Seed Laboratory Report
FY 22-23
July 1, 2022 – April 18, 2023

Riad Baalbaki - Senior Seed Botanist

5-9-2023

Seed Lab Functions

- Label compliance (Regulatory) testing
- Service testing
- Identifications
- Revisions/Additions to Rules
- Investigations/Consultations
- Training

Staffing Changes at the Seed Lab
Robert Price Retirement

- **Served as seed analyst for almost 14 years**
- **Specialized in seed purity analysis and seed and plant identification**
- **Joined the SL in 2009 as Associate Seed Botanist**
- **Promoted to Senior Seed Botanist (2013) and AOSA-certified seed analyst**

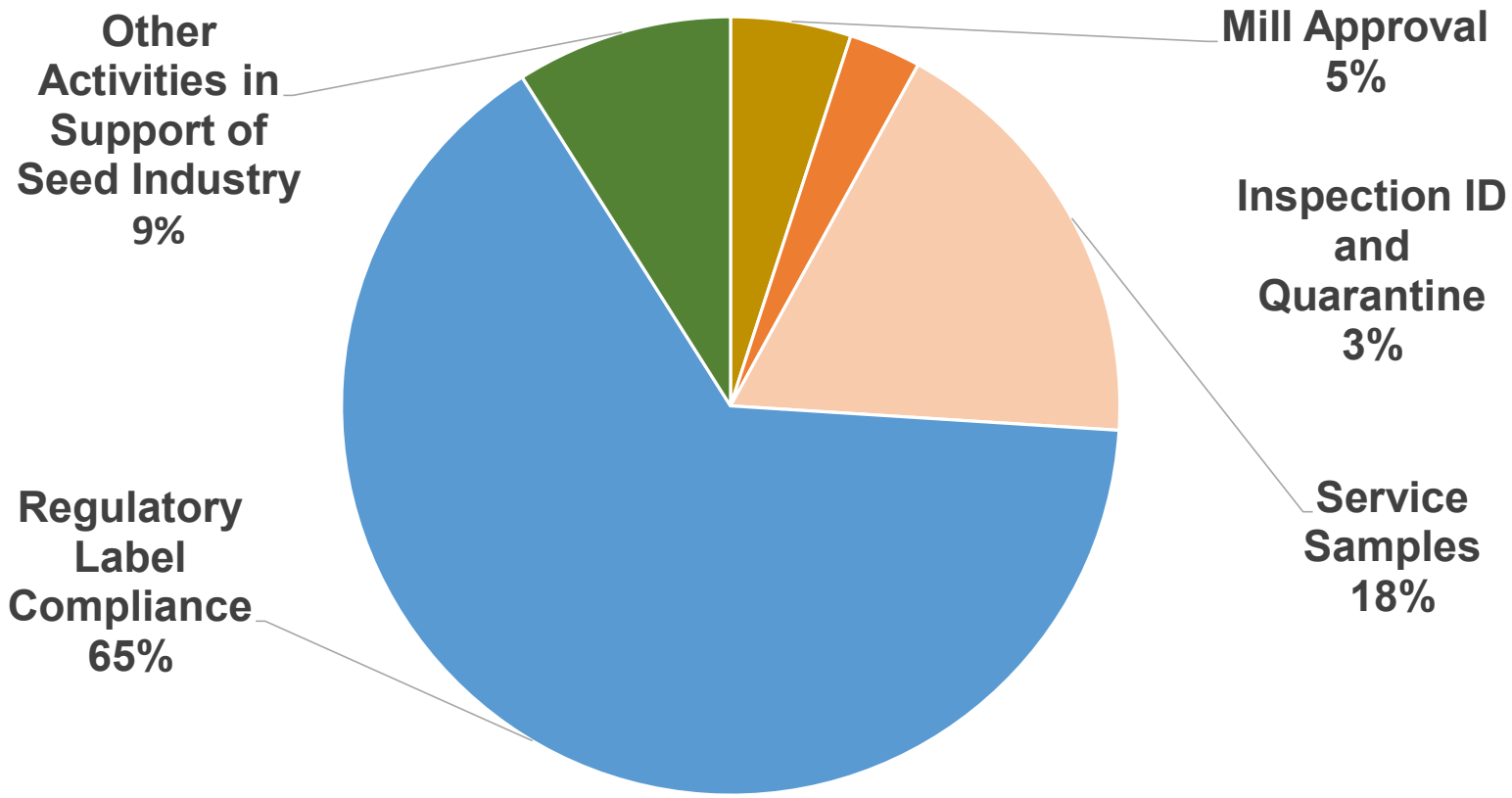
Staffing Changes at the Seed Lab
Gordon AU Appointment

Recently appointed as Agricultural Biological Technician (Pathology Lab)

Worked at the SL since March 2022 as Agricultural Technician II

Gordon's work and diligence were key factors in improving germination testing efficiency at the SL

