Ag Drones Survey 2021-2022

Codebook

Survey Information

Data collection period:
January 14, 2022 – September 16, 2022

Data collected by:
Human Ecology Learning & Problem Solving (HELPS) Lab, Montana State University-Bozeman

Researchers:
- Max Feldman (USDA-ARS)

- Filipe Mattias (North Dakota State University)

- David Shaner LeBauer (University of Arizona)

- Jennifer Lachowiec (Montana State University)

Notes:
There were 146 responses that either had a flag of "Finished" or had a progress of greater than or equal to 50% and who did not leave the survey completely blank.

Summary of Variables

Variable Name: StartDate
Variable Type: Date
Description: Survey start date
Codes and Options: Not Applicable

Variable Name: EndDate
Variable Type: Date
Description: Survey end date
Codes and Options: Not Applicable

Variable Name: Progress
Variable Type: String
Description: Survey completion percentage
Codes and Options: Not Applicable

Variable Name: Duration

Variable Type: String
Description: Duration (in seconds)
Codes and Options: Not Applicable

Variable Name: Finished

Variable Type: Numeric
Description: Survey completed
Codes and Options:

*Table 1: Codes and Options for **Finished** variable*

CODE	OPTION
0	Not completed
1	Completed

Variable Name: RecordedDate

Variable Type: Date
Description: Survey recorded date
Codes and Options: Not Applicable

Variable Name: indust

Variable Type: Numeric
Question Text: With which type of industry are you primarily employed? (Select only one.)
Response Codes and Options:

*Table 2: Response Codes and Options for **indust** variable*

CODE	OPTION
1	Research institution (non-university, non-profit)
2	Industry/company/private sector
3	Government agency
4	Primarily undergraduate academic institution
5	Other college or university
6	Self-employed
7	Other (please name):

Variable Name: industxt

Variable Type: String
Question Text: With which type of industry are you primarily employed? (Select only one.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: posit

Variable Type: Numeric
Question Text: Which of the following best describes your primary position? (Select only one.)
Response Codes and Options:

*Table 3: Response Codes and Options for **posit** variable*

CODE	OPTION
1	Group leader
2	Research scientist (PhD level)
3	Research technician (bachelor's or master's degree)
4	Post-doctoral researcher
5	Graduate student
6	Undergraduate student
7	Administrator
8	Field worker
9	Farmer/rancher
10	Sales representative
11	Other (please name):

Variable Name: positxt

Variable Type: String
Question Text: Which of the following best describes your primary position? (Select only one.) - Other (please name) - Text response
Response Codes and Options: Not Applicable

Variable Name: ftime

Variable Type: Numeric
Question Text: How many full-time people are currently on your team in any capacity (including you)? Please include the full-time equivalent for part-time workers.
Response Codes and Options:

*Table 4: Response Codes and Options for **ftime** variable*

CODE	OPTION
1	1
2	2-3
3	4-6
4	7+

Variable Name: budget

Variable Type: Numeric
Question Text: In the past 12 months, what was your approximate budget for all research supplies and computer software?
Response Codes and Options:

*Table 5: Response Codes and Options for **budget** variable*

CODE	OPTION
1	$0 - $500 U.S Dollars
2	$501 - $1,000 USD
3	$1,001 - $10,000 USD
4	$10,001 - $20,000 USD
5	$20,001 - $100,000 USD
6	Over $100,000 USD

Variable Name: esoil

Variable Type: Binary
Question Text: Which of the following environmental systems do you study? (Select all that apply.) - Soil/geology
Response Codes and Options:

*Table 6: Response Codes and Options for **esoil** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ewater

Variable Type: Binary
Question Text: Which of the following environmental systems do you study? (Select all that apply.) - Water
Response Codes and Options:

*Table 7: Response Codes and Options for **ewater** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: eweath

Variable Type: Binary
Question Text: Which of the following environmental systems do you study? (Select all that apply.) - Weather/climate
Response Codes and Options:

*Table 8: Response Codes and Options for **eweath** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: eother

Variable Type: Binary
Question Text: Which of the following environmental systems do you study? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 9: Response Codes and Options for **eother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ena

Variable Type: Binary
Question Text: Which of the following environmental systems do you study? (Select all that apply.) - Not applicable
Response Codes and Options:

*Table 10: Response Codes and Options for **ena** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: eothtxt

Variable Type: String
Question Text: Which of the following environmental systems do you study? (Select all that apply.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: lanthro

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Arthropods (insects, arachnids, etc.)
Response Codes and Options:

*Table 11: Response Codes and Options for **lanthro** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lcows

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Cows
Response Codes and Options:

*Table 12: Response Codes and Options for **lcows** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lfish

