**Cover Crop Diversity Project Assessment Report Field Day Assessment**

On August 9, 2018, six farmers and/or agricultural service providers attended our Cover Crop Diversity Project on-farm field day showcasing our research plots at a local farm. The participants learned about our research project, engaged in a discussion with the biological science research team, and after exploring the research plots on their own, completed a questionnaire developed by the social science research team.

The participants represented Lake, Marion, Hillsborough, and Columbia counties. The crops they produce include citrus, a variety of fruits and vegetables, and ornamentals. Most of the farmers currently use cover crops.

After exploring our research plots on their own, three of the six participants ranked on a scale of 1-5 (1= very encouraging to 5 = very discouraging) the advantages, disadvantages, and barriers to adopting our research. The top three factors identified that **encourage** farmers to use cover crops are *suppressing weeds*, *attracting beneficial insects*, and *increasing cropping system biodiversity*. The top three factors identified that **discourage** farmers from using cover crops are *timing the termination of the cover crop with the cash crop cycle*, *timing the establishment of the cover crop with the cash crop cycle*, and *difficulty dealing with cover crop residue when preparing to install plastic mulch*. The complete summary of responses is below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Please score on a scale of 1-5 (1= very encouraging to 5 = very discouraging) the degree to which each of these factors either encourages or discourages you from using cover crops.** | | | |
| **Factor** | **Total Score** | **Number of Responses** | **Average Score** |
| Suppressing weeds | 3 | 3 | 1 |
| Attracting beneficial insects | 3 | 3 | 1 |
| Increasing cropping system biodiversity | 3 | 3 | 1 |
| Annual cost of planting cover crops | 4 | 3 | 1.33 |
| Building soil organic  matter | 4 | 3 | 1.33 |
| Increasing moisture retention | 4 | 3 | 1.33 |
| Meeting plant nutrient needs | 4 | 3 | 1.33 |
| Finding good information about nutrient budgets | 3 | 2 | 1.5 |

|  |  |  |  |
| --- | --- | --- | --- |
| I do not see the anticipated long-term benefits of cover crops on soil health | 3 | 2 | 1.5 |
| Enhancing crop rotations | 3 | 2 | 1.5 |
| Annual cost of managing cover crops | 5 | 3 | 1.67 |
| Difficulty dealing with the  cover crop residue as organic mulch | 6 | 3 | 2 |
| Finding a good cover crop variety (or varieties) for your farming system | 6 | 3 | 2 |
| Managing insect pests | 6 | 3 | 2 |
| Managing soil-borne diseases | 6 | 3 | 2 |
| Cost of maintaining equipment needed is too high | 7 | 3 | 2.33 |
| Managing foliar diseases | 7 | 3 | 2.33 |
| Cost of buying equipment needed is too high | 8 | 3 | 2.67 |
| Timing the termination of the cover crop with the cash crop cycle | 6 | 2 | 3 |
| Timing the establishment of the cover crop with the cash crop cycle | 6 | 2 | 3 |
| Difficulty dealing with cover crop residue when preparing to install plastic  mulch | 3 | 1 | 3 |

The participants also ranked from best to worst the performance of the cover crops within each species. We then assigned scores to each ranking to determine an overall score for each cover crop. The assigned scores varied between cover crop species depending on the number of accessions grown. Below is a table summarizing the scores.

|  |  |
| --- | --- |
| **Sunn Hemp Ranking** | **Sunn Hemp Score (points)** |
| 1 | 3 |
| 2 | 2 |
| 3 | 1 |

|  |  |
| --- | --- |
|  | |
| **Cowpea Ranking** | **Cowpea Score (points)** |
| 1 | 4 |
| 2 | 3 |
| 3 | 2 |
| 4 | 1 |
|  | |
| **Slenderleaf Rattlebox Ranking** | **Slenderleaf Rattlebox Score (points)** |
| 1 | 2 |
| 2 | 1 |

Not all participants ranked each cover crop so we calculated the average score based on the number of participants that ranked each of the cover crops. None of the participants ranked the Slenderleaf Rattlebox accessions due to poor performance overall. The most highly ranked accessions were (1) cowpea – US 1136, (2) cowpea – US 1138, and (3) Sunn hemp – Sanni. Below is the summary of rankings and scores for each accession.

|  |  |  |
| --- | --- | --- |
| **Rank from *best to worst* the performance of the cover crops within each species (Sunn hemp, Cowpea, Slenderleaf Rattlebox).** | | |
| **Sunn Hemp** | **Total Score (points)** | **Average Score (Out of 3 points)** |
| Sanni | 17 | 2.8 |
| Tropic Sun | 10 | 1.7 |
| AU Golden | 9 | 1.5 |
|  | | |
| **Cowpea** | **Total Score (points)** | **Average Score (Out of 4 points)** |
| US 1136 | 22 | 3.7 |
| US 1138 | 21 | 3.5 |
| US 1137 | 11 | 1.8 |
| Iron Clay | 5 | 0.8 |
|  | | |
| **Slenderleaf Rattlebox** | **Total Score (points)** | **Average Score (Out of 2 points)** |
| PI 274767 | N/A | N/A |
| Red Hemp | N/A | N/A |