Estimated Time (%) Allocated to Different Activities

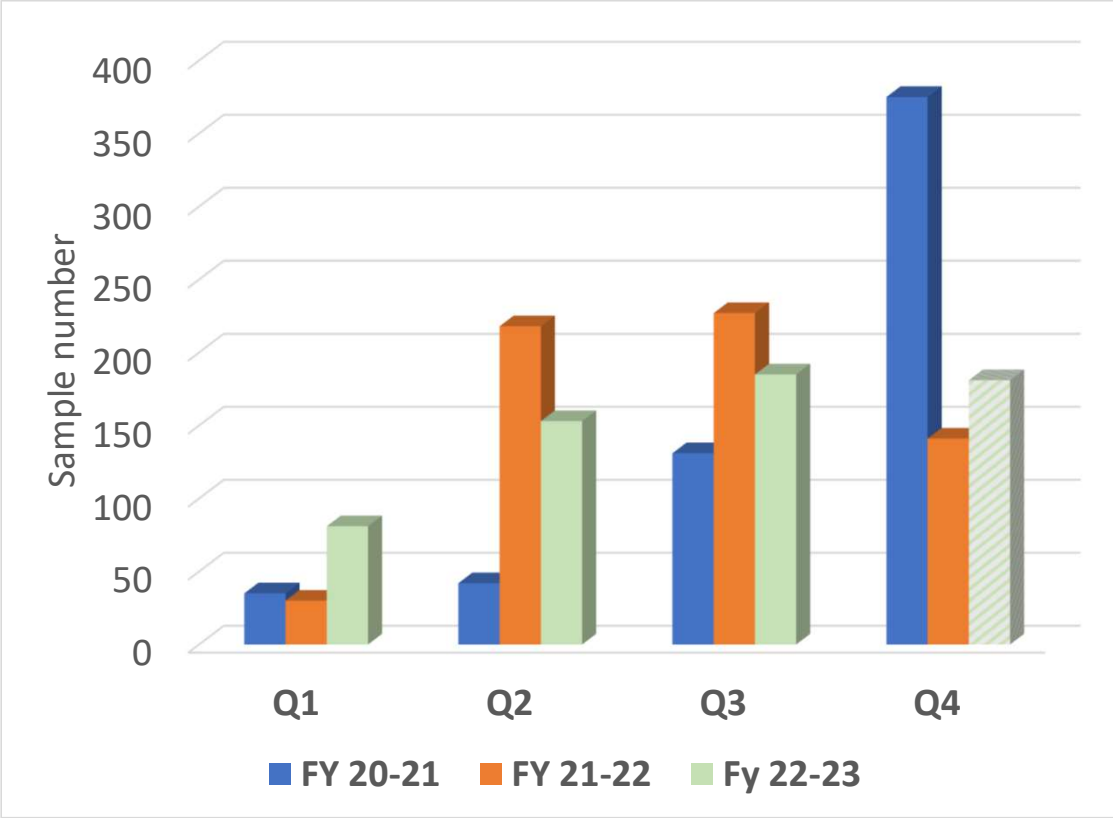


Label Compliance (Regulatory) Testing

Samples Released to Seed Lab:

- **FY 22-23 (till April 18, 2023): 434 samples released to seed lab (72% of 600 target)**

Sample Distribution By Quarter FY 20-21, 21-22 and 22-23*



Violations

Three categories of violations:

- Labelling Standards
- Purity
- Germination

Violations

Percentage of samples with at least one violation:

Average prior to FY 21-22: 17%

FY 21-22: 23%

FY 22-23: 27%* (105/388)

Violations

Total number of violations, FY 22-23:

- **157 (from 388 samples)**
- **Samples with a single violation: 62%**
- **Samples with two violations: 30%**
- **Samples with three or more violations: 8%**

Violation Types and Numbers

Violation Type	No.		Violation Type	No.
Non-Registered Labeler	31		Pure Seed Percentage	22
Inert Matter Percentage	18		No Treatment Signal Word	13
Seed Kind	11		No Mediation Statement	8
Conflicting signal words	7		Unlabeled CA Restricted Noxious Weed Seed	6
Weed Seed %	5		Unlabeled/mislabeled Coating Material %	4
TREATED SEED phrase not labeled	4		Other Crop Seed Percentage	3
Germination %	3		No Treatment Statement	3
Germination date of test predated for a future date	3		Total Purity Components Not 100%	2
Treatment Precautions Not Labelled	2		Incorrect Labeling of a Blend	1
Restricted noxious weed seed found and not labeled	1		PVP Notification	1
No weed seed % on label	1		No Certification Documentation/No Tags Attached	1
Variety Not Stated	1		Mislabeled noxious weed seed (% not #/lb)	1
Germination Date of Test Expired	1		Prohibited noxious weed seed found	1
Germ Percentage not labeled "Below Standard"	1		No Labeler Address	1
No Labelled Sell By Date	1			

