# Upload project questions as a .csv

# Example experiment

- Evaluate 120 lines of a crop under both full irrigation and drought stress
- You plant your crop in pots, with 3 plants in each pot
- You plant 480 total pots, with 40 pots in each row.
- Each line planted under full irrigation and drought stress in each replicate (right)

North ⬆

| Replicate 1 | | | | | | Replicate 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Full Irrigation | | | Drought Stress | | | Full Irrigation | | | Drought Stress | | |
| Row 1 | Row 2 | Row 3 | Row 4 | Row 5 | Row 6 | Row 8 | Row 9 | Row 10 | Row 11 | Row 12 | Row 13 |
| 1 | 41 | 81 | 121 | 161 | 201 | 241 | 281 | 321 | 361 | 401 | 441 |
| 2 | 42 | 82 | 122 | 162 | 202 | 242 | 282 | 322 | 362 | 402 | 442 |
| 3 | 43 | 83 | 123 | 163 | 203 | 243 | 283 | 323 | 363 | 403 | 443 |
| 4 | 44 | 84 | 124 | 164 | 204 | 244 | 284 | 324 | 364 | 404 | 444 |
| 5 | 45 | 85 | 125 | 165 | 205 | 245 | 285 | 325 | 365 | 405 | 445 |
| 6 | 46 | 86 | 126 | 166 | 206 | 246 | 286 | 326 | 366 | 406 | 446 |
| 7 | 47 | 87 | 127 | 167 | 207 | 247 | 287 | 327 | 367 | 407 | 447 |
| 8 | 48 | 88 | 128 | 168 | 208 | 248 | 288 | 328 | 368 | 408 | 448 |
| 9 | 49 | 89 | 129 | 169 | 209 | 249 | 289 | 329 | 369 | 409 | 449 |
| 10 | 50 | 90 | 130 | 170 | 210 | 250 | 290 | 330 | 370 | 410 | 450 |
| 11 | 51 | 91 | 131 | 171 | 211 | 251 | 291 | 331 | 371 | 411 | 451 |
| 12 | 52 | 92 | 132 | 172 | 212 | 252 | 292 | 332 | 372 | 412 | 452 |
| 13 | 53 | 93 | 133 | 173 | 213 | 253 | 293 | 333 | 373 | 413 | 453 |
| 14 | 54 | 94 | 134 | 174 | 214 | 254 | 294 | 334 | 374 | 414 | 454 |
| 15 | 55 | 95 | 135 | 175 | 215 | 255 | 295 | 335 | 375 | 415 | 455 |
| 16 | 56 | 96 | 136 | 176 | 216 | 256 | 296 | 336 | 376 | 416 | 456 |
| 17 | 57 | 97 | 137 | 177 | 217 | 257 | 297 | 337 | 377 | 417 | 457 |
| 18 | 58 | 98 | 138 | 178 | 218 | 258 | 298 | 338 | 378 | 418 | 458 |
| 19 | 59 | 99 | 139 | 179 | 219 | 259 | 299 | 339 | 379 | 419 | 459 |
| 20 | 60 | 100 | 140 | 180 | 220 | 260 | 300 | 340 | 380 | 420 | 460 |
| 21 | 61 | 101 | 141 | 181 | 221 | 261 | 301 | 341 | 381 | 421 | 461 |
| 22 | 62 | 102 | 142 | 182 | 222 | 262 | 302 | 342 | 382 | 422 | 462 |
| 23 | 63 | 103 | 143 | 183 | 223 | 263 | 303 | 343 | 383 | 423 | 463 |
| 24 | 64 | 104 | 144 | 184 | 224 | 264 | 304 | 344 | 384 | 424 | 464 |
| 25 | 65 | 105 | 145 | 185 | 225 | 265 | 305 | 345 | 385 | 425 | 465 |
| 26 | 66 | 106 | 146 | 186 | 226 | 266 | 306 | 346 | 386 | 426 | 466 |
| 27 | 67 | 107 | 147 | 187 | 227 | 267 | 307 | 347 | 387 | 427 | 467 |
| 28 | 68 | 108 | 148 | 188 | 228 | 268 | 308 | 348 | 388 | 428 | 468 |
| 29 | 69 | 109 | 149 | 189 | 229 | 269 | 309 | 349 | 389 | 429 | 469 |
| 30 | 70 | 110 | 150 | 190 | 230 | 270 | 310 | 350 | 390 | 430 | 470 |
| 31 | 71 | 111 | 151 | 191 | 231 | 271 | 311 | 351 | 391 | 431 | 471 |
| 32 | 72 | 112 | 152 | 192 | 232 | 272 | 312 | 352 | 392 | 432 | 472 |
| 33 | 73 | 113 | 153 | 193 | 233 | 273 | 313 | 353 | 393 | 433 | 473 |
| 34 | 74 | 114 | 154 | 194 | 234 | 274 | 314 | 354 | 394 | 434 | 474 |
| 35 | 75 | 115 | 155 | 195 | 235 | 275 | 315 | 355 | 395 | 435 | 475 |
| 36 | 76 | 116 | 156 | 196 | 236 | 276 | 316 | 356 | 396 | 436 | 476 |
| 37 | 77 | 117 | 157 | 197 | 237 | 277 | 317 | 357 | 397 | 437 | 477 |
| 38 | 78 | 118 | 158 | 198 | 238 | 278 | 318 | 358 | 398 | 438 | 478 |
| 39 | 79 | 119 | 159 | 199 | 239 | 279 | 319 | 359 | 399 | 439 | 479 |
| 40 | 80 | 120 | 160 | 200 | 240 | 280 | 320 | 360 | 400 | 440 | 480 |