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Fish/shellfish
Response Codes and Options:

*Table 13: Response Codes and Options for **lfish** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lgoats

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Goats
Response Codes and Options:

*Table 14: Response Codes and Options for **lgoats** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lpigs

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Pigs
Response Codes and Options:

*Table 15: Response Codes and Options for **lpigs** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lpolt

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Poultry
Response Codes and Options:

*Table 16: Response Codes and Options for **lpolt** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lsheep

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Sheep
Response Codes and Options:

*Table 17: Response Codes and Options for **lsheep** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lwild

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Wildlife
Response Codes and Options:

*Table 18: Response Codes and Options for **lwild** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lother

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 19: Response Codes and Options for **lother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lna

Variable Type: Binary
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Not applicable
Response Codes and Options:

*Table 20: Response Codes and Options for **lna** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: lothtxt

Variable Type: String
Question Text: Which of the following livestock or animal systems do you study? (Select all that apply.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: paqua

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Aquatic plants
Response Codes and Options:

*Table 21: Response Codes and Options for **paqua** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pbioen

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Bioenergy grasses (sorghum, switchgrass, etc.)
Response Codes and Options:

*Table 22: Response Codes and Options for **pbioen** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pcereal

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Cereals
Response Codes and Options:

*Table 23: Response Codes and Options for **pcereal** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pfiber

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Fiber crops
Response Codes and Options:

*Table 24: Response Codes and Options for **pfiber** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pfruit

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Fruits
Response Codes and Options:

*Table 25: Response Codes and Options for **pfruit** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pherbs

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Herbs and spices (hops, etc.)
Response Codes and Options:

Table 26: Response Codes and Options for **pherbs** *variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pmedi

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Medicinal plants
Response Codes and Options:

Table 27: Response Codes and Options for **pmedi** *variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pnuts

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Nuts and seeds
Response Codes and Options:

Table 28: Response Codes and Options for **pnuts** *variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pornam

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Ornamental plants
Response Codes and Options:

Table 29: Response Codes and Options for **pornam** *variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ppasture

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Pastures
Response Codes and Options:

*Table 30: Response Codes and Options for **ppasture** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pgen

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Plants (general)
Response Codes and Options:

*Table 31: Response Codes and Options for **pgen** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ppulse

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Pulses
Response Codes and Options:

*Table 32: Response Codes and Options for **ppulse** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: prizom

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Rhizomes, tubers, roots, and bulb crops
Response Codes and Options:

*Table 33: Response Codes and Options for **prizom** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: psoybean

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Soybean and oil crops
Response Codes and Options:

*Table 34: Response Codes and Options for **psoybean** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: psugar

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Sugarcane, sugar beets, and sugar crops
Response Codes and Options:

*Table 35: Response Codes and Options for **psugar** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ptrees

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Trees
Response Codes and Options:

*Table 36: Response Codes and Options for **ptrees** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pveggie

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Vegetables
Response Codes and Options:

*Table 37: Response Codes and Options for **pveggie** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pweeds

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Weeds
Response Codes and Options:

*Table 38: Response Codes and Options for **pweeds** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pother

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 39: Response Codes and Options for **pother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pna

Variable Type: Binary
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Not applicable
Response Codes and Options:

*Table 40: Response Codes and Options for **pna** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pothtxt

Variable Type: String
Question Text: Which of the following plant or horticultural systems do you study? (Select all that apply.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: micpath

Variable Type: Numeric
Question Text: Do you study microbe or pathogen systems?
Response Codes and Options:

*Table 41: Response Codes and Options for **micpath** variable*

CODE	OPTION
0	No
1	Yes

Variable Name: tagrono

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Agronomy
Response Codes and Options:

*Table 42: Response Codes and Options for **tagrono** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tanbeha

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Animal behavior
Response Codes and Options:

*Table 43: Response Codes and Options for **tanbeha** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tannutr

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Animal nutrition
Response Codes and Options:

*Table 44: Response Codes and Options for **tannutr** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tansci

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Animal science
Response Codes and Options:

*Table 45: Response Codes and Options for **tansci** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tanwel

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Animal welfare
Response Codes and Options:

*Table 46: Response Codes and Options for **tanwel** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tbreed

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Breeding
Response Codes and Options:

*Table 47: Response Codes and Options for **tbreed** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tecology

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Ecology
Response Codes and Options:

*Table 48: Response Codes and Options for **tecology** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tevolu

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Evolution
Response Codes and Options:

*Table 49: Response Codes and Options for **tevolu** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tgenet

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Genetics
Response Codes and Options:

*Table 50: Response Codes and Options for **tgenet** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tpatho

