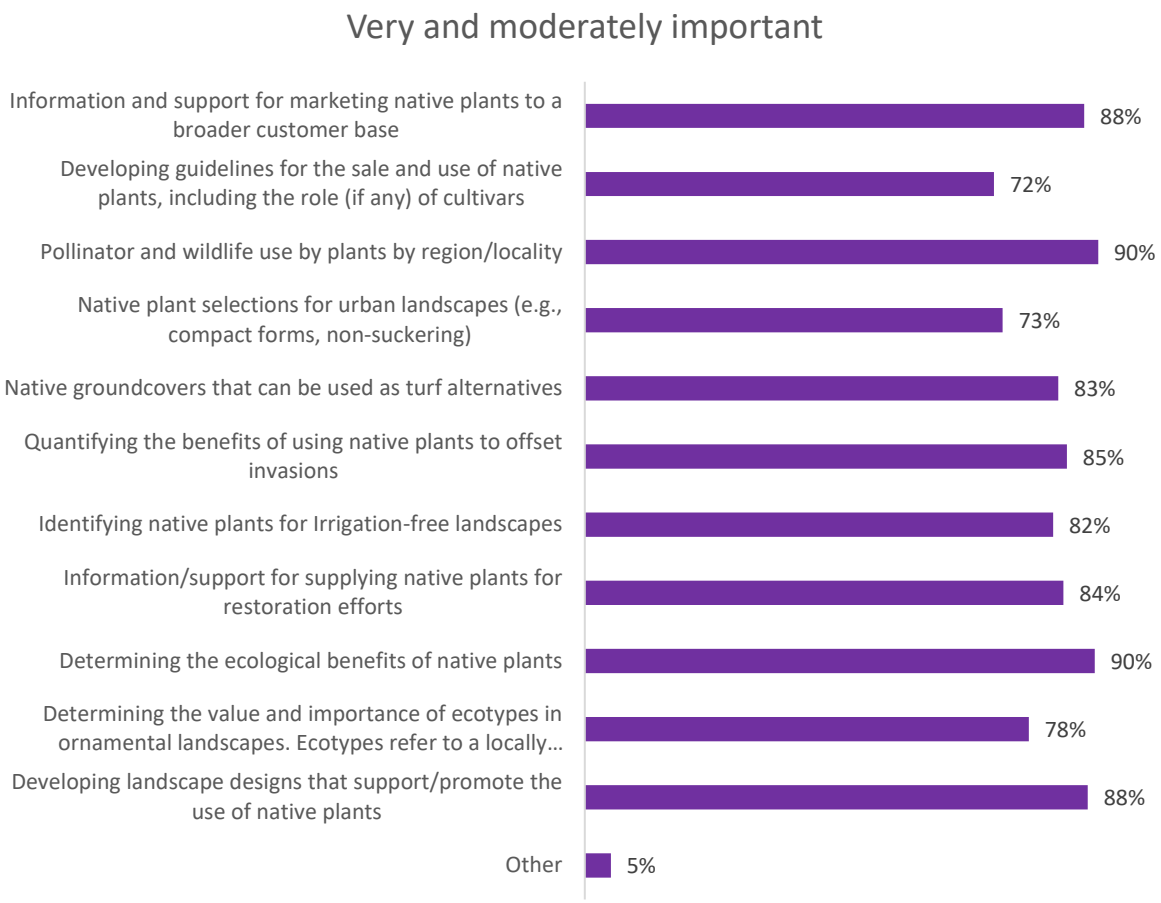


FIGURE 21B: (COMBINED VERY AND MODERATELY) IMPORTANCE OF MARKETING/END-USE STRATEGIES TO EXPAND THE NATIVE PLANT INDUSTRY (QUESTION 23, N = 328)



The final two closed-ended questions in the survey asked wholesale plant nurseries and wholesale seed producers what elements (Question 24) and what type of structure (Question 25) they would like to see in a native plant growers' network. "An accessible, searchable, online directory of native plant producers" was the element chosen by most at 68% followed by "virtual professional development/educational opportunities" and "marketing supports to reach more customers" equally chosen as second (56%, Figure 22). In terms of how the network should be structured, more wholesale plant and seed nurseries chose an online community organized by state or ecoregion (59%) over formalized membership association with traditional communications and events (33%). Twenty-four percent were unsure about the structure (Figure 23).

FIGURE 22: ELEMENTS WHOLESALE PLANT AND SEED NURSERIES WOULD LIKE TO SEE IN A NATIVE PLANT GROWERS' NETWORK (QUESTION 24, N = 151)

