

UNIVERSITY OF WASHINGTON

Final Project

Info538: Metadata Design Studio

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The contents of this document include the 4 exercises assigned to us over the course of Fall Qtr, for the learning of Metadata Design as might be encountered in a real world. Our hypothetical user group for which we designed was the Ark of Taste. The project began with conceptualizing the entities that represented the focal points around which actions occur at Ark of Taste. It proceeded with our conceptualizing the verbs representing the fundamental actions that needed to occur between entities in order to make the community function. It culminated with our codifying the representation of our entities and their relationships into machine recognizable language.

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PART I Functional Requirements and Domain Model

The brochure for the Ark of Taste states its mission as rediscovering, describing, and promoting forgotten flavors. These flavors come from foods that have long standing traditions of use in the communities from which they originate and are produced by locals who generally are growing and raising these foods with no design on their marketability or interest in mass appeal. What makes these flavors so important is that they have survived generations of time (on the human timetable), and are pivot points around which communities have evolved which in turn have been the pivot points around which human identities have evolved. Unfortunately, due to competing pressures on people's times and lack of economic viability they are disappearing.

Ark of Taste wishes to intervene before more foods disappear so that their traditions can be documented, shared, and revived. To that end it has in the years intervening between 1996 and the present, brought into the Ark 800 products from 50 countries (see website: http://www.slowfoodusa.org/index.php/programs/details/ark_of_taste/) based on a set of criteria that includes tests of tastiness and a perception of scarcity.

Therefore, central to Ark of Taste are foodstuffs, their name, description, information about where they are grown, how they are cultivated, who produces or supplies them, recipes, and the traditions and cultures surrounding them. There is no food type that isn't eligible in the Ark so long as it is not produced commercially, has ties to a local tradition, and is produced sustainably. Peripherally important to Ark of Taste are those people who browse the edges of our domain. These are the 'lurkers', researchers, scientists, homeopaths, naturopaths, and 'foodies' who through their interest in a place name, document, or recipe, will discover our site, and come to be central players at Ark of Taste.

The model outlined below came about as a result of high level reflection of Ark of Taste's mission and goals. It is the first conceptual step toward building an application model that will hopefully contain all the metadata Ark of Taste needs to ultimately build an effective machinery for engaging a its' intended community in its' mission. It contains six primary entities important to the Ark of Taste community's mission. These are Foodstuffs, Uses, Places, Agents, Documents, and Growing Conditions. The relationships linking the entities will hopefully be sufficient to build a framework for underlying metadata indexes whose tags will promote user needs.

The application model for Ark of Taste should help its' users ie. community do the following:

Functional Requirements

- Find recipes and descriptions of uses for Ark Foodstuffs
- Learn about the growing conditions and methods of production of Ark Foodstuffs

- Get names of suppliers and producers of Ark Foodstuffs
- Learn about the history and origins on the foodstuffs

Helping to visualize those needs are the following persona and scenarios:

Persona 1:

NW gardener wishing to add interest to her garden will try a new variety of vegetable eg. Speckled lettuce listed on Ark. She locates the contact info a seed supplier in listed in the Agent entity and contacts them.

Persona 2:

A family run operation producing of tradition bound fine cheese in rural Maine nominates himself to the Ark, gets admitted and listed, and attracts more buyers for his cheese. His family has two farms and they are both listed under his business name in the Agent and Location Entity.