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Pathology
Response Codes and Options:

*Table 51: Response Codes and Options for **tpatho** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tphysio

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Physiology
Response Codes and Options:

*Table 52: Response Codes and Options for **tphysio** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tpadevel

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Plant/animal development
Response Codes and Options:

*Table 53: Response Codes and Options for **tpadevel** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tagrieng

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Agricultural engineering
Response Codes and Options:

*Table 54: Response Codes and Options for **tagrieng** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tsensors

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Sensors/optics
Response Codes and Options:

*Table 55: Response Codes and Options for **tsensors** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tsofteng

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Software engineering
Response Codes and Options:

*Table 56: Response Codes and Options for **tsofteng** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tstats

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Statistics
Response Codes and Options:

*Table 57: Response Codes and Options for **tstats** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tmath

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Mathematics
Response Codes and Options:

*Table 58: Response Codes and Options for **tmath** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tinform

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Informatics
Response Codes and Options:

*Table 59: Response Codes and Options for **tinform** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tcompsci

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Computer science
Response Codes and Options:

*Table 60: Response Codes and Options for **tcompsci** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tsoilsci

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Soil science
Response Codes and Options:

*Table 61: Response Codes and Options for **tsoilsci** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tenvsci

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Environmental science
Response Codes and Options:

*Table 62: Response Codes and Options for **tenvsci** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tconser

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Conservation
Response Codes and Options:

*Table 63: Response Codes and Options for **tconser** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tgeosci

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Geoscience
Response Codes and Options:

*Table 64: Response Codes and Options for **tgeosci** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tother

Variable Type: Binary
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Other (please name):
Response Codes and Options:

*Table 65: Response Codes and Options for **tother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tothtxt

Variable Type: String
Question Text: Which of the following topic areas most closely align with your research? (Select up to 3 total.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: value

Variable Type: Numeric
Question Text: How would you rate the value of phenotyping research that uses unoccupied aerial vehicles (UAV)?
Response Codes and Options:

*Table 66: Response Codes and Options for **value** variable*

CODE	OPTION
1	Very valuable
2	Valuable
3	Can be valuable
4	Minimally valuable
5	No value

Variable Name: situat

Variable Type: Numeric
Question Text: Which of the following best describes your situation? (Select only one.)
Response Codes and Options:

*Table 67: Response Codes and Options for **situat** variable*

CODE	OPTION
1	I currently use unoccupied aerial vehicles (UAV) for phenotyping
2	I am interested in using UAV for phenotyping in the future
3	I am NOT interested in using UAV for phenotyping in the future

Variable Name: utfixed

Variable Type: Binary
Question Text: What types of UAV do you use? (Select all that apply.) - Fixed-wing
Response Codes and Options:

*Table 68: Response Codes and Options for **utfixed** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: utmulti

Variable Type: Binary
Question Text: What types of UAV do you use? (Select all that apply.) - Multirotor
Response Codes and Options:

*Table 69: Response Codes and Options for **utmulti** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: utsingle

Variable Type: Binary
Question Text: What types of UAV do you use? (Select all that apply.) - Single-rotor (helicopter)
Response Codes and Options:

*Table 70: Response Codes and Options for **utsingle** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: utvert

Variable Type: Binary
Question Text: What types of UAV do you use? (Select all that apply.) - Vertical takeoff and landing fixed-wing
Response Codes and Options:

*Table 71: Response Codes and Options for **utvert** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: utother

Variable Type: Binary
Question Text: What types of UAV do you use? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 72: Response Codes and Options for **utother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: utothtxt

Variable Type: String
Question Text: What types of UAV do you use? (Select all that apply.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: usrgb

Variable Type: Binary
Question Text: What types of sensors do you use? (Select all that apply.) - Red-green-blue (RGB)
Response Codes and Options:

*Table 73: Response Codes and Options for **usrgb** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: usthrem

Variable Type: Binary
Question Text: What types of sensors do you use? (Select all that apply.) - Thermal
Response Codes and Options:

*Table 74: Response Codes and Options for **usthrem** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: usmulti

Variable Type: Binary
Question Text: What types of sensors do you use? (Select all that apply.) - Multispectral (3-10 band)
Response Codes and Options:

*Table 75: Response Codes and Options for **usmulti** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ushyper

Variable Type: Binary
Question Text: What types of sensors do you use? (Select all that apply.) - Hyperspectral
Response Codes and Options:

*Table 76: Response Codes and Options for **ushyper** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uslidar

Variable Type: Binary
Question Text: What types of sensors do you use? (Select all that apply.) - LIDAR
Response Codes and Options:

*Table 77: Response Codes and Options for **uslidar** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: usdevel