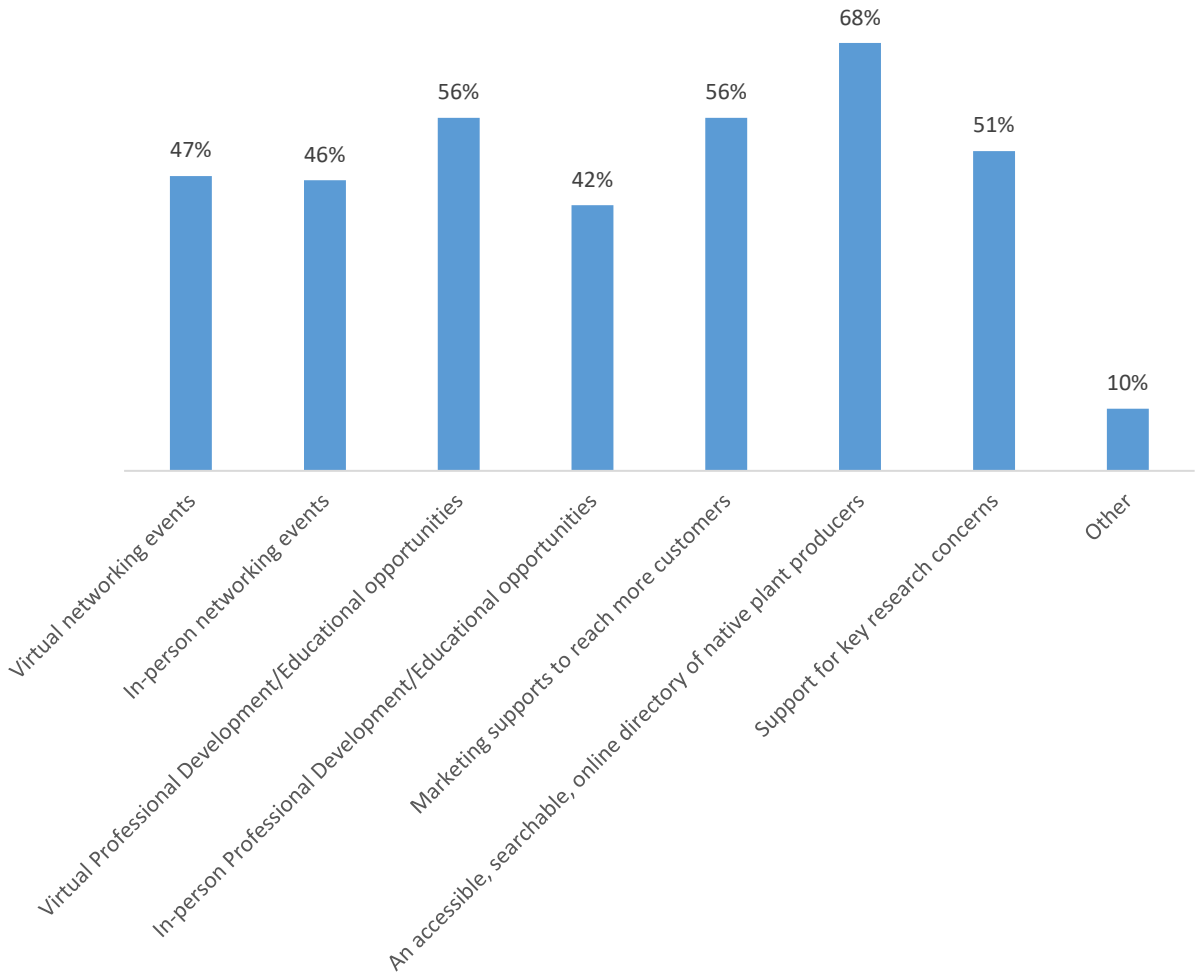
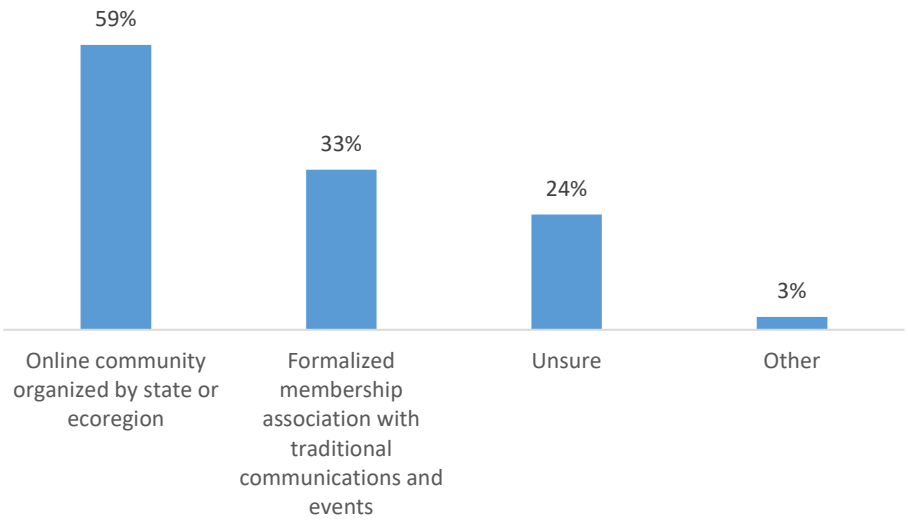


FIGURE 23: STRUCTURE WHOLESALE PLANT AND SEED NURSERIES WOULD LIKE TO SEE IN A NATIVE PLANT GROWERS' NURSERY (QUESTION 25, N = 151).



APPENDIX A-1: PRINTED VERSION OF QUESTIONNAIRE AND RESPONSE DATA CODES

Native Plant Producer Survey

Wave:
1=Pre-email complete
2=1st SRC email complete
3=2nd SRC email complete
4=3rd (final) email complete
9=Not applicable

Return Dispositions
Disp:
0=Nothing returned
1=Complete
2=Refusal
2.1=Break-off
3=Undeliverable/bounced email
4=Deceased
5=Closed business
6=Non-native plant entity

Native Plant Producer Survey

Start of Block: Default Question Block

Q1 Welcome to the U.S. Native Plant Nursery Survey.

Thank you for taking the time to respond to this important survey that will take an average of 15 to 20 minutes to complete.

You are being invited to take part in this study because of your role as a native plant producer, native plant vendor, and/or professional end-user of native plants in ornamental landscapes.

The information you provide during this survey will be kept confidential and anonymous.

We will be sharing the aggregate results of this survey during a free, public webinar scheduled for August 16, 2023. We also have several other webinars scheduled, on topics of interest to native plant professionals. You can learn more about the free webinar series, which begins on January 18, 2023, by visiting the Native Plant Connection website.

Please start the survey by clicking the Next button.

Page Break

Q2 Which of the following best describes your operation? (You may select more than one.)

- Retail Nursery (1)
- Wholesale Plant Nursery (2)
- Wholesale Seed Producer (3)
- Landscape Architect /Landscape Designer (4)
- Landscape Installation/Maintenance (5)
- Environmental Restoration (6)
- Other (please describe) (7) _____

Page Break

Display This Question:

If If Which of the following best describes your operation? (You may select more than one.) q://QID2/SelectedChoicesCount Is Greater Than 1

Carry Forward Selected Choices from "Which of the following best describes your operation? (You may select more than one.)"

X→ X→

Q3 You selected the following. Which generates the most revenue for your operation?

Retail Nursery (1)

Wholesale Plant Nursery (2)

Wholesale Seed Producer (3)

Landscape Architect /Landscape Designer (4)

Landscape Installation/Maintenance (5)

Environmental Restoration (6)

Other (please describe) (7) _____

Page Break

Q4 How do you source your native plants? You may select all that apply.

Permits to Collect Seeds (1)

Permits to Collect Plants (2)

Purchase Seeds from Wholesale Nursery (3)

Purchase Seedlings or Plants from Wholesale Nursery (4)

Purchase Seeds from Retail Nursery (5)

Purchase Seedlings or Plants from Retail Nursery (6)

In-house Propagation, Produced from Seed (7)

In-house Propagation, Produced from Cuttings (8)

In-house Propagation, Produced from Tissue Culture (9)

Other (please describe) (10) _____

Don't know (11)

Added answer categories, post data collection.
Q4_New_1=Seed or plant collection, no permit

Display This Question:

If How do you source your native plants? You may select all that apply. = Permits to Collect Seeds

Q5 For collected native seed, do you currently use methods to maintain genetic variation and/or to reduce the loss of genetic variation?

Yes, I/we currently use methods to maintain genetic variation in collected native seed. (1)

No, I/we do not currently use methods to maintain genetic variation in collected native seed. (2)

Don't know (3)

Display This Question:

If For collected native seed, do you currently use methods to maintain genetic variation and/or to r... = Yes, I/we currently use methods to maintain genetic variation in collected native seed.

Q6 For collected native seed, what methods do you use to maintain genetic variation and/or to reduce the loss of genetic variation in collected seed? Check all that apply.

Collect seed from multiple plants at a single collection site (1)

Collect seed from multiple plants at multiple collection sites (2)

Only collect seed from sites where source plants are abundant (3)

Swap seed of same species with other growers (4)

Other (please describe) (5) _____

Page Break

Display This Question:

If How do you source your native plants? You may select all that apply. = In-house Propagation, Produced from Seed

Q7 For native plants produced in-house, from seed, do you currently use methods to maintain genetic variation and/or to reduce inbreeding in seed-propagated plants?