Most Common Violations-FY 22-23

	No. of samples	Percentage
Non-Registered Labeler	31	8%
Pure Seed Percentage	22	6%
Inert Matter Percentage	18	5%
No Treatment Signal Word	13	3%
Seed Kind	11	3%
.	.	.
Germination Percentage	3	1%

Violations-Treated Vs. Untreated

- **Untreated samples with at least one violation: 24%**
- **Treated samples with at least one violation: 33%**

Violations-Treated Vs. Untreated

- Percentage of untreated samples with at least one violation: 24%
- Percentage of treated samples with at least one violation: 33%

- **Violation rate-untreated samples: 3.5 per 10 samples**
- **Violation rate-treated samples: 5.1 per 10 samples**

Service Testing

- 256 samples for purity/germination/vigor testing
  - Mostly rice (140), lettuce, dichondra, hemp, peaches and other vegetables
- 32 seed IDs
- Feed mill inspections: 29 certification samples

Turnaround Time

What is a "good" turnaround time?

- **Tomato germination takes 14 days**
  - **Turnaround time for tomato is at least 14 days**

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What is a "good" turnaround time?

- Tomato germination takes 14 days
  - Turnaround time for tomato is at least 14 days
- **Kentucky bluegrass germination: 28 days**
- **Wheat germination: 7 days**

Turnaround Time

- **The weighted average turnaround time for FY 22-23, based only on germination, would be <u>21 days</u>.**

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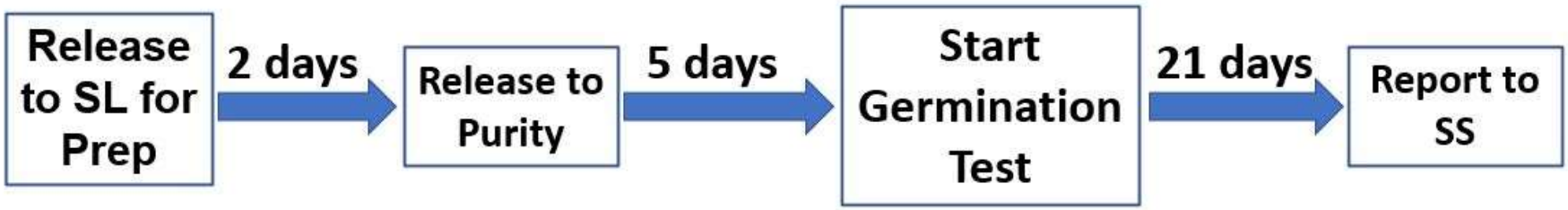

Turnaround Time

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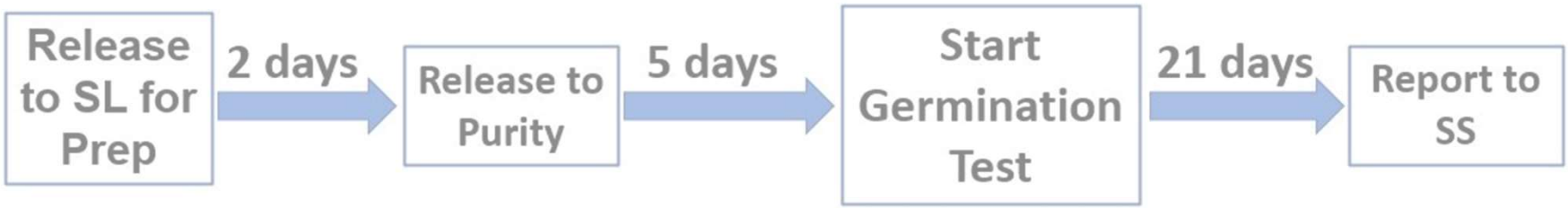
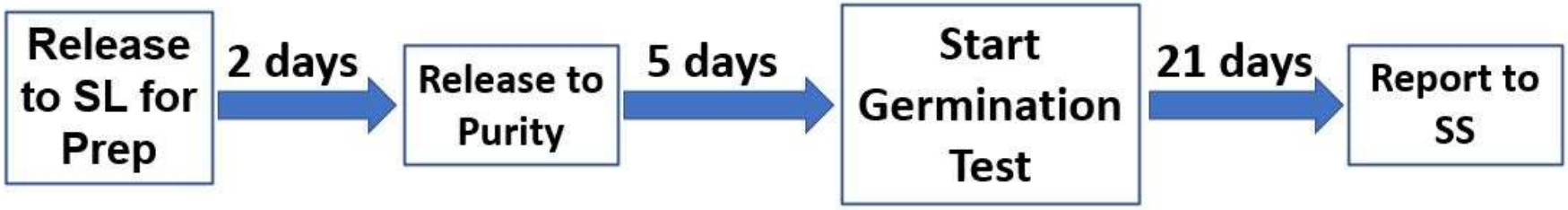