# Challenges in the PhotosynQ platform

- How to add all the key information (genotype, irrigation type, and replicate) to the PhotosynQ platform without the data collectors spending a long time answering each project question in the field.
  - Multiple choice answers: users are forced to scroll through a long list of genotypes.
  - Short answer: users need to type in genotype information. This is time consuming and can be prone to errors.
- Another option is to upload a csv file with the key questions and answers that you want on the PhotosynQ platform

# Building a csv for upload

# Creating questions

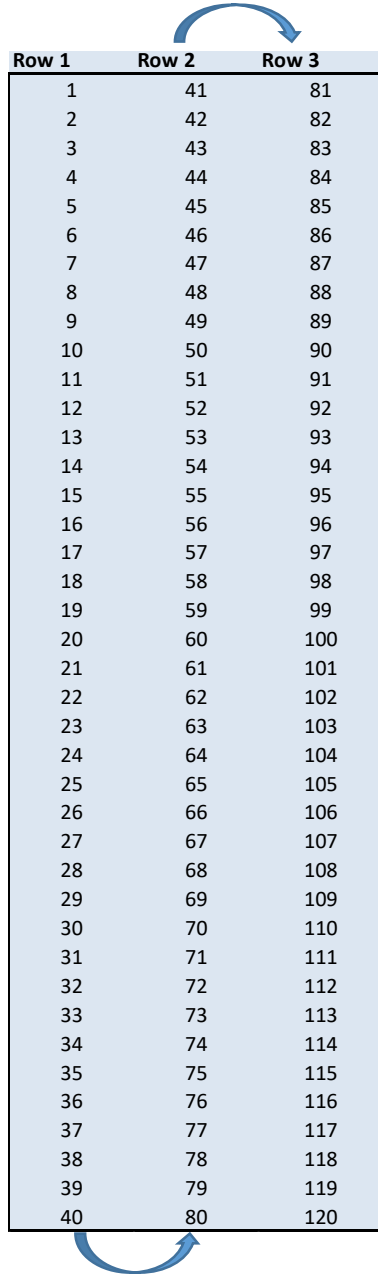
- When we upload the csv to the PhotosynQ website, it will extract the first row as the question, and subsequent rows has answers.
- In the example from the previous section, the website will automatically generate 4 questions: POT #, Genotype, Irrigation, Replicate

| POT # | Genotype | Irrigation | Replicate | | |
|---|---|---|---|---|---|
| 1 | ADP0634 | Full | 1 | | |
| 2 | ADP0027 | Full | 1 | | |
| 3 | ADP0033 | Full | 1 | | |
| 4 | ADP0629 | Full | 1 | | |
| 5 | ADP0667 | Full | 1 | | |
| 6 | ADP0600 | Full | 1 | | |
| 7 | ADP0669 | Full | 1 | | |