Yes, I/we currently use methods to maintain genetic variation in seed-propagated plants (1)

No, I/we do not currently use methods to maintain genetic variation in seed-propagated plants (2)

Don't know (3)

Display This Question:

If For native plants produced in-house, from seed, do you currently use methods to maintain genetic... = Yes, I/we currently use methods to maintain genetic variation in seed-propagated plants

Q8 For native plants produced in-house, from seed, what methods do you use to maintain genetic variation and/or to reduce inbreeding in seed-propagated plants? Check all that apply

Maintain onsite parent lines that represent genetic variation found in natural populations (1)

Introduce plants from other sources (e.g. customers or other growers) to increase genetic variation of onsite parent plants (2)

Other (please describe) (3) _____

Page Break

Display This Question:

If How do you source your native plants? You may select all that apply. = In-house Propagation, Produced from Cuttings

Q9 For native plants produced in-house, from cuttings, do you currently use methods to maintain genetic variation and/or to reduce inbreeding in plants?

Yes, I/we currently use methods to maintain genetic variation in native plants propagated from cuttings (1)

No, I/we do not currently use methods to maintain genetic variation in native plants propagated from cuttings (2)

Don't know (3)

Display This Question:

If For native plants produced in-house, from cuttings, do you currently use methods to maintain gene... = Yes, I/we currently use methods to maintain genetic variation in native plants propagated from cuttings

Q10 For native plants produced in-house from cuttings, what methods do you use to maintain genetic variation and/or to reduce inbreeding in plants? Note: this question refers to true native plants, and not cultivars or hybrids. Check all that apply

Use cuttings from multiple plants grown onsite (1)

Obtain cuttings from multiple plants in the wild, from a single collection site (2)

Obtain cuttings from multiple plants in the wild, from multiple collection sites (3)

Obtain cuttings from other growers (4)

Other (please describe) (5) _____

Display This Question:

If If You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Selected

Or Which of the following best describes your operation? (You may select more than one.) = Retail Nursery

And And You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

And And You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

And And You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Not Displayed

Q11 What percent of your operation's typical plant inventory is composed of native plants?

0% (1)

1% - 25% (2)

26% - 50% (3)

51% - 75% (4)

76% - 100% (5)

Page Break

Display This Question:

If If You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Selected

Or Which of the following best describes your operation? (You may select more than one.) = Retail Nursery

And And You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

And And You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

And And You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Not Displayed

Q12 You indicated that ${Q11/ChoiceGroup/SelectedChoices} of your typical plant inventory consists of native plants. What percent of this is made up of cultivars?

0% (1)

1% - 25% (2)

26% - 50% (3)

51% - 75% (4)

76% - 100% (5)

Page Break

Display This Question:

If If You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Selected

Or Which of the following best describes your operation? (You may select more than one.) = Retail Nursery

And And You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

And And You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

And And You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Not Displayed

Q13 What forms of native plants do you sell? You may select all that apply.

- Seeds (1)
- Liners/Plugs (2)
- Containers (3)
- Field grown (4)
- Other (please describe) (5) _____

Page Break

Display This Question:

If If You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Selected

Or Which of the following best describes your operation? (You may select more than one.) = Retail Nursery

And And You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

And And You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

And And You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Not Displayed

Q14 What types of native plants do you sell? You may select all that apply.

Large trees (1)

Woody shrubs (2)

Wildflowers (3)

Grasses (4)

Wetland/Aquatic (5)

Other (please describe) (6) _____

Page Break

Added answer categories, post data collection.
Q14_New_1=Ferns

Display This Question:

If If You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Selected

Or Which of the following best describes your operation? (You may select more than one.) = Retail Nursery

And And You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

And And You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

And And You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Not Displayed

Q15 Which of the following features do you currently breed or select native plants for? Select all that apply.

- Flower color/size (1)
- Foliage (2)
- Fall color (3)
- Winter interest (4)
- Compactness (5)
- Reduced suckers (6)
- Bloom longevity (7)
- Other (please describe) (8) _____

⊗ I do not breed or select native plants based on any of these features. (9)

Page Break

Added answer categories, post data collection.
Q15_New_1=Wildlife, Wildlife value
Q15_New_2=Climate
Q15_New_2=Pest resistance

Q16 Do you request source-identified plants from your supplier?

(Source-identified plants are labeled with their specific location of origin.)

Yes, sometimes (1)

Yes, always (2)

No, never (3)

Unsure (4)

Page Break

Display This Question:

If If You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Selected

Or Which of the following best describes your operation? (You may select more than one.) = Retail Nursery

And And You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

And And You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

And And You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Not Displayed

Q17 Do you provide source-identified plants to your clients/customers?

(Source-identified plants are labeled with their specific location of origin.)

Yes, sometimes (1)

Yes, always (2)

No, never (3)

Unsure (4)

Q18 Please choose the statement that best represents your organization's practice when it comes to using/purchasing ecotypes from outside your region. (Ecotypes refer to a locally adapted population within a species.)

I currently use/purchase ecotypes from outside my region (1)

I have considered using/purchasing ecotypes from outside my region (2)

I do not currently and do not plan to use/purchase ecotypes from outside my region (3)

Display This Question:

If If You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Selected

Or Or You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Selected

Or Which of the following best describes your operation? (You may select more than one.) = Retail Nursery

And And You selected the following. Which generates the most revenue for your operation? Retail Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

And And You selected the following. Which generates the most revenue for your operation? Wholesale Plant Nursery Is Not Displayed

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

And And You selected the following. Which generates the most revenue for your operation? Wholesale Seed Producer Is Not Displayed

Q19 Please choose the statement that best represents your organization's practice when it comes to selling ecotypes to outside your region. (Ecotypes refer to a locally adapted population within a species.)

I currently sell ecotypes to outside my region (1)

I have considered selling ecotypes to outside my region (2)

I do not currently and do not plan to sell ecotypes to outside my region (3)

Page Break

Q20 Who are your customers? (Select all that apply)

- Entities focused on habitat restoration (e.g., BLM, Nature Conservancy) (1)
- Wholesale Nurseries (2)
- Municipalities (e.g., City, County, etc.) (3)
- Box stores or big chain stores (4)
- Retail garden centers and nurseries (5)
- Landscape Contractors/Installers (6)
- Entities that host short-term plant sales (e.g., Native Plant Society, Master Gardener resellers) (7)
- Gardeners/Individuals (8)
- Other (please describe) (9)

Page Break

Q21 The next set of questions have to do with key interests, challenges, and concerns related to the collection, production, and/or sale of native plants.

Page Break

Q22 How important are each of the following sourcing/production strategies to expand the native plant industry?