- **Benchmark turnaround time: 28 days (FY 22-23*)**

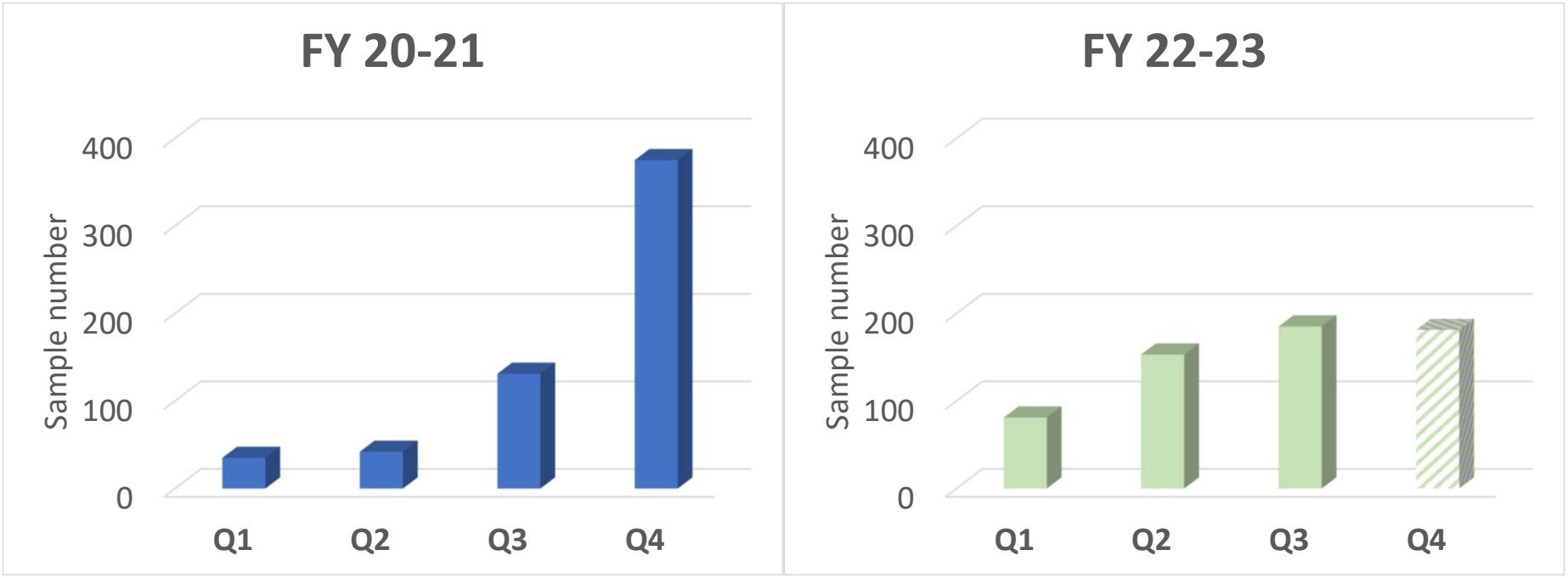
Turnaround Time

- **<u>Benchmark</u> turnaround time is <u>28 days</u> for FY 22-23*.**



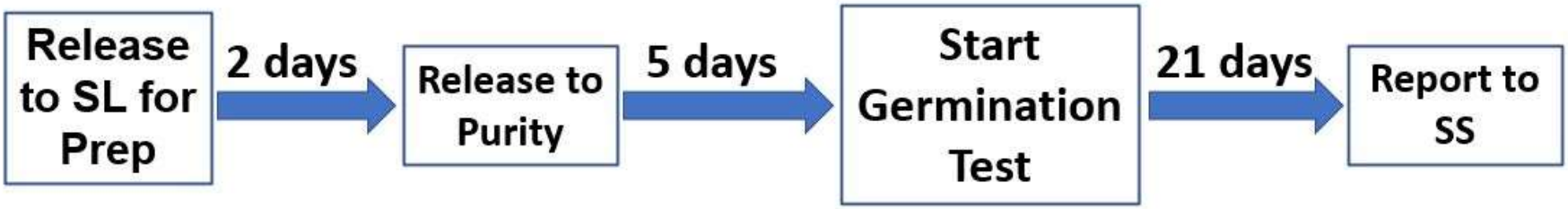
- **Most significant factors that add to turnaround time:**
  - **Distribution of samples released to seed lab**
  - **Scheduling**

Sample Distribution By Quarter
FY 20-21 and 22-23*



Turnaround Time

Ways of Reducing Turnaround Time:



- **More efficient scheduling of processing/testing**
- **Early termination of germination tests**

Turnaround Time

Ways of Reducing Turnaround Time:

- **Early termination of germination tests**
  - **-Example: cauliflower sample**
  - **-Labeled germination is 90%**
  - **-First count (5 days) in our test: 84%**
  - **-Can terminate testing early (germination label is true)**

Turnaround Time

Ways of Reducing Turnaround Time:

- **Early termination of germination tests**
  - **Has advantages and disadvantages**