# Getting the order right

- You will need to order CSV based on the order that you will walk thru the field, this may not be in numerical order.
- To save time walking in the field, you will probably want to walk up one row, and then down the next row in the opposite direction (right).
- The order of the rows in the csv file should represent this order, and not simply numerical order

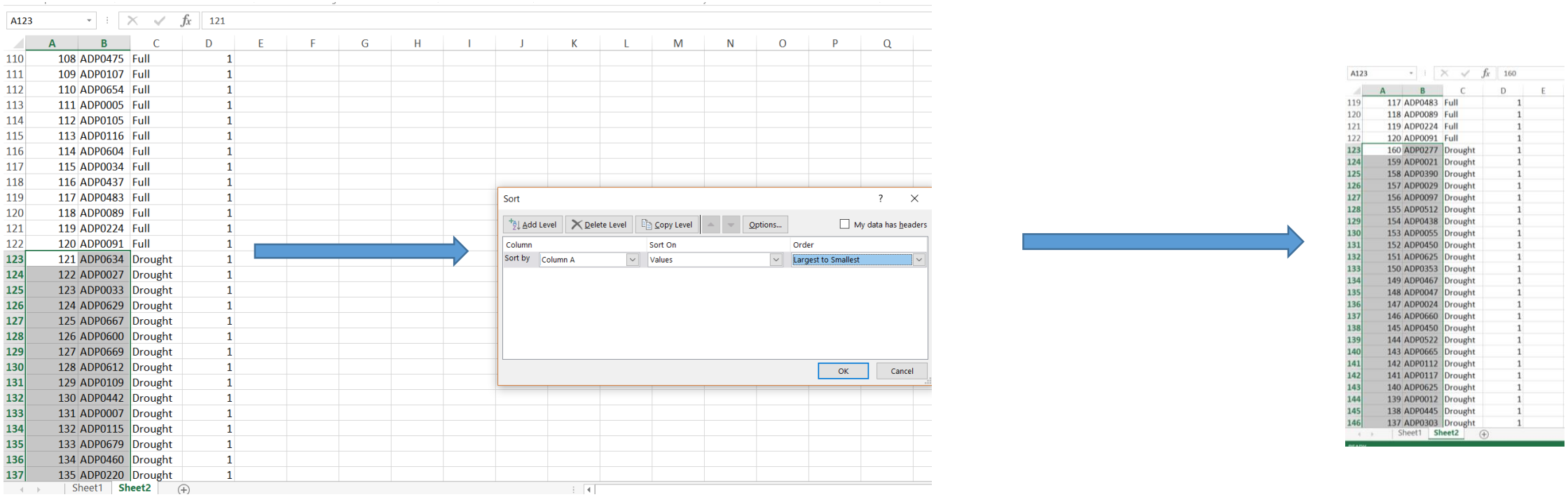
| | | | |
|---|---|---|---|
| 37 | ADP0029 | Full | 1 |
| 38 | ADP0390 | Full | 1 |
| 39 | ADP0021 | Full | 1 |
| 40 | ADP0277 | Full | 1 |
| 80 | ADP0435 | Full | 1 |
| 79 | ADP0479 | Full | 1 |
| 78 | ADP0677 | Full | 1 |



| Row 1 | Row 2 | Row 3 |
|---|---|---|
| 1 | 41 | 81 |
| 2 | 42 | 82 |
| 3 | 43 | 83 |
| 4 | 44 | 84 |
| 5 | 45 | 85 |
| 6 | 46 | 86 |
| 7 | 47 | 87 |
| 8 | 48 | 88 |
| 9 | 49 | 89 |
| 10 | 50 | 90 |
| 11 | 51 | 91 |
| 12 | 52 | 92 |
| 13 | 53 | 93 |
| 14 | 54 | 94 |
| 15 | 55 | 95 |
| 16 | 56 | 96 |
| 17 | 57 | 97 |
| 18 | 58 | 98 |
| 19 | 59 | 99 |
| 20 | 60 | 100 |
| 21 | 61 | 101 |
| 22 | 62 | 102 |
| 23 | 63 | 103 |
| 24 | 64 | 104 |
| 25 | 65 | 105 |
| 26 | 66 | 106 |
| 27 | 67 | 107 |
| 28 | 68 | 108 |
| 29 | 69 | 109 |
| 30 | 70 | 110 |
| 31 | 71 | 111 |
| 32 | 72 | 112 |
| 33 | 73 | 113 |
| 34 | 74 | 114 |
| 35 | 75 | 115 |
| 36 | 76 | 116 |
| 37 | 77 | 117 |
| 38 | 78 | 118 |
| 39 | 79 | 119 |
| 40 | 80 | 120 |