	Not at all important (1)	Slightly important (2)	Moderately important (3)	Very important (4)	Unsure (5)
Information/support for sustainably sourcing native plant starts or seeds (Q22_1)					
Developing guidelines for sustainable collection of native plant seed for the ornamental landscape market (Q22_2)					
Propagation protocols for difficult to propagate species (Q22_3)					
Soft pesticides for growing native plants (Q22_4)					
Propagation protocols that preserve plants' genetic diversity (Q22_5)					
Propagation protocols that support native plant production at a larger scale (Q22_6)					
Irrigation-free landscapes (Q22_7)					
Seed biology of native plants to enhance production practices (Q22_8)					

Other (please describe) (Q22_9)	

Q23 How important are each of the following marketing/end-use strategies to expand the native plant industry?

	Not at all important (1)	Slightly important (2)	Moderately important (3)	Very important (4)	Unsure (5)
Information and support for marketing native plants to a broader customer base (Q23_1)					
Developing guidelines for the sale and use of native plants, including the role (if any) of cultivars (Q23_2)					
Pollinator and wildlife use by plants by region/locality (Q23_3)					
Native plant selections for urban landscapes (e.g., compact forms, non-suckering) (Q23_4)					
Native groundcovers that can be used as turf alternatives (Q23_5)					
Quantifying the benefits of using native plants to offset invasions (Q23_6)					
Identifying native plants for Irrigation-free landscapes (Q23_7)					

Information/support for supplying native plants for restoration efforts (Q23_8)	
Determining the ecological benefits of native plants (Q23_9)	
Determining the value and importance of ecotypes in ornamental landscapes. Ecotypes refer to a locally adapted population within a species. (Q23_10)	
Developing landscape designs that support/promote the use of native plants (Q23_11)	
Other (please describe) (Q23_12)	

Page Break

Display This Question:

If Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

Q24 What are the elements you would like to see in a native plant growers' network? You may select more than one.

- Virtual networking events (1)
- In-person networking events (2)
- Virtual Professional Development/Educational opportunities (3)
- In-person Professional Development/Educational opportunities and events (4)
- Marketing supports to reach more customers (5)
- An accessible, searchable, online directory of native plant producers (6)
- Support for key research concerns (7)
- Other (please describe) (8) _____

Page Break

Display This Question:

If Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

Q25 Which type of structure would you like to see in a native plant growers' network?

- Online community organized by state or ecoregion (1)
- Formalized membership association with traditional communications and events (2)
- Unsure (3)
- Other (please describe) (4) _____

Display This Question:

If Which of the following best describes your operation? (You may select more than one.) = Wholesale Plant Nursery

Or Which of the following best describes your operation? (You may select more than one.) = Wholesale Seed Producer

Q26 Please share any additional information or suggestions that should be considered when determining the best content, methods, format, etc. in developing a native plant growers' network.

_____

_____

_____

_____

_____

APPENDIX A-2: PRINTED VERSION OF SUPPLEMENTAL CONTACT QUESTIONNAIRE AND RESPONSE DATA CODES

Native Plants Contact List Survey

Start of Block: Default Question Block

Q1 Thank you for taking the time to reply to the Native Plant Producer's Survey.

In the coming months, we will be hosting a series of Zoom-based educational webinars for native plant producers. We will also start work on developing a professional network that serves the needs of native plant producers. We would greatly value your time and participation in the webinars and/or professional network planning. To be contacted for these opportunities, please leave your name and contact information. In the coming weeks, we will follow up with an invitation.

First Name (7) _____

Last Name (8) _____

Your Email (9) _____

Company Name (10) _____

Company Mailing Street Address (11)
_____

Company Mailing City (12) _____

Company Mailing Zip Code (13) _____

Q2 I would like to be added to your email list, and informed of upcoming educational opportunities. Note that we will not sell or share your contact information. We anticipate sending no more than one email per month.

Yes (1)

No (2)

Q3 I would like to be contacted to participate in the development of a professional network serving the needs of native plant producers.

Yes (1)

No (2)

End of Block: Default Question Block

APPENDIX B: RECRUITMENT MATERIAL COPIES

Date: Monday, January 9, 2023
From: *Gail Langelotto*
Subject: Invitation to the USDA-Funded Native Plant Nursery Survey

Dear ${m://FirstName}:

We invite you to participate in a USDA-funded survey that will help to identify the research, extension, education, and marketing priorities of the native plant nursery industry. We are particularly interested in hearing from native plant professionals, such as yourself, who serve the ornamental landscaping and gardening markets.

Within the next few days, you will receive an email from the OSU Survey Research Center (OSU-SRC) that will include the direct link to the online survey. The OSU-SRC is collecting the data for this study on behalf of the Native Plant Connections Team. This arrangement will ensure your survey responses will remain anonymous.

If you would prefer to respond now, you may find the link at the end of this email.

Please take the time to respond. Your input is extremely important to identifying and addressing issues that can help to advance the overall growth of the native plant nursery industry.

On behalf of the Native Plant Connections Team, thank you.

Sincerely,
Gail Langellotto, Professor of Horticulture, Oregon State University
Cammie Donaldson, Executive Director of Florida Association of Native Nurseries
Roger Triplett, Co-Owner, Green Seasons Nursery
Alicia Rihn, Assistant Professor of Horticulture, University of Tennessee
Meghan Avolio, Assistant Professor of Earth and Planetary Sciences, Johns Hopkins University
Sandy Wilson, Professor of Horticulture, University of Florida
Virginia Lesser, Director and Professor, Oregon State University Survey Research Center
Mallory Mead, Undergraduate Research Student, Horticulture, Oregon State University
LeAnn Locher, Extension Program Outreach Coordinator, Oregon State University
Orville Baldos, Associate Researcher, University of Hawaii at Manoa
Lydia Newton, Senior Faculty Research Assistant II, Oregon State University
Follow this link to the Survey:

${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

P.S. If you would like further information about the survey, please visit the Native Plant Connection website. There, you learn more about our project, including the FREE professional development webinars we are offering to native plant professionals.

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

Date: Thursday, January 12 (Friday, January 13), 2023
From: OSU Survey Research Center
Subject: Link to USDA-Funded Native Plant Nursery Survey

Dear ${m://FirstName}:

This week, you received an email from Gail Langellotto introducing you to a USDA-funded research survey that will generate useful information about the current status, needs, and priorities of native plant professionals who grow, sell, and/or use plants for ornamental purposes. This information will be used to craft a multi-year and multi-institutional research proposal, to be submitted to the USDA Specialty Crop Research Initiative program, in order obtain the funding needed to directly address high priority needs of native plant nursery growers and end-users.

You may complete the survey by clicking on the link below.

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

You are invited to take part in this study because of your role as a native plant producer, native plant vendor, and/or professional end-user of native plants in ornamental landscapes.

We hope that you will take 15-20 minutes to complete this survey. Your input will help us to understand the needs of the native plant nursery industry.

The information you provide during this survey will be kept confidential and anonymous. To help protect your identity, your answers will be disconnected from your business name, email address, and other identifying information. Results of this survey will be reported in the aggregate only.