Turnaround Time (days) FY 22-23*

Type	22-23*
Agricultural	16.3
Lawn Seed	25.9
Vegetables	16.8
Weighted Average (actual)	18.1
Benchmark	28

Activities in Support of the Seed Industry

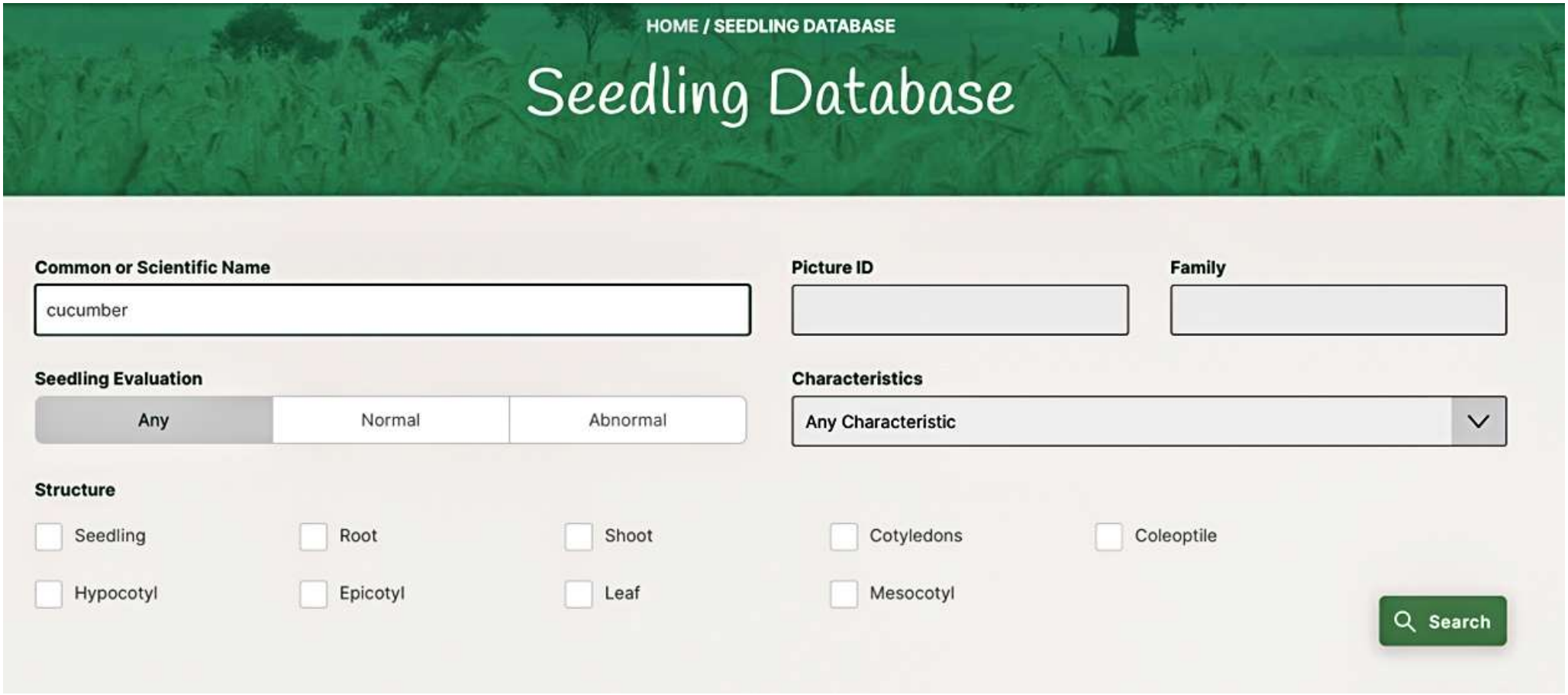
- **Training**
  - **Seed Biology, Quality and Pathology course; June 2022 (Seed Biotechnology Center, UCD)**
  - **Seed Counts and Purity Weights for new species- Training seminar, January, 2023**
  - **Seedling Evaluation Webinar (March, 2023)**
  - **Germination and Seedling Evaluation (June, 2023)**

Activities in Support of the Seed Industry

- Training
- **Changes to testing rules: the Seed Lab was involved in 67% of all proposed changes/revisions to the Rules. Examples:**
  - **Improve uniformity of seedling evaluations-lettuce**
  - **Revise germination reporting requirements**
  - **Add hard seed reporting requirements**