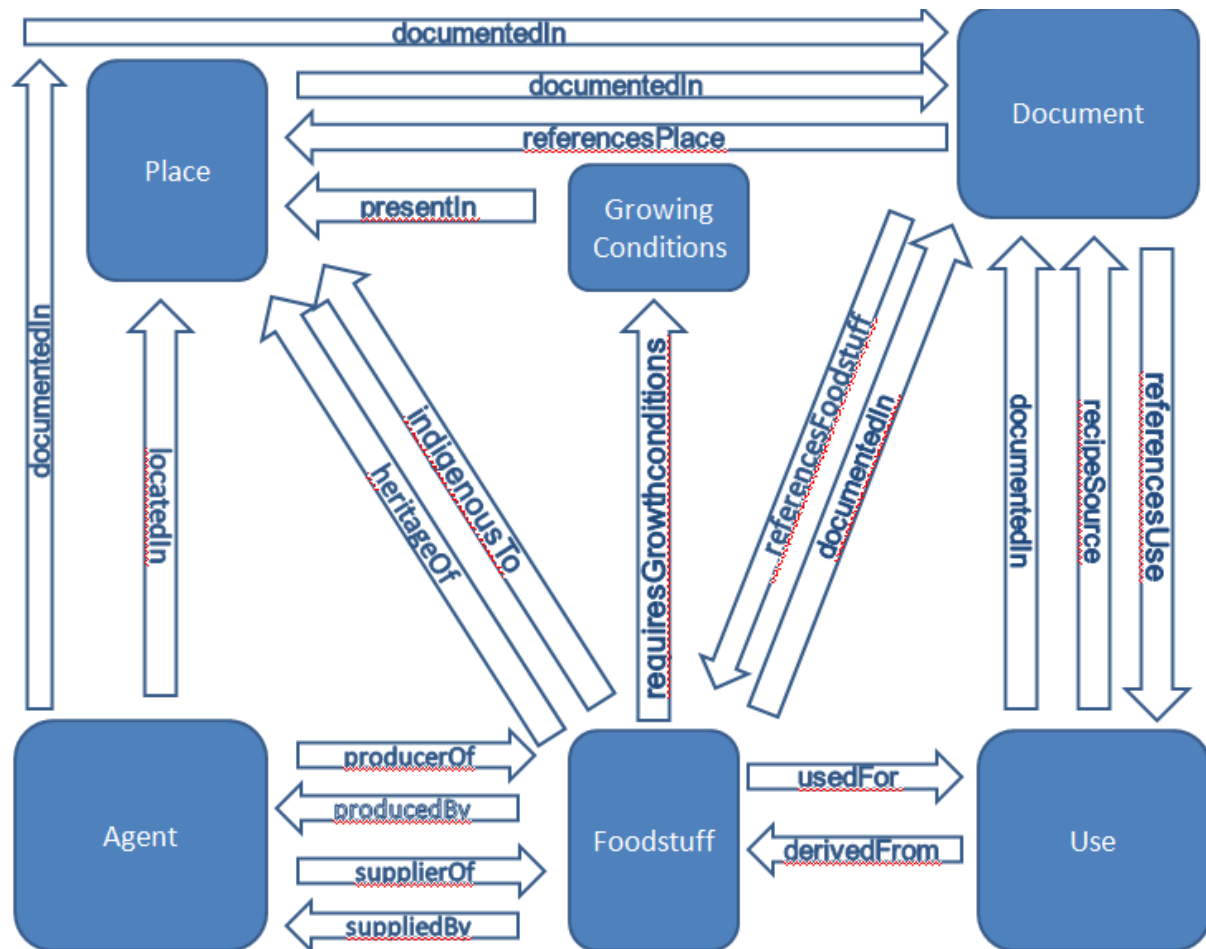
Scenario 1:

Ark metadata properties (specifically their URIs) are included in instances of other domains such as recipe sites. These linkages will be the byways by which the Ark will draw peripheral stakeholders to endangered foods and flavors.

Scenario 2:

Ark metadata generators for the GrowingConditions Entity will have tags for associating pest, weed, and pollination problems of Ark foodstuffs with proven non-pesticide and non-herbicide solutions like ladybugs for aphids, bees for pollination, and the duck/rice paddy pairing for weed control in the promotion of sustainable practices.

Graphic Model



The entities and their relationships of the above model are qualified below:

FOODSTUFF this will be any food that the Ark deems 'Ark worthy'. Descriptive elements will be cheese, fruit, vegetable, domestic animal, etc.

Foodstuff <usedFor> Use foodstuff can have more than one use.

Foodstuff<producedby>Agent foodstuff can be grown or raised by more than one agent.

Foodstuff<suppliedBy>Agent foodstuff can be supplied by more than one agent.

Foodstuff<documentedIn>Document foodstuff can have an interesting history documented in a narrative, on media, in a book, etc.

Foodstuff<heritageOf>Place foodstuff has a heritage in one or more place. Since it is a criteria of the Ark that foods have cultural significance, it will be given a property that will link it to the place it originates from. One reason to have this relationship is in case of the absence of a document outlining the heritage of a place, it will be useful to at least have the association that can be enriched later with entries in Documents.