If you have any questions about this research project, please contact: Gail Langellotto at 541-737-5175 or gail.langellotto@oregonstate.edu.

Sincerely
Lydia Newton
Project Manager
On behalf of the Native Plant Connections Team

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

Date: Wednesday, January 18, 2023
From: OSU Survey Research Center
Subject: Reminder, USDA-Funded Native Plant Nursery Survey

Dear ${m://FirstName}:

Last week, you should have received an email with a link to a USDA-funded research survey that will generate useful information about the current status, needs, and priorities of native plant producers and users who sell plants for ornamental purposes.

We hope that you will take 15-20 minutes to complete this survey at the following link.

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

Your input will help us to understand the needs of the native plant nursery industry. Please remember that all information you provide will remain confidential.

If you have any questions about this research project, please contact: Gail Langellotto at 541-737-5175 or gail.langellotto@oregonstate.edu.

Lydia Newton
Project Manager
On behalf of the Native Plant Connections Team

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

Date: Thursday, January 26, 2023
From: OSU Survey Research Center
Subject: Final Reminder, USDA-Funded Native Plant Nursery Survey

Dear ${m://FirstName}:

We are emailing to follow up on earlier messages sent asking you to participate in the Native Plant Producer survey. The survey is drawing to a close and this is the last reminder we are sending about the study.

Your responses will help the Native Plant Connections team identify the research, education, extension, and networking needs and priorities of native plant growers and industry purveyors. All information you provide in this survey will remain anonymous and confidential. No identifiable information such as your name, business name, or address will be connected to your answers.

You can go directly to the survey by clicking the link below.

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

The survey will be open through February 3rd.

If you have any questions about this research project, please contact: Gail Langellotto at 541-737-5175 or gail.langellotto@oregonstate.edu.

Thank you for your time, your responses are much appreciated.

Sincerely,
Lydia Newton
Project Manager
On behalf of the Native Plant Connections Team

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

APPENDIX C: SIMPLE FREQUENCY ANALYSIS FOR CLOSED-ENDED SURVEY QUESTIONS

U.S. Native Plant Producer Survey
Basic Frequencies

Disposition and Wave for the Sample

The FREQ Procedure

Disposition				
Disp	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Nothing returned	434	52.61	434	52.61
Complete	328	39.76	762	92.36
Refusal	1	0.12	763	92.48
Break-off	23	2.79	786	95.27
Undeliverable/bounced email	15	1.82	801	97.09
Closed business	24	2.91	825	100.00

Wave				
Wave	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Pre-email complete	93	11.27	93	11.27
1st SRC email complete	96	11.64	189	22.91
2nd SRC email complete	72	8.73	261	31.64
3rd (final) email complete	67	8.12	328	39.76
Not applicable	497	60.24	825	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q2. Which of the following best describes your operation? (You may select more than one).

The FREQ Procedure

Retail Nursery				
Q2_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	93	28.35	93	28.35
Selected	235	71.65	328	100.00

Wholesale Plant Nursery				
Q2_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	191	58.23	191	58.23
Selected	137	41.77	328	100.00

Wholesale Seed Producer				
Q2_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	298	90.85	298	90.85
Selected	30	9.15	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q2. Which of the following best describes your operation? (You may select more than one).

The FREQ Procedure

Landscape Architect/Landscape Designer				
Q2_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	285	86.89	285	86.89
Selected	43	13.11	328	100.00

Landscape Installation/Maintenance				
Q2_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	281	85.67	281	85.67
Selected	47	14.33	328	100.00

Environmental Restoration				
Q2_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	254	77.44	254	77.44
Selected	74	22.56	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q2. Which of the following best describes your operation? (You may select more than one).

The FREQ Procedure

Other (please describe)				
Q2_7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	292	89.02	292	89.02
Selected	36	10.98	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q3. You selected the following. Which generates the most revenue for your operation?				
Q3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Retail Nursery	76	48.41	76	48.41
Wholesale Plant Nursery	21	13.38	97	61.78
Wholesale Seed Producer	7	4.46	104	66.24
Landscape Architect/Landscape Designer	6	3.82	110	70.06
Landscape Installation/Maintenance	23	14.65	133	84.71
Environmental Restoration	15	9.55	148	94.27
Other (please describe)	9	5.73	157	100.00
Frequency Missing = 171				

U.S. Native Plant Producer Survey
Basic Frequencies

Q4. How do you source your native plants? You may select all that apply.

The FREQ Procedure

Permits to Collect Seeds				
Q4_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	219	66.77	219	66.77
Selected	108	32.93	327	99.70
No response	1	0.30	328	100.00

Permits to Collect Plants				
Q4_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	302	92.07	302	92.07
Selected	25	7.62	327	99.70
No response	1	0.30	328	100.00

Purchase Seeds from Wholesale Nursery				
Q4_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	176	53.66	176	53.66
Selected	151	46.04	327	99.70
No response	1	0.30	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q4. How do you source your native plants? You may select all that apply.

The FREQ Procedure

Purchase Seedlings or Plants from Wholesale Nursery				
Q4_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	118	35.98	118	35.98
Selected	209	63.72	327	99.70
No response	1	0.30	328	100.00

Purchase Seeds from Retail Nursery				
Q4_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	261	79.57	261	79.57
Selected	66	20.12	327	99.70
No response	1	0.30	328	100.00

Purchase Seedlings or Plants from Retail Nursery				
Q4_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	288	87.80	288	87.80
Selected	39	11.89	327	99.70
No response	1	0.30	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q4. How do you source your native plants? You may select all that apply.

The FREQ Procedure

In-house Propagation, Produced from Seed				
Q4_7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	71	21.65	71	21.65
Selected	256	78.05	327	99.70
No response	1	0.30	328	100.00

In-house Propagation, Produced from Cuttings				
Q4_8	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	122	37.20	122	37.20
Selected	205	62.50	327	99.70
No response	1	0.30	328	100.00

In-house Propagation, Produced from Tissue Culture				
Q4_9	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	311	94.82	311	94.82
Selected	16	4.88	327	99.70
No response	1	0.30	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q4. How do you source your native plants? You may select all that apply.

The FREQ Procedure

Seed or plant collection, no permit				
Q4_New_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	311	94.82	311	94.82
Selected	17	5.18	328	100.00

Other (please describe)				
Q4_10	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	314	95.73	314	95.73
Selected	13	3.96	327	99.70
No response	1	0.30	328	100.00

Don't know				
Q4_11	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	327	99.70	327	99.70
No response	1	0.30	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q5. For collected native seed, do you currently use methods to maintain genetic variation and/or to reduce the loss of genetic variation?				
Q5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Yes, I/we currently use methods to maintain genetic variation in collected native seed	90	83.33	90	83.33
No, I/we do not currently use methods to maintain genetic variation in collected native seed	10	9.26	100	92.59
Don't know	8	7.41	108	100.00
Frequency Missing = 220				

U.S. Native Plant Producer Survey
Basic Frequencies

Q6. For collected native seed, what methods do you use to maintain genetic variation and/or to reduce the loss of genetic variation in collected seed? Check all that apply.