Activities in Support of the Seed Industry

- Training
- Changes to testing rules
- **Seedling Evaluation Database**


HOME / SEEDLING DATABASE
Seedling Database
Common or Scientific Name
cucumber
Picture ID
Family
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Any
Normal
Abnormal
Characteristics
Any Characteristic
Structure
Seedling
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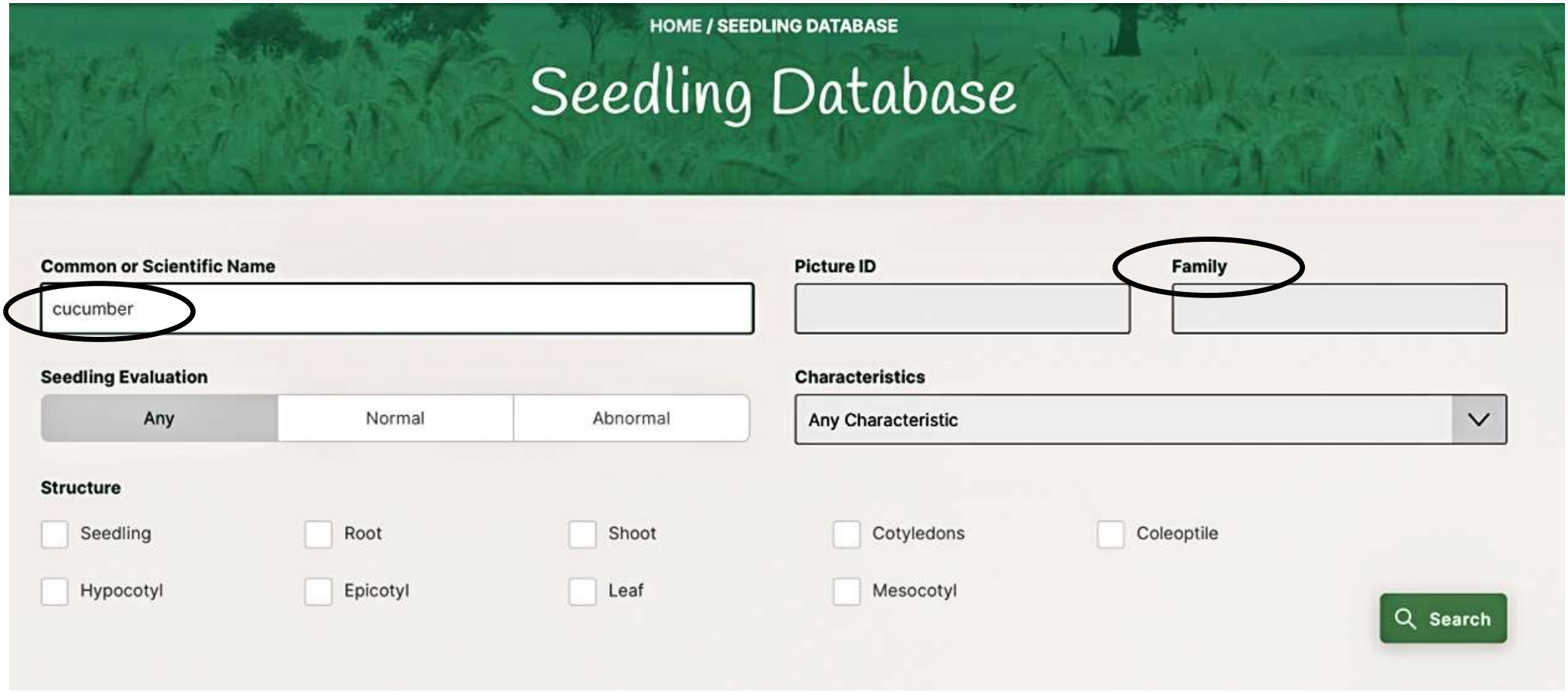
Shoot