Foodstuff<indigenousTo>Place foodstuff may be indigenous to a place other than its' place of heritage eg. tomato is indigenous to South America but it's heritage is in Italy. This property will account for such discrepancies. Also, foodstuff may be indigenous to more than one place.

Foodstuff<requiresGrowthconditions>Growing Conditions this relationship will connect the foodstuff with its' unique growing conditions of which there will be many.

GROWING CONDITIONS descriptive elements will be soil type, water needs, hours of sunlight, typical pests, beneficial insects, etc.

Growing Conditions<presentIn>Place this relationship will show where growing conditions can be found and there will be more than one place in many cases where this is true.

USE descriptive elements will be like medicine/antibiotic, cosmetic/rouge, medicine/expectorant, etc. and each term will be defined.

Use<derivedFrom>Foodstuff this will show relationships between any single use that is found in more than one foodstuff.

Use<documentedIn>Document this will show relationships between a use and related documents.

Use<recipeSource>Document this will show relationship between a use of a foodstuff and its' recipes.

AGENT descriptive elements will be name, address fields, telephone numbers, etc...contact info.

Agent<producerOf>Foodstuff this is the reciprocal relationship to Foodstuff<producedBy>Agent and will capture relationships where agents are supplying more than one foodstuff.

Agent<supplierOf>Foodstuff this is the reciprocal relationship to Foodstuff<suppliedBy>Agent and will capture relationships where agents are supplying more than one foodstuff

Agent<documentedIn>Document this will show relationship between an agent and documents about the agent.

Agent<locatedIn>Place this will show relationship between agent and the place or places where he is supplies or produces a foodstuff.

DOCUMENT descriptive elements will be taken from Dublin Core.

Document<referencesFoodstuff>Foodstuff this will show relationship between documents that are about more than one foodstuff.

Document<referencesUse>Use this will show relationship between documents that are about more than one use.

Document<referencesPlace >Use this will show relationship between documents that are about more than one place.

PLACE descriptive elements for this will be region codes, place names, climate, etc.

Place<documentedIn>Document this will show relationship between place that is documented in more than one document.

PART II Term Declarations

ENTITY/PROPERTY TABLES

FOODSTUFF

AP Label	Foodstuff
URI	http://infx.org/kresl/Foodstuff
Namespace	http://infx.org/kresl/
Source Definition	An ingredient that is primarily ingested by humans, usually for the purpose of pleasure.
AP Comment	Examples in this AP include, but are not limited to, vegetables, fruits, animals, cheeses, breads, beverages & food flavorings. Any side benefits relating to cosmetic or medicinal powers will be mentioned.
Type of Term	Class

AP Label	Description
URI	http://purl.org/dc/elements/1.1/description
Namespace	http://purl.org/dc/elements/1.1/
Source Definition	Description may include but is not limited to: an abstract, a table of contents, a graphical representation, or a free-text account of the resource.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Required
Non-literal (relationship)	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Foodstuff
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (dcterms:description)

LiteralValueString (“The Harrison is a small, round-oblong apple that is generally yellow in color, but sometimes, in the Mid-Atlantic States, it is blushed a light pink. Tiny black spots on the skin surface give it a rough texture. The flavor is similar to a quince, making it suitable for dessert as well as cider.”)
)

AP Label	Category
URI	http://infx.org/kresl/category
Namespace	http://infx.org/kresl/
Source Definition	This will identify the Foodstuff as plant, herb, flower, animal.
Comment	Alternate term to consider for this is category.
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Yes Language Tag: Not Allowed
Non-literal (relationship)	Value URI: Yes VES URI (specify): Yes Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Foodstuff
Range	http://infx.org/kresl/category
Min. Occurrence	0
Max. Occurrence	Infinity

DC-Text

Statement(

PropertyURI (infx:category)

Value URI (<http://infx.org/kresl/category/flower>)

VES URI (<http://infx.org/kresl/categoryList/>)

ValueString (“Flower”)

)

AP Label	Tradition
URI	http://infx.org/kresl/tradition
Namespace	http://infx.org/kresl/
Source Definition	This will identify traditions for which foodstuff is prepared and includes but isn't limited to Christmas, Winter Solstice, Bar Mitzvah, Easter, etc.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Required
Non-literal (relationship)	Value URI: Not Allowed VES URI (specify): Not Allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Foodstuff
Range	http://infx.org/kresl/traditionsVoc/
Min. Occurrence	0
Max. Occurrence	Infinity

DC-Text Encoding

Statement (

PropertyURI (infx:tradition)

ValueString (“cider festivals”)

)

AP Label	Used For
URI	http://infx.org/kresl/usedFor
Namespace	http://infx.org/kresl/
Source Definition	A use that is the topic of the resource.
Comment	Use must be primarily for food but can additionally be cosmetic, medicinal, or used to support customs such as sheep for wool, or vegetables for dyes, etc.

Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Foodstuff
Range	Use
Min. Occurrence	1
Max. Occurrence	Infinity

DC-Text Encoding

Statement (

PropertyURI (infx:usedFor)

ValueURI (<http://infx.org/kresl/medicineUse>)

)

AP Label	Requires Growth Conditions
URI	http://infx.org/kresl/requiresGrowthConditions
Namespace	http://infx.org/kresl/
Source Definition	Identifies the elements needed to cultivate or grow this foodstuff.
Comment	
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable

Domain	Foodstuff
Range	Growing Conditions
Min. Occurrence	1
Max. Occurrence	Infinity

DC-Text

Statement (

PropertyURI (infx:requiresGrowthConditions)

ValueURI (<<http://infx.org/kresl/GrowingConditions/12>>)

)

AP Label	Supplied By
URI	http://infx.org/kresl/suppliedBy
Namespace	http://infx.org/kresl/
Source Definition	The name of whoever supplies the food source.
Comment	Full name or business name.
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Foodstuff
Range	Agent
Min. Occurrence	0
Max. Occurrence	Infinity

DC-Text

Statement (

PropertyURI (infx:suppliedBy)

Value URI (<http://infx.org/kresl/Agent/9834>)

)

AP Label	Produced By
URI	http://infx.org/kresl/producedBy
Namespace	http://infx.org/kresl/
Source Definition	The name of whoever raises or cultivates the food source.
Comment	Full name or business name.
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Foodstuff
Range	Agent
Min. Occurrence	0
Max. Occurrence	Infinity

DSP Encoding

Statement (

PropertyURI (infx:producedBy)

ValueURI (<http://infx.org/kresl/Agent/9834>)

)

AP Label	Heritage Of
URI	http://infx.org/kresl/heritageOf
Namespace	http://infx.org/kresl/
Source Definition	A geographic place that a nation, ethnic group, tribe, or peoples is known producing for the food source as part of its' culture.
Comment	

Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Foodstuff
Range	Place
Min. Occurrence	1
Max. Occurrence	Infinity

DSP Encoding

Statement (

PropertyURI (infx:heritage)

ValueURI (<http://infx.org/kresl/places/Mid-Atlantic>)

)

AP Label	Indigenous To
URI	http://infx.org/kresl/indigenousTo
Namespace	http://infx.org/kresl/
Source Definition	A location where the food source originated, was first discovered, or was first produced.
Comment	
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable

Domain	Foodstuff
Range	Place
Min. Occurrence	1
Max. Occurrence	Infinity

DSP Encoding

Statement (

PropertyURI (infx:indigenousTo)

ValueURI (<http://infx.org/kresl/Place/3245>)

)

DOCUMENT

AP Label	Document
URI	http://infx.org/kresl/Document
Namespace	http://infx.org/kresl/
Source Definition	Documents will be described with descriptive properties.
AP Comment	Descriptive properties will include date, creator, format, description, language, subject, abstract, recipe.
Type of Term	Class

AP Label	Has Format
URI	http://purl.org/dc/terms/hasFormat
Namespace	http://purl.org/dc/terms/
Source Definition	A related resource that is substantially the same as the pre-existing described resource, but in another format.
Comment	Format can include but isn't limited to audio recording, video recording, book, journal, etc.
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed

Non-literal (relationship)	Value URI: Yes VES URI (specify): Yes Value String: No Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Document
Range	http://infx.org/kresl/formatVoc/
Min. Occurrence	0
Max. Occurrence	1

Statement (

PropertyURI (dcterms:format)

ValueURI (<http://infx.org/kresl/hasFormat/5>)

VES URI (<http://infx.org/kresl/formatVoc/>)

)

AP Label	References Foodstuff
URI	http://infx.org/kresl/referencesFoodstuff
Namespace	http://infx.org/kresl/
Source Definition	Identifies the foodstuff referenced in the document.
Comment	
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Document
Range	Foodstuff
Min. Occurrence	0
Max. Occurrence	Infinity