The FREQ Procedure

Collect seed from multiple plants at a single collection site				
Q6_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	20	22.22	20	22.22
Selected	70	77.78	90	100.00
Frequency Missing = 238				

Collect seed from multiple plants at multiple collection sites				
Q6_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	5	5.56	5	5.56
Selected	85	94.44	90	100.00
Frequency Missing = 238				

U.S. Native Plant Producer Survey
Basic Frequencies

Q6. For collected native seed, what methods do you use to maintain genetic variation and/or to reduce the loss of genetic variation in collected seed? Check all that apply.

The FREQ Procedure

Only collect seed from sites where source plants are abundant				
Q6_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	34	37.78	34	37.78
Selected	56	62.22	90	100.00
Frequency Missing = 238				

Swap seed of same species with other growers				
Q6_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	62	68.89	62	68.89
Selected	28	31.11	90	100.00
Frequency Missing = 238				

Other (please describe)				
Q6_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	85	94.44	85	94.44
Selected	5	5.56	90	100.00
Frequency Missing = 238				

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q7. For native plants produced in-house, from seed, do you currently use methods to maintain genetic variation and/or to reduce inbreeding in seed-propagated plants?				
Q7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Yes, I/we currently use methods to maintain genetic variation in seed-propagated plants	168	66.14	168	66.14
No, I/we do not currently use methods to maintain genetic variation in seed-propagated plants	51	20.08	219	86.22
Don't know	33	12.99	252	99.21
No response	2	0.79	254	100.00
Frequency Missing = 74				

U.S. Native Plant Producer Survey
Basic Frequencies

Q8. For native plants produced in-house, from seed, what methods do you use to maintain genetic variation and/or to reduce inbreeding in seed-propagated plants? Check all that apply.

The FREQ Procedure

Maintain onsite parent lines that represent genetic variation found in natural populations				
Q8_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	54	32.14	54	32.14
Selected	114	67.86	168	100.00
Frequency Missing = 160				

Introduce plants from other sources (e.g. customers or other growers) to increase genetic variation of onsite parent plants				
Q8_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	74	44.05	74	44.05
Selected	94	55.95	168	100.00
Frequency Missing = 160				

Other (please describe)				
Q8_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	144	85.71	144	85.71
Selected	24	14.29	168	100.00
Frequency Missing = 160				

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q9. For native plants produced in-house, from cuttings, do you currently use methods to maintain genetic variation and/or to reduce inbreeding in plants?

Q9	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Yes, I/we currently use methods to maintain genetic variation in native plants propagated from cuttings	111	54.41	111	54.41
No, I/we do not currently use methods to maintain genetic variation in native plants propagated from cuttings	65	31.86	176	86.27
Don't know	25	12.25	201	98.53
No response	3	1.47	204	100.00
Frequency Missing = 124				

U.S. Native Plant Producer Survey
Basic Frequencies

Q10. For native plants produced in-house from cuttings, what methods do you use to maintain genetic variation and/or to reduce inbreeding in plants? Check all that apply.

The FREQ Procedure

Use cuttings from multiple plants grown onsite				
Q10_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	27	24.32	27	24.32
Selected	84	75.68	111	100.00
Frequency Missing = 217				

Obtain cuttings from multiple plants in the wild, from a single collection site				
Q10_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	83	74.77	83	74.77
Selected	28	25.23	111	100.00
Frequency Missing = 217				

U.S. Native Plant Producer Survey
Basic Frequencies

Q10. For native plants produced in-house from cuttings, what methods do you use to maintain genetic variation and/or to reduce inbreeding in plants? Check all that apply.

The FREQ Procedure

Obtain cuttings from multiple plants in the wild from multiple collection sites				
Q10_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	38	34.23	38	34.23
Selected	73	65.77	111	100.00
Frequency Missing = 217				

Obtain cuttings from other growers				
Q10_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	82	73.87	82	73.87
Selected	29	26.13	111	100.00
Frequency Missing = 217				

Other (please describe)				
Q10_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	109	98.20	109	98.20
Selected	2	1.80	111	100.00
Frequency Missing = 217				

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q11. What percent of your operation's typical plant inventory is composed of native plants?				
Q11	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1% - 25%	21	11.35	21	11.35
26% - 50%	15	8.11	36	19.46
51% - 75%	12	6.49	48	25.95
76% - 100%	136	73.51	184	99.46
No response	1	0.54	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q12. You indicated that (selection from Q11) of your typical plant inventory consists of native plants. What percent of this is made up of cultivars?				
Q12	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
0%	76	41.08	76	41.08
1% - 25%	77	41.62	153	82.70
26% - 50%	17	9.19	170	91.89
51% - 75%	11	5.95	181	97.84
76% - 100%	2	1.08	183	98.92
No response	2	1.08	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q13. What forms of native plants do you sell? You may select all that apply.

The FREQ Procedure

Seeds				
Q13_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	124	67.03	124	67.03
Selected	61	32.97	185	100.00
Frequency Missing = 143				

Liners/Plugs				
Q13_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	96	51.89	96	51.89
Selected	89	48.11	185	100.00
Frequency Missing = 143				

Containers				
Q13_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	14	7.57	14	7.57
Selected	171	92.43	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q13. What forms of native plants do you sell? You may select all that apply.

The FREQ Procedure

Field grown				
Q13_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	144	77.84	144	77.84
Selected	41	22.16	185	100.00
Frequency Missing = 143				

Other (please describe)				
Q13_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	183	98.92	183	98.92
Selected	2	1.08	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q14. What types of native plants do you sell? You may select all that apply.

The FREQ Procedure

Large trees				
Q14_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	85	45.95	85	45.95
Selected	100	54.05	185	100.00
Frequency Missing = 143				

Woody shrubs				
Q14_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	22	11.89	22	11.89
Selected	163	88.11	185	100.00
Frequency Missing = 143				

Wildflowers				
Q14_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	17	9.19	17	9.19
Selected	168	90.81	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q14. What types of native plants do you sell? You may select all that apply.

The FREQ Procedure

Grasses				
Q14_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	18	9.73	18	9.73
Selected	167	90.27	185	100.00
Frequency Missing = 143				

Wetland/aquatic				
Q14_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	85	45.95	85	45.95
Selected	100	54.05	185	100.00
Frequency Missing = 143				

Ferns				
Q14_New_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	177	95.68	177	95.68
Selected	8	4.32	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q14. What types of native plants do you sell? You may select all that apply.

The FREQ Procedure

Other (please describe)				
Q14_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	169	91.35	169	91.35
Selected	16	8.65	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q15 Which of the following features do you currently breed or select native plants for? Select all that apply.