# Switching the order easily in excel

The easiest way to get the order right is to use the ‘custom sort’ function in excel. In this case, we want to reverse the order of Pot’s 121 to 160. 1) Select the desired range, 2) select the ‘custom sort’ option, 3) in the dialogue box select the column to sort by (in this case column A), and 4) under ‘Order’ select ‘largest to smallest’



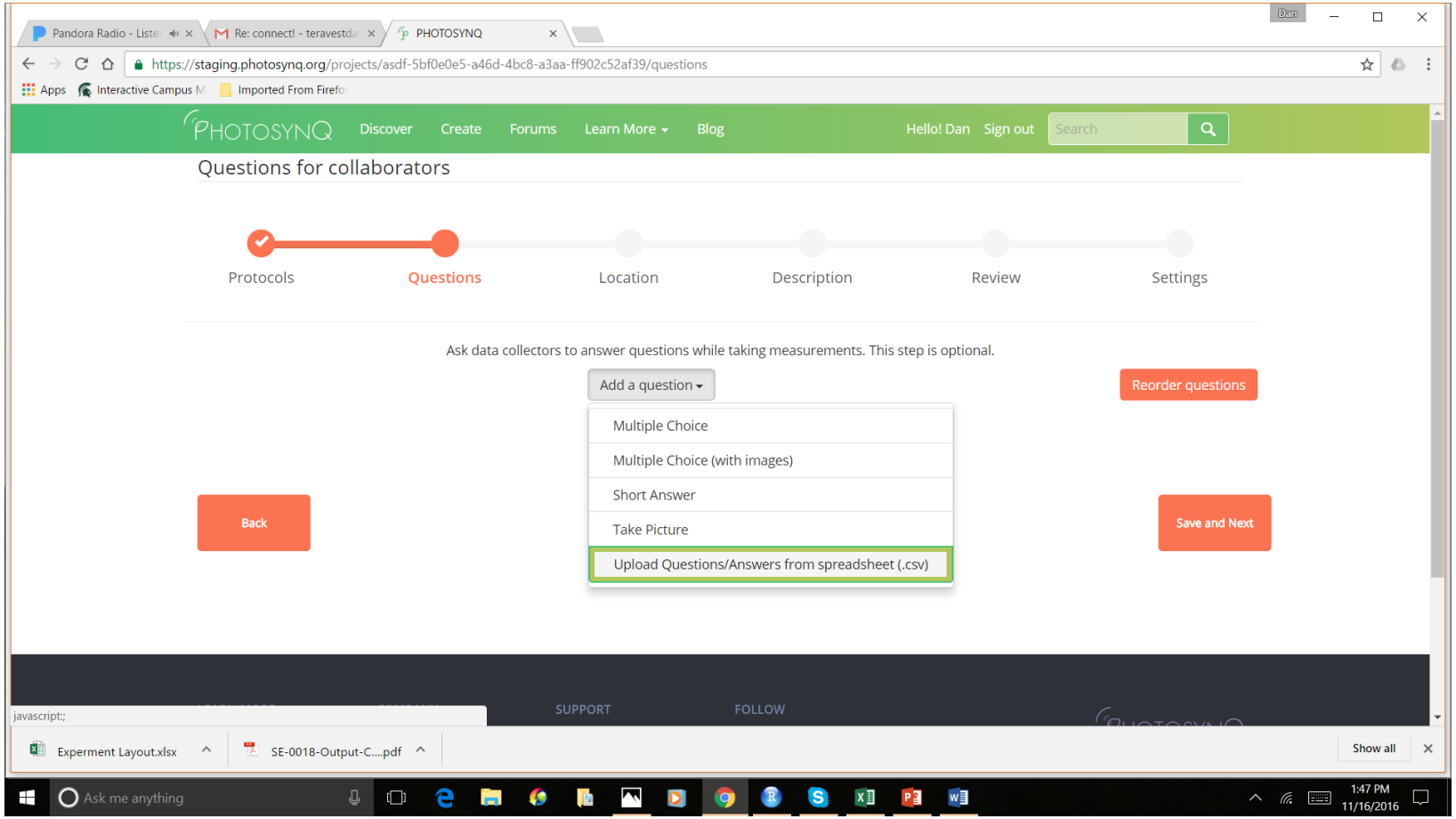
# Important notes

- This example assumes that each data collector is only collecting 1 measurement per pot.
- If each data collector is collecting multiple measurements (for example multiple leaves per plant) then the csv needs to include that information