Variable Type: Binary
Question Text: What types of sensors do you use? (Select all that apply.) - Developing own sensors
Response Codes and Options:

*Table 78: Response Codes and Options for **usdevel** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: usother

Variable Type: Binary
Question Text: What types of sensors do you use? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 79: Response Codes and Options for **usother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: usothtxt

Variable Type: String
Question Text: What types of sensors do you use? (Select all that apply.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: uggcp

Variable Type: Binary
Question Text: What is your georeferencing approach? (Select all that apply.) - Ground control points (GCP)
Response Codes and Options:

*Table 80: Response Codes and Options for **uggcp** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ugrtk

Variable Type: Binary
Question Text: What is your georeferencing approach? (Select all that apply.) - Real-time kinematics (RTK)
Response Codes and Options:

*Table 81: Response Codes and Options for **ugrtk** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ugppk

Variable Type: Binary
Question Text: What is your georeferencing approach? (Select all that apply.) - Post-processed kinematics (PPK)
Response Codes and Options:

*Table 82: Response Codes and Options for **ugppk** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uggps

Variable Type: Binary
Question Text: What is your georeferencing approach? (Select all that apply.) - GPS-equipped planter
Response Codes and Options:

*Table 83: Response Codes and Options for **uggps** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ugnone

Variable Type: Binary
Question Text: What is your georeferencing approach? (Select all that apply.) - None
Response Codes and Options:

*Table 84: Response Codes and Options for **ugnone** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ugother

Variable Type: Binary
Question Text: What is your georeferencing approach? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 85: Response Codes and Options for **ugother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ugothtxt

Variable Type: String
Question Text: What is your georeferencing approach? (Select all that apply.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: uigimb

Variable Type: Binary
Question Text: Which of the following, if any, do you use in your pipeline for UAV for phenotyping? (Select all that apply.) - Gimbal for sensor(s)
Response Codes and Options:

*Table 86: Response Codes and Options for **uigimb** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uitand

Variable Type: Binary
Question Text: Which of the following, if any, do you use in your pipeline for UAV for phenotyping? (Select all that apply.) - Tandem UAV flights
Response Codes and Options:

*Table 87: Response Codes and Options for **uitand** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uicolor

Variable Type: Binary
Question Text: Which of the following, if any, do you use in your pipeline for UAV for phenotyping? (Select all that apply.) - Color calibration
Response Codes and Options:

*Table 88: Response Codes and Options for **uicolor** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uispect

Variable Type: Binary
Question Text: Which of the following, if any, do you use in your pipeline for UAV for phenotyping? (Select all that apply.) - Spectral calibration
Response Codes and Options:

*Table 89: Response Codes and Options for **uispect** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uitherm

Variable Type: Binary
Question Text: Which of the following, if any, do you use in your pipeline for UAV for phenotyping? (Select all that apply.) - Thermal calibration
Response Codes and Options:

*Table 90: Response Codes and Options for **uitherm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uiother

Variable Type: Binary
Question Text: Which of the following, if any, do you use in your pipeline for UAV for phenotyping? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 91: Response Codes and Options for **uiother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: uiothtxt

Variable Type: String
Question Text: Which of the following, if any, do you use in your pipeline for UAV for phenotyping? (Select all that apply.) - Other (please name) - Text response
Response Codes and Options: Not Applicable

Variable Name: fpdjifp

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - DJI Flight Planner
Response Codes and Options:

*Table 92: Response Codes and Options for **fpdjifp** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fpdroned

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - DroneDeploy
Response Codes and Options:

*Table 93: Response Codes and Options for **fpdroned** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fpdronel

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - Dronelink
Response Codes and Options:

*Table 94: Response Codes and Options for **fpdronel** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fpfielda

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - FieldAgent
Response Codes and Options:

*Table 95: Response Codes and Options for **fpfielda** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fpmicas

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - Micasense Atlas
Response Codes and Options:

*Table 96: Response Codes and Options for **fpmicas** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fppix4d

Variable Type: String
Question Text: Which software do you use for flight planning? (Select all that apply.) - Pix4D
Response Codes and Options: Not Applicable

Variable Name: fpwingt

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - Wingtra
Response Codes and Options:

*Table 97: Response Codes and Options for **fpwingt** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fpnotsur

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - Not sure
Response Codes and Options:

*Table 98: Response Codes and Options for **fpnotsur** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fpother

Variable Type: Binary
Question Text: Which software do you use for flight planning? (Select all that apply.) - Other(s) (please add name and software URL):
Response Codes and Options:

*Table 99: Response Codes and Options for **fpother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: fpothtxt