The FREQ Procedure

Flower color/size				
Q15_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	133	71.89	133	71.89
Selected	52	28.11	185	100.00
Frequency Missing = 143				

Foliage				
Q15_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	136	73.51	136	73.51
Selected	49	26.49	185	100.00
Frequency Missing = 143				

Fall color				
Q15_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	145	78.38	145	78.38
Selected	40	21.62	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q15 Which of the following features do you currently breed or select native plants for? Select all that apply.

The FREQ Procedure

Winter interest				
Q15_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	143	77.30	143	77.30
Selected	42	22.70	185	100.00
Frequency Missing = 143				

Compactness				
Q15_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	153	82.70	153	82.70
Selected	32	17.30	185	100.00
Frequency Missing = 143				

Reduced suckers				
Q15_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	175	94.59	175	94.59
Selected	10	5.41	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q15 Which of the following features do you currently breed or select native plants for? Select all that apply.

The FREQ Procedure

Bloom longevity				
Q15_7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	157	84.86	157	84.86
Selected	28	15.14	185	100.00
Frequency Missing = 143				

Wildlife, wildlife value				
Q15_New_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	168	90.81	168	90.81
Selected	17	9.19	185	100.00
Frequency Missing = 143				

Climate				
Q15_New_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	179	96.76	179	96.76
Selected	6	3.24	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q15 Which of the following features do you currently breed or select native plants for? Select all that apply.

The FREQ Procedure

Pest resistance				
Q15_New_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	183	98.92	183	98.92
Selected	2	1.08	185	100.00
Frequency Missing = 143				

Other (please describe)				
Q15_8	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	162	87.57	162	87.57
Selected	23	12.43	185	100.00
Frequency Missing = 143				

I do not breed or select native plants based on any of these features				
Q15_9	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	78	42.16	78	42.16
Selected	107	57.84	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q16. Do you request source-identified plants from your supplier?				
Q16	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Yes, sometimes	154	46.95	154	46.95
Yes, always	69	21.04	223	67.99
No, never	77	23.48	300	91.46
Unsure	17	5.18	317	96.65
No response	11	3.35	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q17. Do you provide source-identified plants to your clients/customers?				
Q17	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Yes, sometimes	105	56.76	105	56.76
Yes, always	31	16.76	136	73.51
No, never	38	20.54	174	94.05
Unsure	4	2.16	178	96.22
No response	7	3.78	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q18. Please choose the statement that best represents your organization's practice when it comes to using/purchasing ecotypes from outside your region.				
Q18	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
I currently use/purchase ecotypes from outside my region	187	57.01	187	57.01
I have considered using/purchasing ecotypes from outside my region	37	11.28	224	68.29
I do not currently and do not plan to use/purchase ecotypes from outside my region	99	30.18	323	98.48
No response	5	1.52	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

The FREQ Procedure

Q19. Please choose the statement that best represents your organization's practice when it comes to selling ecotypes to outside your region.

Q19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
I currently sell ecotypes outside my region	104	56.22	104	56.22
I have considered selling ecotypes outside my region	15	8.11	119	64.32
I do not currently and do not plan to use/purchase ecotypes from outside my region	65	35.14	184	99.46
No response	1	0.54	185	100.00
Frequency Missing = 143				

U.S. Native Plant Producer Survey
Basic Frequencies

Q20. Who are your customers? (Select all that apply)

The FREQ Procedure

Entities focused on habitat restoration (e.g., BLM, Nature Conservancy)				
Q20_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	152	46.34	152	46.34
Selected	176	53.66	328	100.00

Wholesale Nurseries				
Q20_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	238	72.56	238	72.56
Selected	90	27.44	328	100.00

Municipalities (e.g., City, County, etc.)				
Q20_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	154	46.95	154	46.95
Selected	174	53.05	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q20. Who are your customers? (Select all that apply)

The FREQ Procedure

Box stores or big chain stores				
Q20_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	325	99.09	325	99.09
Selected	3	0.91	328	100.00

Retail garden centers and nurseries				
Q20_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	233	71.04	233	71.04
Selected	95	28.96	328	100.00

Landscape Contractors/Installers				
Q20_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	107	32.62	107	32.62
Selected	221	67.38	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q20. Who are your customers? (Select all that apply)

The FREQ Procedure

Entities that host short-term plant sales (e.g., Native Plant Society, Master Gardener resellers)				
Q20_7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	159	48.48	159	48.48
Selected	169	51.52	328	100.00

Gardeners/Individuals				
Q20_8	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	41	12.50	41	12.50
Selected	287	87.50	328	100.00

Other (please describe)				
Q20_9	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	297	90.55	297	90.55
Selected	31	9.45	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q22. How important are each of the following sourcing/production strategies to expand the native plant industry?

The FREQ Procedure

Information/support for sustainably sourcing native plant starts or seeds				
Q22_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	4	1.22	4	1.22
Slightly important	16	4.88	20	6.10
Moderately important	70	21.34	90	27.44
Very important	220	67.07	310	94.51
Unsure	6	1.83	316	96.34
No response	12	3.66	328	100.00

Developing guidelines for sustainable collection of native plant seed for the ornamental landscape market				
Q22_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	10	3.05	10	3.05
Slightly important	22	6.71	32	9.76
Moderately important	88	26.83	120	36.59
Very important	183	55.79	303	92.38
Unsure	13	3.96	316	96.34
No response	12	3.66	328	100.00

Propagation protocols for difficult to propagate species				
Q22_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	3	0.91	3	0.91
Slightly important	21	6.40	24	7.32
Moderately important	65	19.82	89	27.13
Very important	217	66.16	306	93.29
Unsure	10	3.05	316	96.34
No response	12	3.66	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q22. How important are each of the following sourcing/production strategies to expand the native plant industry?

The FREQ Procedure

Soft pesticides for growing native plants				
Q22_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	29	8.84	29	8.84
Slightly important	52	15.85	81	24.70
Moderately important	65	19.82	146	44.51
Very important	120	36.59	266	81.10
Unsure	49	14.94	315	96.04
No response	13	3.96	328	100.00

Propagation protocols that preserve plants' genetic diversity				
Q22_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	4	1.22	4	1.22
Slightly important	25	7.62	29	8.84
Moderately important	75	22.87	104	31.71
Very important	204	62.20	308	93.90
Unsure	8	2.44	316	96.34
No response	12	3.66	328	100.00

Propagation protocols that support native plant production at a larger scale				
Q22_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	10	3.05	10	3.05
Slightly important	29	8.84	39	11.89
Moderately important	99	30.18	138	42.07
Very important	169	51.52	307	93.60
Unsure	10	3.05	317	96.65
No response	11	3.35	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q22. How important are each of the following sourcing/production strategies to expand the native plant industry?