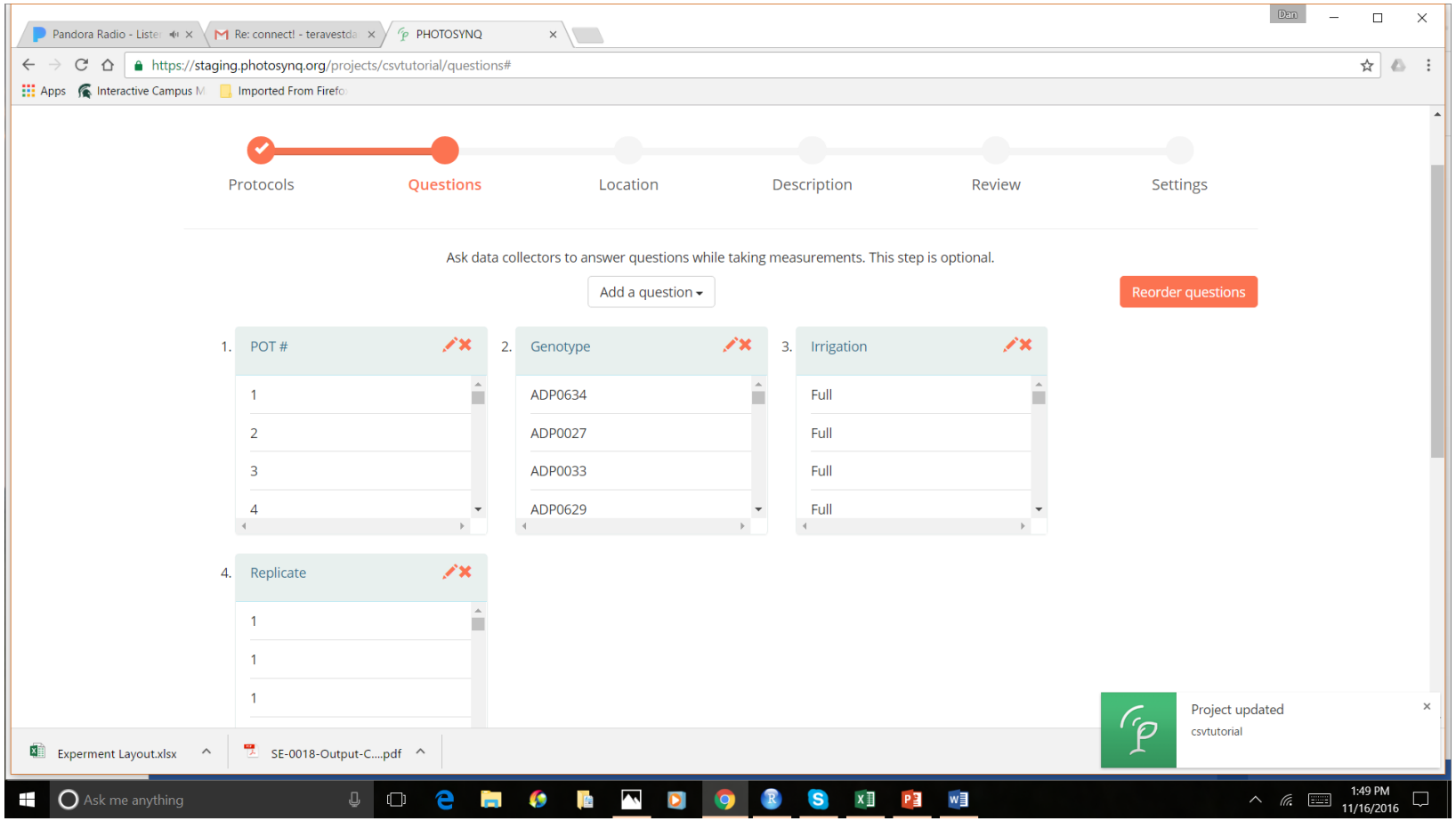
| | | | | |
|---|---|---|---|---|
| 39 | ADP0021 | Full | 1 | top |
| 39 | ADP0021 | Full | 1 | middle |
| 40 | ADP0277 | Full | 1 | top |
| 40 | ADP0277 | Full | 1 | middle |
| 80 | ADP0435 | Full | 1 | top |
| 80 | ADP0435 | Full | 1 | middle |
| 79 | ADP0479 | Full | 1 | top |
| 79 | ADP0479 | Full | 1 | middle |