Cotyledons
Coleoptile
Hypocotyl
Epicotyl
Leaf
Mesocotyl
Search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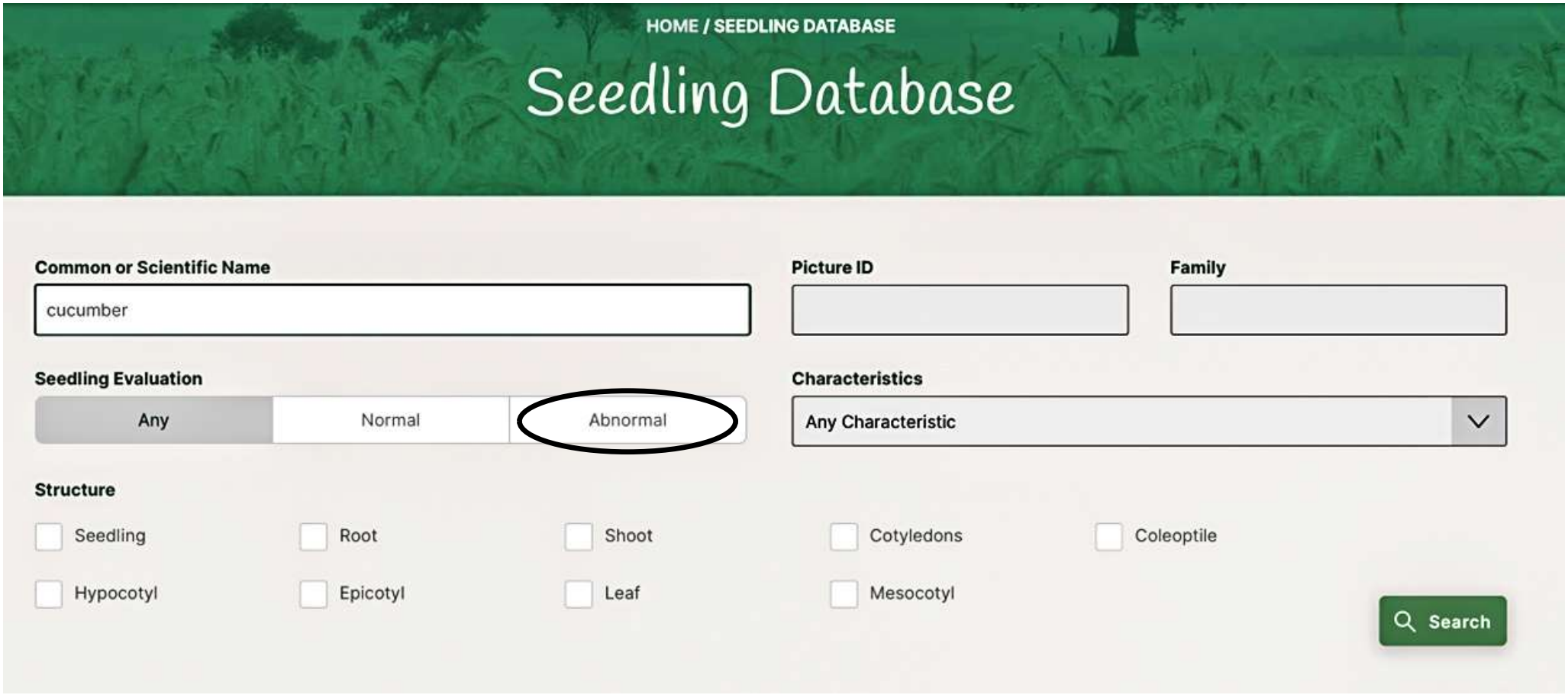
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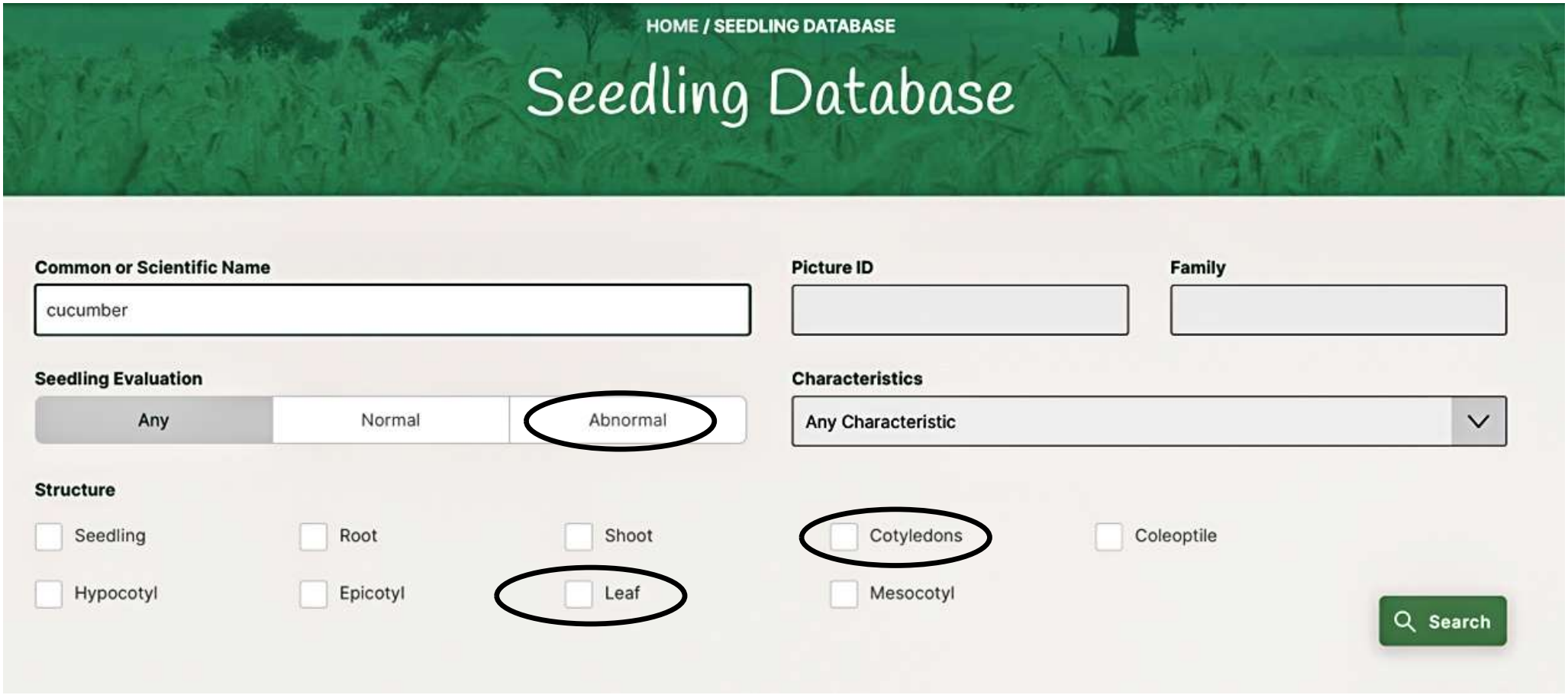
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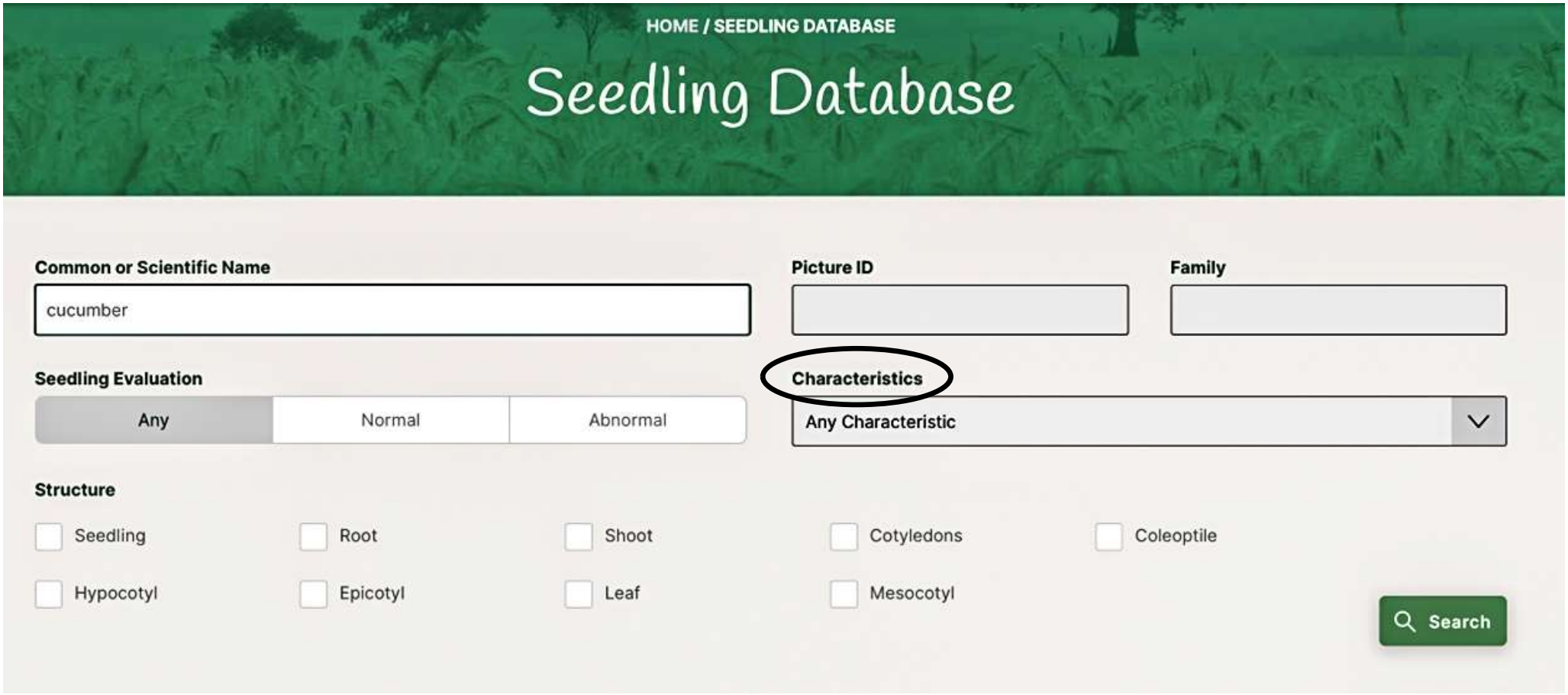
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Cucumber-1

Full Size

Screenshot

Cucumber-1

Picture ID	Cucumber-1
Common Name	Cucumber
Scientific Name	Cucumis sativus
Family	Cucurbitaceae
Section (Vol. 4)	CUCURBITACEAE, CUCURBIT FAMILY
Evaluation	Abnormal
Characteristics	Primary root Secondary root

Structure	**Description**
Root	Missing primary root, weak/deformed secondary roots
Shoot	Normal shoot
Cotyledons	Normal
Coleoptile	Normal
Hypocotyl	Normal
Notes	Secondary roots not enough to replace missing primary root

Thank You!