Variable Type: String
Question Text: Which software do you use for flight planning? (Select all that apply.) - Other(s) (please add name and software URL): - Text
Response Codes and Options: Not Applicable

Variable Name: piagso

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - Agisoft Metashape 3D
Response Codes and Options:

*Table 100: Response Codes and Options for **piagso** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pidjigs

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - DJI GS Pro
Response Codes and Options:

*Table 101: Response Codes and Options for **pidjigs** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: piimageb

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - ImageBreed
Response Codes and Options:

*Table 102: Response Codes and Options for **piimageb** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pimapsm

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - MapsMadeEasy
Response Codes and Options:

*Table 103: Response Codes and Options for **pimapsm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pionedro

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - OneDroneCloud
Response Codes and Options:

*Table 104: Response Codes and Options for **pionedro** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: piopendr

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - Open Drone Map
Response Codes and Options:

*Table 105: Response Codes and Options for **piopendr** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pipix4dm

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - Pix4DMapper
Response Codes and Options:

*Table 106: Response Codes and Options for **pipix4dm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: pinotsur

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - Not sure
Response Codes and Options:

*Table 107: Response Codes and Options for **pinotsur** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: piother

Variable Type: Binary
Question Text: Which software do you use for processing imagery? (Select all that apply.) - Other(s) (please add name and and software URL):
Response Codes and Options:

*Table 108: Response Codes and Options for **piother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: piothtxt

Variable Type: String
Question Text: Which software do you use for processing imagery? (Select all that apply.) - Other(s) (please add name and and software URL): - Text
Response Codes and Options: Not Applicable

Variable Name: sreskm

Variable Type: Binary
Question Text: What spatial resolution of data do you obtain? (Select all that apply.) - Kilometer
Response Codes and Options:

*Table 109: Response Codes and Options for **sreskm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: sreshect

Variable Type: Binary
Question Text: What spatial resolution of data do you obtain? (Select all that apply.) - Hectare
Response Codes and Options:

*Table 110: Response Codes and Options for **sreshect** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: sresm

Variable Type: Binary
Question Text: What spatial resolution of data do you obtain? (Select all that apply.) - Meter
Response Codes and Options:

*Table 111: Response Codes and Options for **sresm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: srescm

Variable Type: Binary
Question Text: What spatial resolution of data do you obtain? (Select all that apply.) - Centimeter
Response Codes and Options:

*Table 112: Response Codes and Options for **srescm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: sresmm

Variable Type: Binary
Question Text: What spatial resolution of data do you obtain? (Select all that apply.) - Millimeter
Response Codes and Options:

*Table 113: Response Codes and Options for **sresmm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: treslt1

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you obtain? (Select all that apply if representing multiple studies.) - Less than 1 timepoint per year
Response Codes and Options:

*Table 114: Response Codes and Options for **treslt1** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tres1py

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you obtain? (Select all that apply if representing multiple studies.) - 1 timepoint per year
Response Codes and Options:

*Table 115: Response Codes and Options for **tres1py** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tresmpy

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you obtain? (Select all that apply if representing multiple studies.) - 2-6 timepoints per year
Response Codes and Options:

*Table 116: Response Codes and Options for **tresmpy** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tres1pw

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you obtain? (Select all that apply if representing multiple studies.) - Weekly
Response Codes and Options:

*Table 117: Response Codes and Options for **tres1pw** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tresmpw

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you obtain? (Select all that apply if representing multiple studies.) - More than 1 timepoint per week
Response Codes and Options:

*Table 118: Response Codes and Options for **tresmpw** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tres1pd

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you obtain? (Select all that apply if representing multiple studies.) - Daily
Response Codes and Options:

*Table 119: Response Codes and Options for **tres1pd** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: tresmpd

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you obtain? (Select all that apply if representing multiple studies.) - More than 1 timepoint per day
Response Codes and Options:

*Table 120: Response Codes and Options for **tresmpd** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: dspubcl

Variable Type: Binary
Question Text: How are you storing UAV-collected data? (Select all that apply.) - Public cloud
Response Codes and Options:

*Table 121: Response Codes and Options for **dspubcl** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: dspricl

Variable Type: Binary
Question Text: How are you storing UAV-collected data? (Select all that apply.) - Private cloud
Response Codes and Options:

*Table 122: Response Codes and Options for **dspricl** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: dsinst

Variable Type: Binary
Question Text: How are you storing UAV-collected data? (Select all that apply.) - Institutional server
Response Codes and Options:

*Table 123: Response Codes and Options for **dsinst** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: dsgrpser

Variable Type: Binary
Question Text: How are you storing UAV-collected data? (Select all that apply.) - Private/within-group server
Response Codes and Options:

*Table 124: Response Codes and Options for **dsgrpser** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: dshdd