# Creating the project questions on the PhotosynQ website

# At the questions page, select ‘Upload Questions/Answers from spreadsheet (.csv)



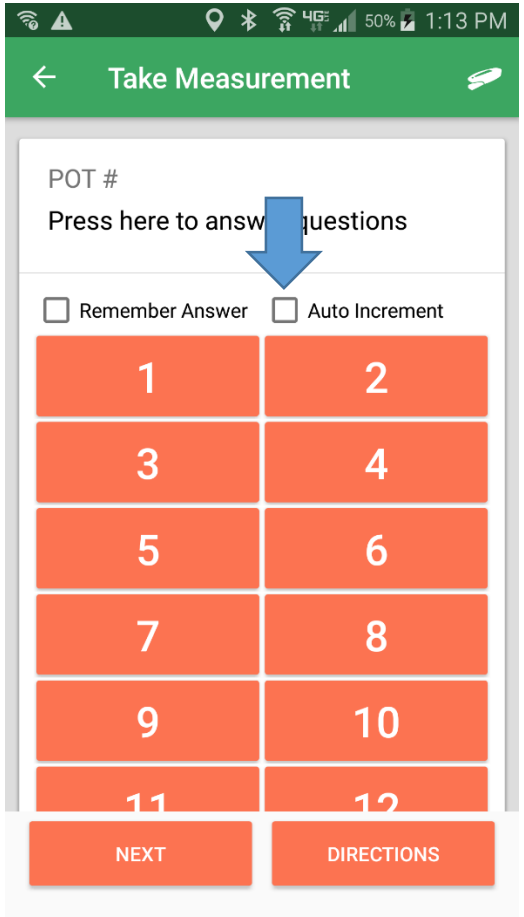
Follow the directions to drag and drop your csv. Once uploaded, the website will automatically generate questions. (You are free to add other questions besides those in the .csv)