DSP Encoding

Statement (

PropertyURI (infx:referencesFoodstuff)

ValueURI (<http://infx.org/kresl/referencesFoodstuff/13>)

)

AP Label	References Use
URI	http://infx.org/kresl/referencesUse
Namespace	http://infx.org/kresl/
Source Definition	Identifies the use that a document is referencing.
Comment	
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Document
Range	Use
Min. Occurrence	0
Max. Occurrence	Infinity

DSP Encoding

Statement (

PropertyURI (infx:referencesUse)

ValueURI (<http://infx.org/kresl/Use/7963>)

)

AP Label	References Place
----------	------------------

URI	http://infx.org/kresl/referencesPlace
Namespace	http://infx.org/kresl/
Source Definition	Identifies the place that a document pertains to.
Comment	
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Document
Range	Place
Min. Occurrence	0
Max. Occurrence	Infinity

DSP Encoding

Statement (

PropertyURI (infx:referencesPlace)

ValueURI (<<http://infx.org/kresl/Place/3245>>)

)

AP Label	Title
URI	http://purl.org/dc/elements/1.1/title
Namespace	http://purl.org/dc/elements/1.1/
Source Definition	A name given to the resource.
Comment	Typically, a Title will be a name by which the resource is formally known.
Type of Term	Property
Sub-property Of	--
Usage in this AP	Used to express the title of a resource documenting a Foodstuff.
Literal	Required Language Tag: Required
Non-literal	Value URI: Not allowed

	VES URI (specify): Not allowed Value String: Yes SES URI (specify): Not allowed
Domain	Document
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity (allow for title in different languages)

DSP Encoding

Statement (

PropertyURI (dc:title)

LiteralValueString ("Harrison Cider Apple")

)

AP Label	Date Copyrighted
URI	http://purl.org/dc/terms/dateCopyrighted
Namespace	http://purl.org/dc/terms/
Source Definition	Date copyrighted.
Comment	
Type of Term	Property
Sub-property Of	dcterms:date
Usage in this AP	If copyright date is unknown or doesn't exist, use 'Unknown'.
Literal	Required
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Required
Domain	Document
Range	http://purl.org/dc/terms/W3CDTF
Min. Occurrence	0
Max. Occurrence	Infinity

DSP Encoding

Statement (

PropertyURI (dcterms:dateCopyrighted)

LiteralValueString (“Unknown”)

SyntaxEncodingSchemeURI (<http://purl.org/dc/terms/W3CDTF>)

)

AP Label	Date
URI	http://purl.org/dc/terms/date
Namespace	http://purl.org/dc/terms/
Source Definition	A point or period of time associated with an event in the lifecycle of the resource.
Comment	--
Type of Term	Property
Sub-property Of	http://purl.org/dc/terms/subject
Usage in this AP	If the date is unknown, as may be the case in a recipe, use ‘Unknown’
Literal	Required
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): http://purl.org/dc/dcterms/W3CDTF
Domain	Document
Range	http://purl.org/dc/dcterms/W3CDTF
Min. Occurrence	0
Max. Occurrence	1

DC Text

Statement (

PropertyURI (dcterms:date)

LiteralValueString (“Unknown”)

SyntaxEncodingSchemeURI (<http://purl.org/dc/dcterms/W3CDTF>)

)

AP Label	Creator
URI	http://purl.org/dc/terms/creator
Namespace	http://purl.org/dc/terms/
Source Definition	An entity primarily responsible for making the resource.
Comment	Examples of a Creator include a person, an organization, or a service. Typically, the name of a Creator should be used to indicate the entity.
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: No
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Document
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

DC Text

Statement (

PropertyURI (dcterms:creator)

LiteralValueString ("Ark of Taste")

)

AP Label	Abstract
URI	http://purl.org/dc/terms/abstract
Namespace	http://purl.org/dc/terms/
Source Definition	A summary of the resource.
Comment	
Type of	Property

Term	
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Required
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Document
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (dcterms:abstract)

LiteralValueString("Abstract about Harrison apple"Language(en))

)

AP Label	Recipe
URI	http://infx.org/kresl/recipe
Namespace	http://infx.org/kresl/
Source Definition	Informs whether the document is a recipe.
Comment	This is a "yes"/"no" element.
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Required
Non-literal	Value URI: Not allowed VES URI (specify): http://infx.org/kresl/recipeYN

	Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Document
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:recipe)

LiteralValueString("This is a recipe..."(en))

VES URI (http://infx.org/kresl/recipeYN)

)

GROWING CONDITIONS

AP Label	Growing Conditions
URI	http://infx.org/kresl/GrowingConditions
Namespace	http://infx.org/kresl/
Source Definition	A condition for growing or cultivating a foodstuff.
AP Comment	Examples in this AP include but not limited to water requirements, soil pH, minimum temperature, altitude, and growing region.
Type of Term	Class

AP Label	Present In
URI	http://infx.org/kresl/presentIn
Namespace	http://infx.org/kresl/
Source Definition	Name of location(s) where this foodstuff is cultivated or raised.
Comment	
Type of Term	Property
Sub-property Of	
Usage in this AP	--

Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Growing Conditions
Range	Place
Min. Occurrence	1
Max. Occurrence	Infinity

Statement(

PropertyURI (infx:presentIn)

ValueURI (http://infx.org/kresl/places/Washington)

)

AP Label	Water Requirement
URI	http://infx.org/kresl/waterRequirement
Namespace	http://infx.org/kresl/
Source Definition	Currently, this will describe water requirements in general terms: wet, dry, or moist conditions.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Not allowed
Non-literal	Value URI: yes VES URI: Yes
Domain	Growing Conditions
Range	http://infx.org/kresl/waterReqs/
Min. Occurrence	0
Max. Occurrence	Infinity

Statement(

PropertyURI (infx:waterRequirement)

ValueURI (<http://infx.org/kresl/waterReqs/dry>)

VESURI (<http://infx.org/kresl/waterReqs/>)

)

AP Label	Light Requirement
URI	http://infx.org/kresl/lightRequirement
Namespace	http://infx.org/kresl/
Source Definition	Currently, this will describe light requirements in general terms: all day, morning sun, evening sun, shade, etc.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Not allowed
Non-literal	Value URI: yes VES URI: Yes
Domain	Growing Conditions
Range	http://infx.org/kresl/lightReqs/
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:lightRequirement)

ValueURI (<http://infx.org/kresl/lightRequirement/fullSun>)

VesURI (<http://infx.org/kresl/lightReqs/>)

)

AP Label	Soil pH
URI	http://infx.org/kresl/soilpH

Namespace	http://infx.org/kresl/
Source Definition	Currently, this will describe soil pH requirements in general terms: acid, alkaline.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Not allowed
Non-literal	Value URI: yes VES URI: Required Value String: Not Allowed Language Tag: Not allowed SES URI: Not allowed
Domain	Growing Conditions
Range	http://infx.org/kresl/pHReqs/
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (<http://infx.org/kresl/soilpH>)

ValueURI (<http://infx.org/kresl/soilpH/alkaline>)

)

AP Label	Days to maturity
URI	http://infx.org/kresl/daystoMaturity
Namespace	http://infx.org/kresl/
Source Definition	Days are explicit.
Comment	Days will whole numbers like 1,2,3, etc.
Type of Term	Property
Sub-property Of	--
Usage in this AP	

Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Growing Conditions
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity (allow for title in different languages)

Statement (

PropertyURI (infx:daystoMaturity)

LiteralValueString ('60')

)

AP Label	Daytime Temperature
URI	http://infx.org/kresl/daytimeTemp
Namespace	http://infx.org/kresl/
Source Definition	Temperatures are explicit
Comment	Temperature will be integers in either Fahrenheit or Celsius.
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Growing Conditions
Range	--
Min. Occurrence	0

Max. Occurrence	1
-----------------	---

Statement (

PropertyURI (infx:daytimeTemperature)

LiteralValueString ("90")

)

AP Label	Day Length
URI	http://infx.org/kresl/dayLength
Namespace	http://infx.org/kresl/
Source Definition	Day length in terms of hours (whole numbers)
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Growing Conditions
Range	--
Min. Occurrence	0
Max. Occurrence	1

Statement (

PropertyURI (infx:dayLength)

LiteralValueString ('10')

)

AP Label	Humidity
URI	http://infx.org/kresl/humidity
Namespace	http://infx.org/kresl/
Source Definition	The relative humidity (RH value) is recorded as a percentage.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Growing Conditions
Range	--
Min. Occurrence	0
Max. Occurrence	1

