


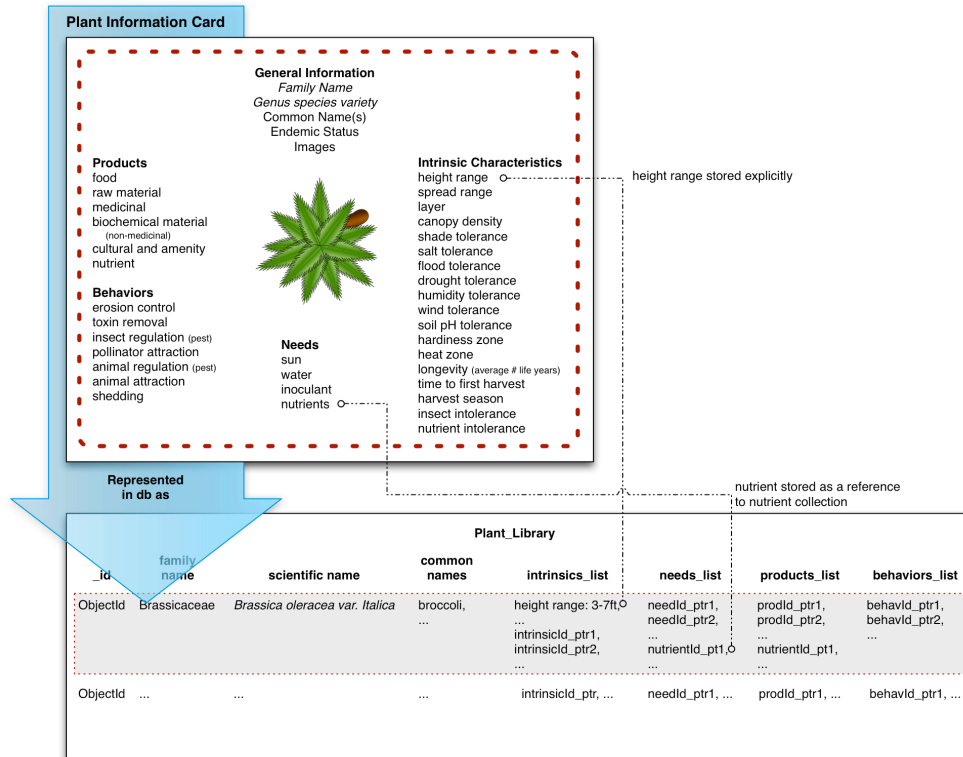
Database Schema Depiction (incomplete)

The database will have the ability to show the following information about each plant.

Plant Information Card

General Information		
<i>Family Name</i>		
<i>Genus species variety</i>		
Common Name(s)		
Endemic Status		
Images		
Products		Intrinsic Characteristics
food		height range
raw material		spread range
medicinal		layer
biochemical material (non-medicinal)		canopy density
cultural and amenity		shade tolerance
nutrient		salt tolerance
		flood tolerance
		drought tolerance
		humidity tolerance
		wind tolerance
		soil pH tolerance
		hardiness zone
		heat zone
		longevity (average # life years)
		time to first harvest
		harvest season
		insect intolerance
		nutrient intolerance
Behaviors	Needs	
erosion control	sun	
toxin removal	water	
insect regulation (pest)	inoculant	
pollinator attraction	nutrients	
animal regulation (pest)		
animal attraction		
shedding		