The FREQ Procedure

Irrigation-free landscapes				
Q22_7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	18	5.49	18	5.49
Slightly important	34	10.37	52	15.85
Moderately important	105	32.01	157	47.87
Very important	144	43.90	301	91.77
Unsure	16	4.88	317	96.65
No response	11	3.35	328	100.00

Seed biology of native plants to enhance production practices				
Q22_8	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	11	3.35	11	3.35
Slightly important	35	10.67	46	14.02
Moderately important	102	31.10	148	45.12
Very important	133	40.55	281	85.67
Unsure	35	10.67	316	96.34
No response	12	3.66	328	100.00

Other (please describe)				
Q22_9	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	1	0.30	1	0.30
Moderately important	1	0.30	2	0.61
Very important	26	7.93	28	8.54
No response	300	91.46	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q23. How important are each of the following marketing/end-use strategies to expand the native plant industry?

The FREQ Procedure

Information and support for marketing native plants to a broader customer base				
Q23_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	3	0.91	3	0.91
Slightly important	17	5.18	20	6.10
Moderately important	74	22.56	94	28.66
Very important	214	65.24	308	93.90
Unsure	3	0.91	311	94.82
No response	17	5.18	328	100.00

Developing guidelines for the sale and use of native plants, including the role (if any) of cultivars				
Q23_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	14	4.27	14	4.27
Slightly important	48	14.63	62	18.90
Moderately important	91	27.74	153	46.65
Very important	145	44.21	298	90.85
Unsure	12	3.66	310	94.51
No response	18	5.49	328	100.00

Pollinator and wildlife use by plants by region/locality				
Q23_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	3	0.91	3	0.91
Slightly important	8	2.44	11	3.35
Moderately important	62	18.90	73	22.26
Very important	234	71.34	307	93.60
Unsure	5	1.52	312	95.12
No response	16	4.88	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q23. How important are each of the following marketing/end-use strategies to expand the native plant industry?

The FREQ Procedure

Native plant selections for urban landscapes (e.g., compact forms, non-suckering)				
Q23_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	21	6.40	21	6.40
Slightly important	43	13.11	64	19.51
Moderately important	97	29.57	161	49.09
Very important	144	43.90	305	92.99
Unsure	6	1.83	311	94.82
No response	17	5.18	328	100.00

Native groundcovers that can be used as turf alternatives				
Q23_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	8	2.44	8	2.44
Slightly important	25	7.62	33	10.06
Moderately important	95	28.96	128	39.02
Very important	178	54.27	306	93.29
Unsure	4	1.22	310	94.51
No response	18	5.49	328	100.00

Quantifying the benefits of using native plants to offset invasions				
Q23_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	5	1.52	5	1.52
Slightly important	17	5.18	22	6.71
Moderately important	85	25.91	107	32.62
Very important	193	58.84	300	91.46
Unsure	11	3.35	311	94.82
No response	17	5.18	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q23. How important are each of the following marketing/end-use strategies to expand the native plant industry?

The FREQ Procedure

Identifying native plants for Irrigation-free landscapes				
Q23_7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	8	2.44	8	2.44
Slightly important	27	8.23	35	10.67
Moderately important	92	28.05	127	38.72
Very important	178	54.27	305	92.99
Unsure	6	1.83	311	94.82
No response	17	5.18	328	100.00

Information/support for supplying native plants for restoration efforts				
Q23_8	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	2	0.61	2	0.61
Slightly important	25	7.62	27	8.23
Moderately important	79	24.09	106	32.32
Very important	197	60.06	303	92.38
Unsure	8	2.44	311	94.82
No response	17	5.18	328	100.00

Determining the ecological benefits of native plants				
Q23_9	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	2	0.61	2	0.61
Slightly important	12	3.66	14	4.27
Moderately important	63	19.21	77	23.48
Very important	231	70.43	308	93.90
Unsure	2	0.61	310	94.51
No response	18	5.49	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q23. How important are each of the following marketing/end-use strategies to expand the native plant industry?

The FREQ Procedure

Determining the value and importance of ecotypes in ornamental landscapes. Ecotypes refer to a locally adapted population within a species.				
Q23_10	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	8	2.44	8	2.44
Slightly important	42	12.80	50	15.24
Moderately important	115	35.06	165	50.30
Very important	141	42.99	306	93.29
Unsure	6	1.83	312	95.12
No response	16	4.88	328	100.00

Developing landscape designs that support/promote the use of native plants				
Q23_11	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not at all important	3	0.91	3	0.91
Slightly important	12	3.66	15	4.57
Moderately important	55	16.77	70	21.34
Very important	235	71.65	305	92.99
Unsure	6	1.83	311	94.82
No response	17	5.18	328	100.00

Other (please describe)				
Q23_12	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Moderately important	2	0.61	2	0.61
Very important	13	3.96	15	4.57
No response	313	95.43	328	100.00

U.S. Native Plant Producer Survey
Basic Frequencies

Q24. What are the elements you would like to see in a native plant growers' network? You may select more than one.

The FREQ Procedure

Virtual networking events				
Q24_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	70	46.36	70	46.36
Selected	71	47.02	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

In-person networking events				
Q24_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	71	47.02	71	47.02
Selected	70	46.36	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

Virtual Professional Development/Educational opportunities				
Q24_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	56	37.09	56	37.09
Selected	85	56.29	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

U.S. Native Plant Producer Survey
Basic Frequencies

Q24. What are the elements you would like to see in a native plant growers' network? You may select more than one.

The FREQ Procedure

In-person Professional Development/Educational opportunities				
Q24_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	77	50.99	77	50.99
Selected	64	42.38	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

Marketing supports to reach more customers				
Q24_5	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	56	37.09	56	37.09
Selected	85	56.29	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

An accessible, searchable, online directory of native plant producers				
Q24_6	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	38	25.17	38	25.17
Selected	103	68.21	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

U.S. Native Plant Producer Survey
Basic Frequencies

Q24. What are the elements you would like to see in a native plant growers' network? You may select more than one.

The FREQ Procedure

Support for key research concerns				
Q24_7	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	64	42.38	64	42.38
Selected	77	50.99	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

Other (please describe)				
Q24_8	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	126	83.44	126	83.44
Selected	15	9.93	141	93.38
No response	10	6.62	151	100.00
Frequency Missing = 177				

U.S. Native Plant Producer Survey
Basic Frequencies

Q25. Which type of structure would you like to see in a native plant growers' network?

The FREQ Procedure

Online community organized by state or ecoregion				
Q25_1	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	50	33.11	50	33.11
Selected	89	58.94	139	92.05
No response	12	7.95	151	100.00
Frequency Missing = 177				

Formalized membership association with traditional communications and events				
Q25_2	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	89	58.94	89	58.94
Selected	50	33.11	139	92.05
No response	12	7.95	151	100.00
Frequency Missing = 177				

Unsure				
Q25_3	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	103	68.21	103	68.21
Selected	36	23.84	139	92.05
No response	12	7.95	151	100.00
Frequency Missing = 177				

U.S. Native Plant Producer Survey
Basic Frequencies

Q25. Which type of structure would you like to see in a native plant growers' network?

The FREQ Procedure

Other (please describe)				
Q25_4	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
Not selected	135	89.40	135	89.40
Selected	4	2.65	139	92.05
No response	12	7.95	151	100.00
Frequency Missing = 177				