Variable Type: Binary
Question Text: How are you storing UAV-collected data? (Select all that apply.) - Hard drives
Response Codes and Options:

*Table 125: Response Codes and Options for **dshdd** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: dsother

Variable Type: Binary
Question Text: How are you storing UAV-collected data? (Select all that apply.) - Other (please name):
Response Codes and Options:

*Table 126: Response Codes and Options for **dsother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: dsothtxt

Variable Type: String
Question Text: How are you storing UAV-collected data? (Select all that apply.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: uproto

Variable Type: Numeric
Question Text: Do you wish to improve your current data storage "protocol"?
Response Codes and Options:

*Table 127: Response Codes and Options for **uproto** variable*

CODE	OPTION
0	No
1	Yes

Variable Name: upublic

Variable Type: Numeric
Question Text: Are you interested in making your UAV-imagery or UAV-derived data publicly available?
Response Codes and Options:

*Table 128: Response Codes and Options for **upublic** variable*

CODE	OPTION
0	No
1	Yes

Variable Name: ireskm

Variable Type: Binary
Question Text: What spatial resolution of data do you wish to obtain? (Select all that apply.) - Kilometer
Response Codes and Options:

*Table 129: Response Codes and Options for **ireskm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ireshect

Variable Type: Binary
Question Text: What spatial resolution of data do you wish to obtain? (Select all that apply.) - Hectare
Response Codes and Options:

*Table 130: Response Codes and Options for **ireshect** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: iresm

Variable Type: Binary
Question Text: What spatial resolution of data do you wish to obtain? (Select all that apply.) - Meter
Response Codes and Options:

*Table 131: Response Codes and Options for **iresm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: irescm

Variable Type: Binary
Question Text: What spatial resolution of data do you wish to obtain? (Select all that apply.) - Centimeter
Response Codes and Options:

*Table 132: Response Codes and Options for **irescm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: iresmm

Variable Type: Binary
Question Text: What spatial resolution of data do you wish to obtain? (Select all that apply.) - Millimeter
Response Codes and Options:

*Table 133: Response Codes and Options for **iresmm** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: itreslt1

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you wish to obtain? (Select all that apply if representing multiple studies.) - Less than 1 timepoint per year
Response Codes and Options:

*Table 134: Response Codes and Options for **itreslt1** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: itres1py

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you wish to obtain? (Select all that apply if representing multiple studies.) - 1 timepoint per year
Response Codes and Options:

*Table 135: Response Codes and Options for **itres1py** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: itresmpy

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you wish to obtain? (Select all that apply if representing multiple studies.) - 2-6 timepoints per year
Response Codes and Options:

*Table 136: Response Codes and Options for **itresmpy** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: itres1pw

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you wish to obtain? (Select all that apply if representing multiple studies.) - Weekly
Response Codes and Options:

*Table 137: Response Codes and Options for **itres1pw** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: itresmpw

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you wish to obtain? (Select all that apply if representing multiple studies.) - More than 1 timepoint per week
Response Codes and Options:

*Table 138: Response Codes and Options for **itresmpw** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: itres1pd

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you wish to obtain? (Select all that apply if representing multiple studies.) - Daily
Response Codes and Options:

*Table 139: Response Codes and Options for **itres1pd** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: itresmpd

Variable Type: Binary
Question Text: Which of the following best describes the time resolution of data you wish to obtain? (Select all that apply if representing multiple studies.) - More than 1 timepoint per day
Response Codes and Options:

*Table 140: Response Codes and Options for **itresmpd** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bsatisf

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Satisfaction with current approaches
Response Codes and Options:

*Table 141: Response Codes and Options for **bsatisf** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bhcosst

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - High cost of instruments/devices or software
Response Codes and Options:

*Table 142: Response Codes and Options for **bhcosst** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: buncert

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Uncertainty about items to purchase or pipelines to use
Response Codes and Options:

*Table 143: Response Codes and Options for **buncert** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: blkinst

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Lack of knowledge or trained personnel to run instruments
Response Codes and Options:

*Table 144: Response Codes and Options for **blkinst** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: blkanal

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Lack of knowledge or trained personnel to analyze data
Response Codes and Options:

*Table 145: Response Codes and Options for **blkanal** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bgaps

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Gaps in online materials for training
Response Codes and Options:

*Table 146: Response Codes and Options for **bgaps** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bltrain

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Lack of in-person training
Response Codes and Options:

*Table 147: Response Codes and Options for **bltrain** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: blpeop

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - General lack of personnel to add more research
Response Codes and Options:

*Table 148: Response Codes and Options for **blpeop** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bdisint