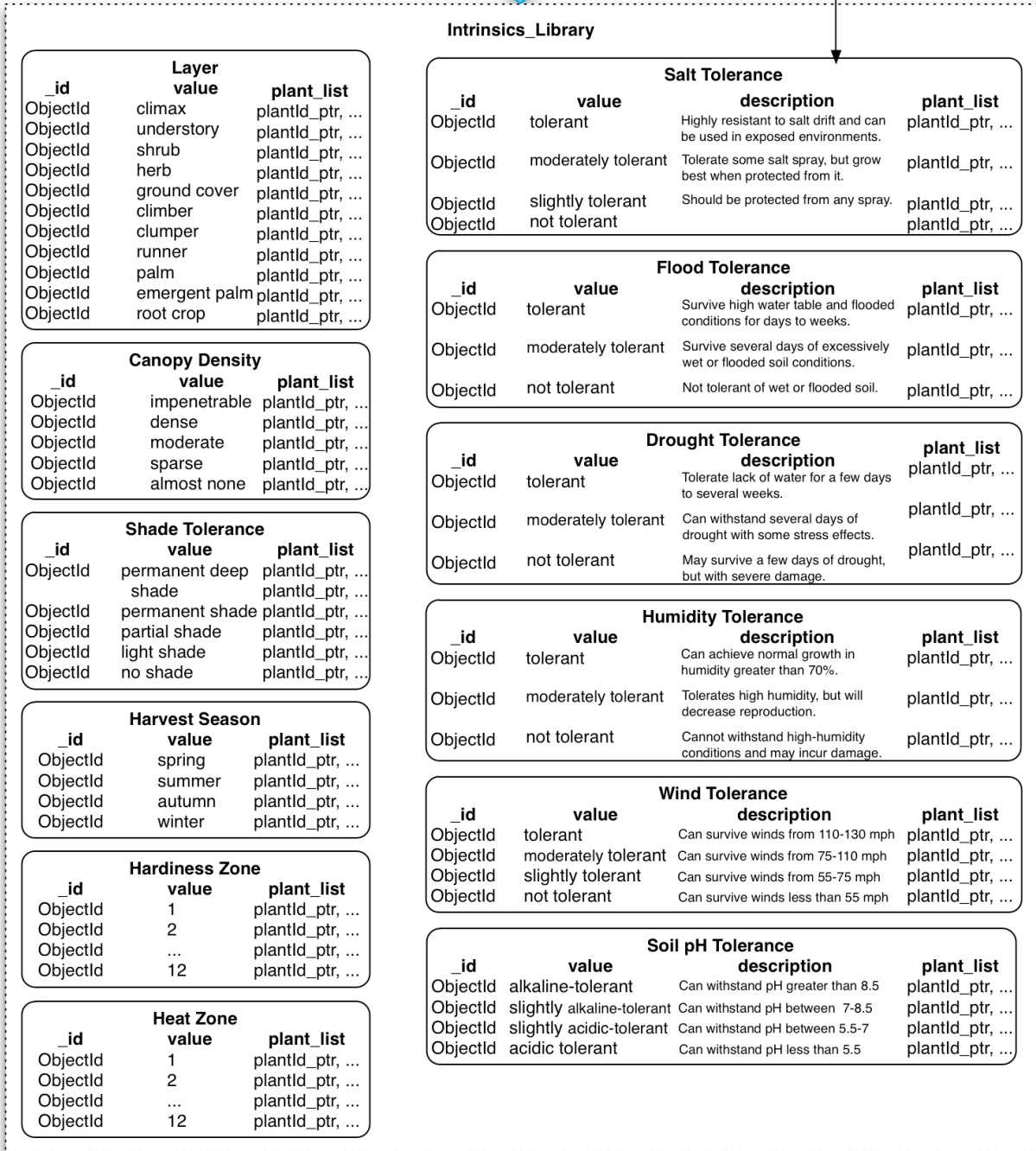
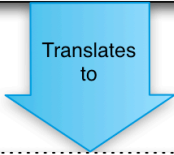
Each plant is a document in the Plant_Library collection. All information unique to that particular plant, (General Info: {scientific name, common names, images}, Intrinsic Chars {height range, spread range, longevity, time to first harvest}) will be explicitly stored in the document. All remaining information will be stored as a mongo DBRef to the corresponding Library Entry.



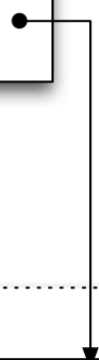
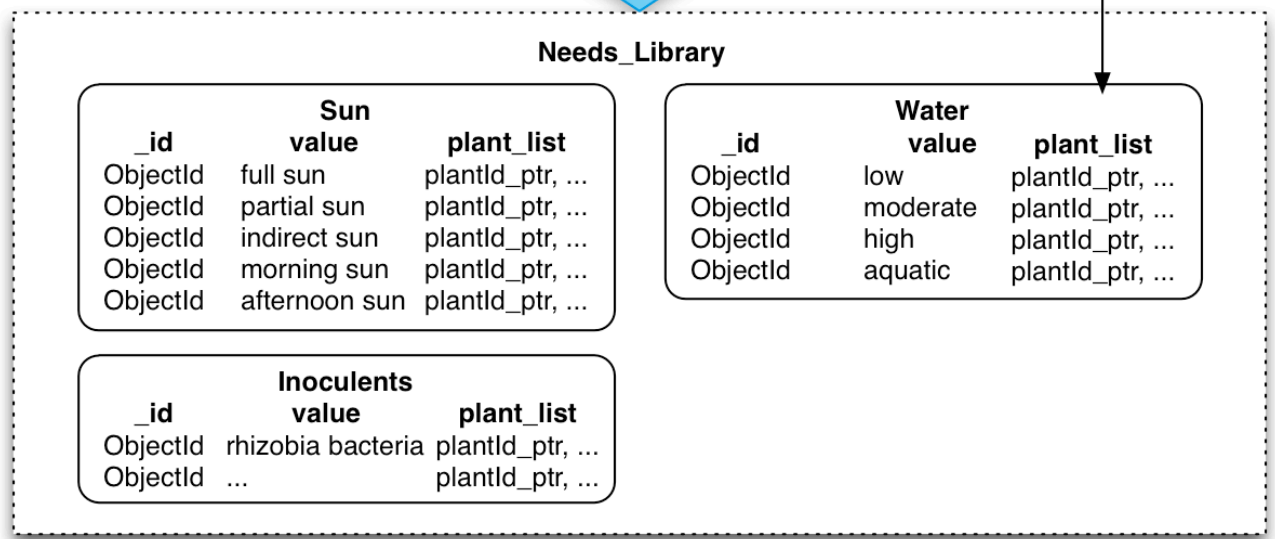
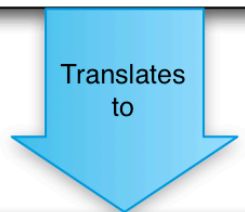
Libraries:

There are a total of five Libraries: Intrinsic, Needs, Products, General, and Plant. Each of the first four libraries (Intrinsic, Needs, Products, General) is a collection of documents that store names and a MongoDB DBref to the collections that make up the content of the libraries (e.g. Intrinsic stores a DBref to the Layer collection). The library-content collections (e.g., Layer) contain documents that represent values for that property. Each document has a plant_list property which stores all of the documents in Plant_Library that reference that particular document. This is for easy reverse look-up (i.e., find all plants of the climax layer).

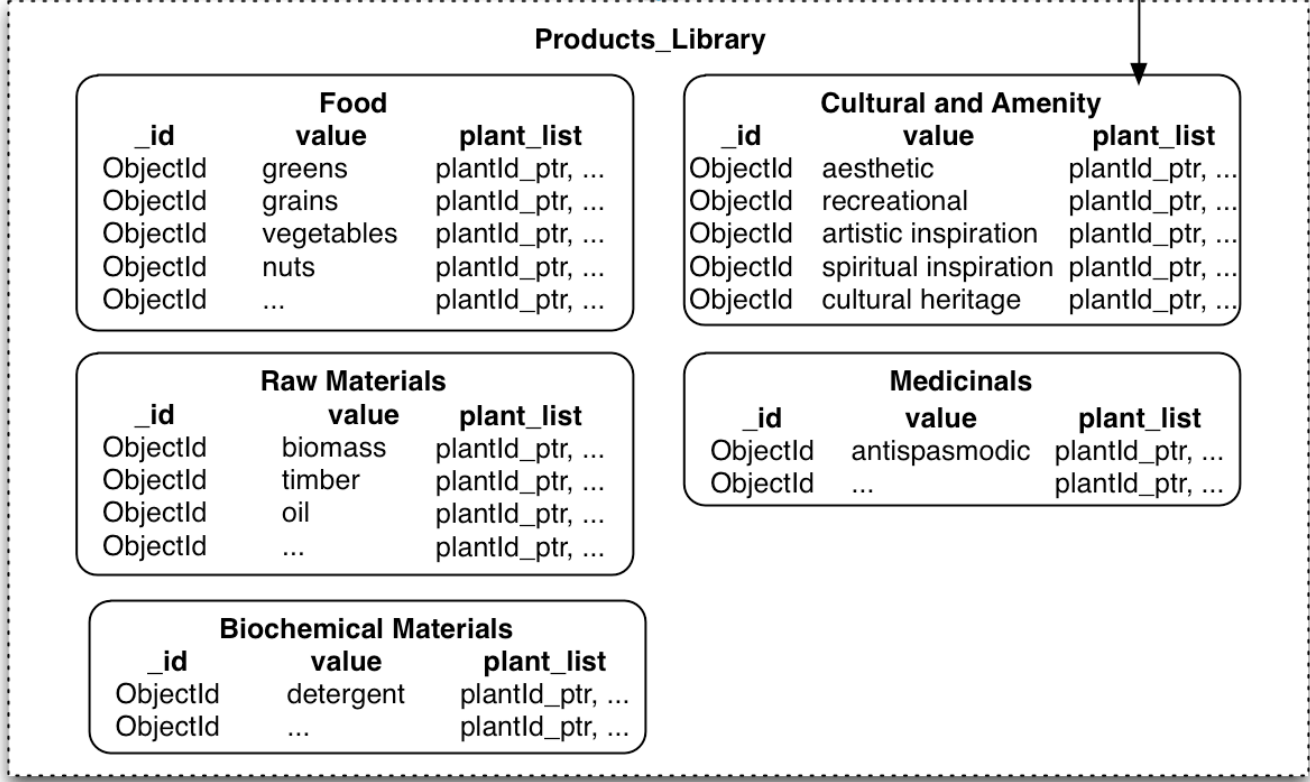
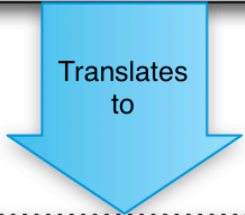
_id	value	collection_ref
Objectld	Layer	collectionld_ptr
Objectld	Canopy Density	collectionld_ptr
Objectld	Harvest Season	collectionld_ptr
Objectld	Shade Tolerance	collectionld_ptr
Objectld	Salt Tolerance	collectionld_ptr
Objectld	Flood Tolerance	collectionld_ptr
Objectld	Drought Tolerance	collectionld_ptr
Objectld	Humidity Tolerance	collectionld_ptr
Objectld	Wind Tolerance	collectionld_ptr
Objectld	Soil pH Tolerance	collectionld_ptr
Objectld	Hardiness Zone	collectionld_ptr
Objectld	Heat Zone	collectionld_ptr
Objectld	Insect Intolerance	collectionld_ptr