# Collecting data in the field using answered uploaded from csv’s

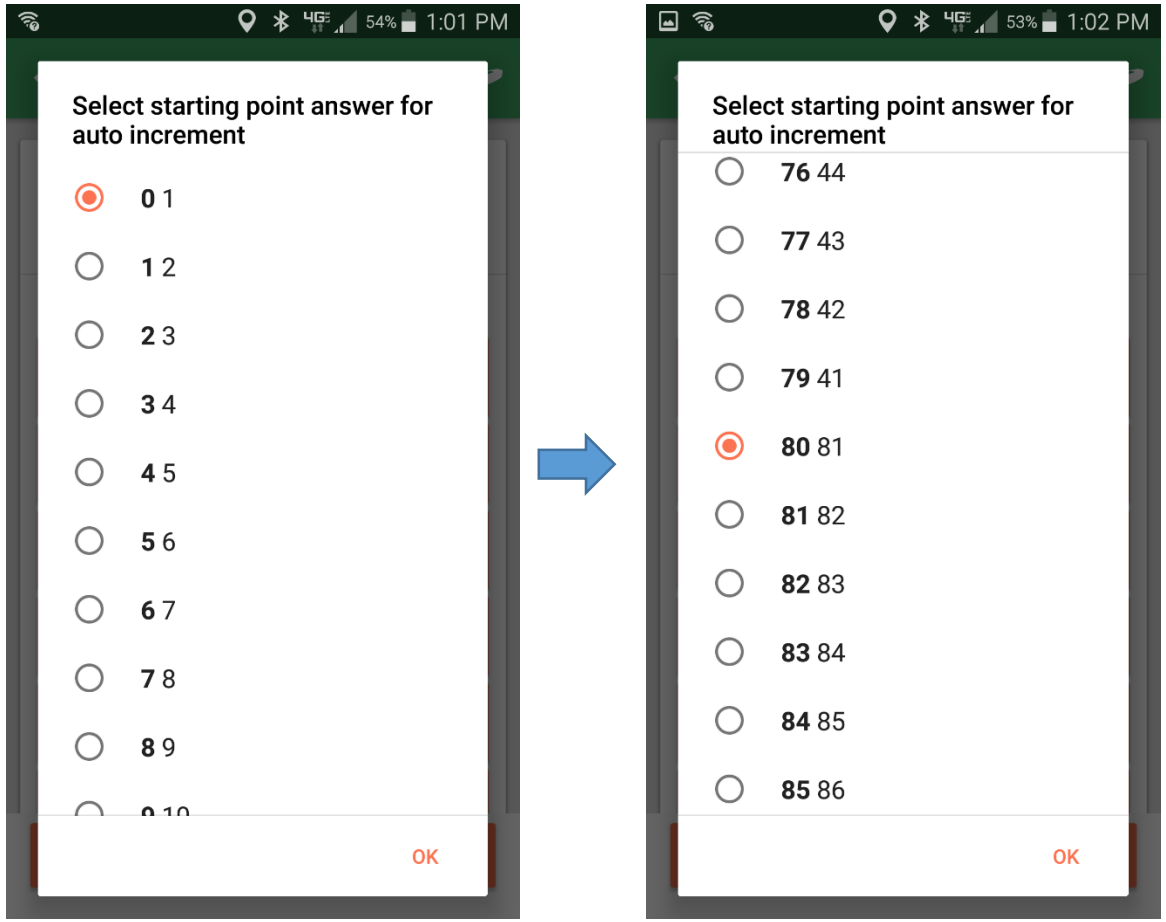
# Select auto-increment

- In the PhotosynQ app, load your project and connect to a device
- Once you select ‘take measurement’ your first question will appear
- Check the ‘auto-increment’ box



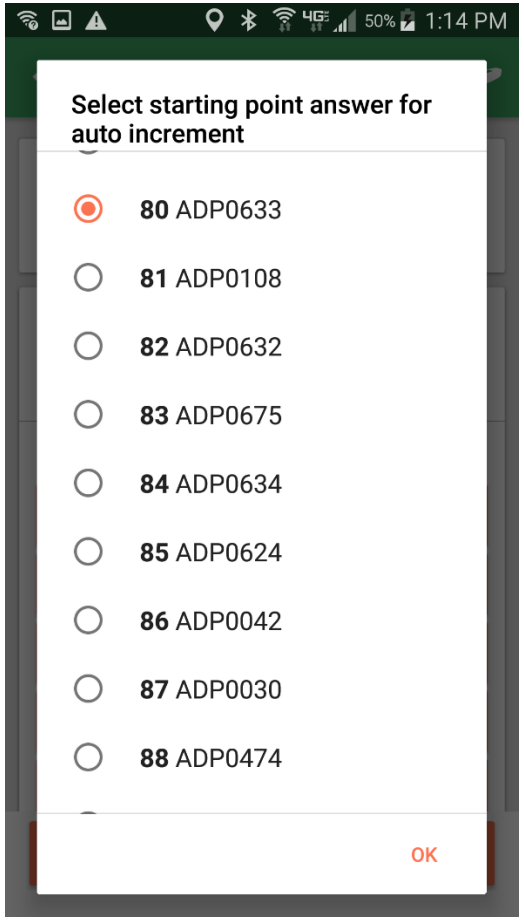
# Choose where to start

- Let’s say that multiple people are planning on collecting data at the same time and are starting at different locations in the field.
- Once ‘auto-increment’ has been checked, a screen will pop up allowing you to choose your starting point (near right)
- If you are going to start at pot # 81, scroll down and select pot # 81 (far right).



# Choose where to start

- Now you will need to repeat the same process with the genotype, irrigation, and replicate questions
- The bold number on the left are the answer number, and help to ensure that your answers are properly aligned



# Taking measurements

- After each measurement, the PhotosynQ mobile app will automatically input the next answers when you select ‘new measurement’