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Disinterest of funding agencies in UAV phenotyping
Response Codes and Options:

*Table 149: Response Codes and Options for **bdisint** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bdatast

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Lack of data storage solutions or computing power
Response Codes and Options:

*Table 150: Response Codes and Options for **bdatast** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bregul

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Regulatory challenges (for example, obtaining a pilot's license, airspace access)
Response Codes and Options:

*Table 151: Response Codes and Options for **bregul** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bproto

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Lack of validated and publicly available protocols
Response Codes and Options:

*Table 152: Response Codes and Options for **bproto** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bnobar

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - No barriers
Response Codes and Options:

*Table 153: Response Codes and Options for **bnobar** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bother

Variable Type: Binary
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Other (please name):
Response Codes and Options:

*Table 154: Response Codes and Options for **bother** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: bothtxt

Variable Type: String
Question Text: Please select the top three barriers you perceive or have experienced in using/adopting UAV for phenotyping. - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: resource

Variable Type: Numeric
Question Text: What resource would help or would have helped you implement UAV for phenotyping? (Select only your top choice.)
Response Codes and Options:

*Table 155: Response Codes and Options for **resource** variable*

CODE	OPTION
1	In-person training for personnel
2	Online training for personnel
3	Clear choice of pipeline to select
4	Open-source graphical user interface for software
5	Funds to purchase equipment
6	Detailed step-by-step protocols for all stages of the drone processing pipeline
7	Other (please name):

Variable Name: resourtx

Variable Type: String
Question Text: What resource would help or would have helped you implement UAV for phenotyping? (Select only your top choice.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: adopt

Variable Type: Numeric
Question Text: Which of the following would you use or have you used to adopt UAV for phenotyping in your research? (Select only your top choice.)
Response Codes and Options:

*Table 156: Response Codes and Options for **adopt** variable*

CODE	OPTION
1	Colleague(s)
2	Preprints or published manuscripts
3	Manufacturer's resources
4	YouTube/Vimeo
5	Protocols developed and shared within my group or institution
6	Publicly available protocols
7	Other (please name):

Variable Name: adoptxt

Variable Type: String
Question Text: Which of the following would you use or have you used to adopt UAV for phenotyping in your research? (Select only your top choice.) - Other (please name): - Text response
Response Codes and Options: Not Applicable

Variable Name: gender

Variable Type: Numeric
Question Text: What is your gender? (Please select one.)
Response Codes and Options:

Table 157: Response Codes and Options for **gender** *variable*

CODE	OPTION
1	Male
2	Female
3	Non-binary, agender, or gender non-conforming
4	Prefer not to say

Variable Name: age

Variable Type: Numeric
Question Text: What is your age?
Response Codes and Options:

Table 158: Response Codes and Options for **age** *variable*

CODE	OPTION
1	18-29
2	30-39
3	40-49
4	50-59
5	60-69
6	70+

Variable Name: educat

Variable Type: Numeric
Question Text: What is your highest level of education? (Please select one.)
Response Codes and Options:

*Table 159: Response Codes and Options for **educat** variable*

CODE	OPTION
1	Less than high school (or equivalent)
2	High school (or equivalent) degree
3	Undergraduate degree
4	Master's or associate degree
5	PhD
6	Other advanced degree
7	Postdoctoral work

Variable Name: country

Variable Type: Numeric
Question Text: In which country do you perform the largest share of your research?
Response Codes and Options:

*Table 160: Response Codes and Options for **country** variable*

CODE	OPTION
1	Afghanistan
2	Albania
3	Algeria
4	Andorra
5	Angola
6	Antigua and Barbuda
7	Argentina
8	Armenia
9	Australia
10	Austria
11	Azerbaijan
12	Bahamas
13	Bahrain
14	Bangladesh
15	Barbados
16	Belarus
17	Belgium
18	Belize

19	Benin
20	Bhutan
21	Bolivia
22	Bosnia and Herzegovina
23	Botswana
24	Brazil
25	Brunei Darussalam
26	Bulgaria
27	Burkina Faso
28	Burundi
29	Cambodia
30	Cameroon
31	Canada
32	Cape Verde
33	Central African Republic
34	Chad
35	Chile
36	China
37	Colombia
38	Comoros
39	Congo, Republic of the…
40	Costa Rica
41	Côte d'Ivoire
42	Croatia
43	Cuba
44	Cyprus
45	Czech Republic
47	Democratic Republic of the Congo
48	Denmark
49	Djibouti
50	Dominica
51	Dominican Republic
52	Ecuador
53	Egypt
54	El Salvador
55	Equatorial Guinea
56	Eritrea
57	Estonia