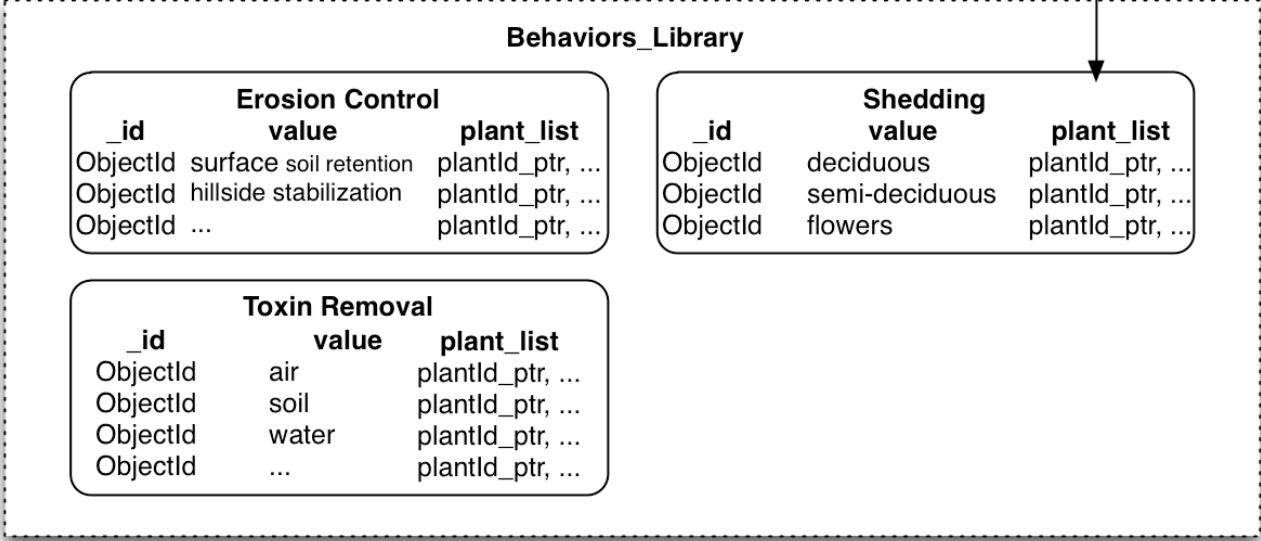
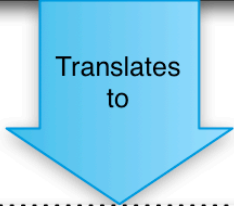
Needs_Library		
_id	value	collection_ref
Objectld	Sun	collectionld_ptr
Objectld	Water	collectionld_ptr
Objectld	Inoculants	collectionld_ptr



Products_Library		
_id	value	collection_ref
Objectld	Food	collectionld_ptr
Objectld	Raw Materials	collectionld_ptr
Objectld	Medicinals	collectionld_ptr
Objectld	Biochemical Materials	collectionld_ptr
Objectld	Cultural and Amenity	collectionld_ptr



Behaviors_Library		
_id	value	collection_ref
Objectld	Erosion Control	collectionld_ptr
Objectld	Toxin Removal	collectionld_ptr
Objectld	Shedding	collectionld_ptr



The general library stores those properties that are needed by several libraries. For example Nutrients are specified as a need, a product, and an intolerance (intrinsic char). The General Library also stores common properties for the general information of the plant (e.g. Endemic Status, and Family Name).