58	Ethiopia
59	Fiji
60	Finland
61	France
62	Gabon
63	Gambia
64	Georgia
65	Germany
66	Ghana
67	Greece
68	Grenada
69	Guatemala
70	Guinea
71	Guinea-Bissau
72	Guyana
73	Haiti
74	Honduras
75	Hong Kong (S.A.R.)
76	Hungary
77	Iceland
78	India
79	Indonesia
80	Iran
81	Iraq
82	Ireland
83	Israel
84	Italy
85	Jamaica
86	Japan
87	Jordan
88	Kazakhstan
89	Kenya
90	Kiribati
91	Kuwait
92	Kyrgyzstan
93	Lao People's Democratic Republic
94	Latvia
95	Lebanon

96	Lesotho
97	Liberia
98	Libyan Arab Jamahiriya
99	Liechtenstein
100	Lithuania
101	Luxembourg
102	Madagascar
103	Malawi
104	Malaysia
105	Maldives
106	Mali
107	Malta
108	Marshall Islands
109	Mauritania
110	Mauritius
111	Mexico
112	Micronesia, Federated States of…
113	Monaco
114	Mongolia
115	Montenegro
116	Morocco
117	Mozambique
118	Myanmar
119	Namibia
120	Nauru
121	Nepal
122	Netherlands
123	New Zealand
124	Nicaragua
125	Niger
126	Nigeria
127	North Korea
128	Norway
129	Oman
130	Pakistan
131	Palau
132	Panama
133	Papua New Guinea

134	Paraguay
135	Peru
136	Philippines
137	Poland
138	Portugal
139	Qatar
141	Republic of Moldova
142	Romania
143	Russian Federation
144	Rwanda
145	Saint Kitts and Nevis
146	Saint Lucia
147	Saint Vincent and the Grenadines
148	Samoa
149	San Marino
150	Sao Tome and Principe
151	Saudi Arabia
152	Senegal
153	Serbia
154	Seychelles
155	Sierra Leone
156	Singapore
157	Slovakia
158	Slovenia
159	Solomon Islands
160	Somalia
161	South Africa
162	South Korea
163	Spain
164	Sri Lanka
165	Sudan
166	Suriname
167	Swaziland
168	Sweden
169	Switzerland
170	Syrian Arab Republic
171	Tajikistan
172	Thailand

173	The former Yugoslav Republic of Macedonia
174	Timor-Leste
175	Togo
176	Tonga
177	Trinidad and Tobago
178	Tunisia
179	Turkey
180	Turkmenistan
181	Tuvalu
182	Uganda
183	Ukraine
184	United Arab Emirates
185	United Kingdom of Great Britain and Northern Ireland
186	United Republic of Tanzania
187	United States of America
188	Uruguay
189	Uzbekistan
190	Vanuatu
191	Venezuela, Bolivarian Republic of…
192	Viet Nam
193	Yemen
580	Zambia
1357	Zimbabwe

Variable Name: ethaapi

Variable Type: Binary
Question Text: Which of the following best decribes you? (You may select more than one option.) - Asian or Pacific Islander
Response Codes and Options:

*Table 161: Response Codes and Options for **ethaapi** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ethbaaa

Variable Type: Binary
Question Text: Which of the following best decribes you? (You may select more than one option.) - Black African or African American
Response Codes and Options:

*Table 162: Response Codes and Options for **ethbaaa** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ethhisp

Variable Type: Binary
Question Text: Which of the following best decribes you? (You may select more than one option.) - Hispanic or Latino
Response Codes and Options:

*Table 163: Response Codes and Options for **ethhisp** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ethnaan

Variable Type: Binary
Question Text: Which of the following best decribes you? (You may select more than one option.) - Native American or Alaska Native
Response Codes and Options:

*Table 164: Response Codes and Options for **ethnaan** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ethwhi

Variable Type: Binary
Question Text: Which of the following best decribes you? (You may select more than one option.) - White or Caucasian
Response Codes and Options:

*Table 165: Response Codes and Options for **ethwhi** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ethpns

Variable Type: Binary
Question Text: Which of the following best decribes you? (You may select more than one option.) - Prefer not to say
Response Codes and Options:

*Table 166: Response Codes and Options for **ethpns** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ethrnl

Variable Type: Binary
Question Text: Which of the following best decribes you? (You may select more than one option.) - A race or ethnicity not listed here:
Response Codes and Options:

*Table 167: Response Codes and Options for **ethrnl** variable*

CODE	OPTION
0	Not selected
1	Selected

Variable Name: ethrnltx

Variable Type: String
Question Text: Which of the following best decribes you? (You may select more than one option.) - A race or ethnicity not listed here: - Text response
Response Codes and Options: Not Applicable