Statement (

PropertyURI (infx:humidity)

LiteralValueString ('40')

)

AP Label	Soil Type
URI	http://infx.org/kresl/soilType
Namespace	http://infx.org/kresl/
Source Definition	Currently, this will describe soil with terms that include but aren't limited to: sandy, clay, heavy, light, etc.
Comment	
Type of	Property

Term	
Sub-property Of	--
Usage in this AP	
Literal	Not allowed
Non-literal	Value URI: yes VES URI: Yes
Domain	Growing Conditions
Range	http://sandbox.metadatareregistry.org/uri/soilTyp
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:soilType)

VES URI (<http://sandbox.metadatareregistry.org/uri/soilTyp/Sandy>)

)

AP Label	Pest Problems
URI	http://infx.org/kresl/pestProblems
Namespace	http://infx.org/kresl/
Source Definition	This will identify any pest (must be of the animal kingdom) affecting the cultivating and raising of foodstuff.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Yes VES URI (specify): Yes Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Growing Conditions

Range	
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:pestProblems)

LiteralValueString ('inch worms')

)

AP Label	Beneficial Relationships
URI	http://infx.org/kresl/beneficialRelationships
Namespace	http://infx.org/kresl/
Source Definition	The name of an animal or plant including but not limited to insects, herbs, flowers, etc.
Comment	This will identify any relationship between plant & plant, plant & animal, animal & animal that improves yields or longevity of food stuff.
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Growing Conditions
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:beneficialRelationships)

LiteralValueString ('bees')

)

USE

AP Label	Use
URI	http://infx.org/kresl/Use
Namespace	http://infx.org/kresl/
Source Definition	Uses will be identified and documented.
AP Comment	Examples in this AP include identifying medical, cosmetic, and food uses that are documented.
Type of Term	Class

AP Label	Derived From
URI	http://infx.org/kresl/derivedFrom
Namespace	http://infx.org/kresl/
Source Definition	Identifies the foodstuff that a use is based on.
Comment	
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Yes VES URI (specify): Not Applicable Value String: Yes Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Use
Range	Foodstuff
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:derivedFrom)

ValueURI (<http://infx.org/kresl/categoryList>)

)

AP Label	Recipe Source
URI	http://infx.org/kresl/recipeSource
Namespace	http://infx.org/kresl/
Source Definition	Identifies the document where the recipe is found.
Comment	Identifies the document where the recipe is found.
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Required
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not allowed Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Use
Range	Document
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:recipeSource)

ValueURI (<http://infx.org/kresl/Document>)

)

AP Label	Medicine Use
URI	http://infx.org/kresl/medicineUse
Namespace	http://infx.org/kresl/
Source Definition	This will identify the medical use of a Foodstuff and includes but isn't limited to terms: expectorant, diuretic, tonic, etc. Too many possibilities to predict.
Comment	

Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Use
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:medicineUse)

LiteralValueString ('an apple a day...')

)

AP Label	Cosmetic Use
URI	http://infx.org/kresl/cosmeticUse
Namespace	http://infx.org/kresl/
Source Definition	This will identify the cosmetic use of a Foodstuff and includes but isn't limited to terms: moisturizer, rouge, skin lightener, fragrance, etc.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed

	SES URI (specify): Not allowed
Domain	Use
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:cosmeticUse)

LiteralValueString ('some text')

)

AP Label	Folk Use
URI	http://infx.org/kresl/folkUse
Namespace	http://infx.org/kresl/
Source Definition	This will identify the use of a Foodstuff for decorative purposes such as crafts, toys, clothing eg. dye, etc.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Use
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:folkUse)

LiteralValueString ('apple bobbing')

)

PLACE

AP Label	Place
URI	http://infx.org/kresl/Place
Namespace	http://infx.org/kresl/
Source Definition	Place will be identified.
AP Comment	Place names will be taken from geonames.org.
Type of Term	Class

(PROPERTIES FOR THIS ENTITY FOUND UNDER "PROPERTIES WITH MULTIPLE DOMAINS")

AGENT

AP Label	Agent
URI	http://infx.org/kresl/Agent
Namespace	http://infx.org/kresl/
Source Definition	Agents will be identified and electively documented.
AP Comment	Descriptive elements will be full name, email address, street, city, zip, country, phone number.
Type of Term	Class

AP Label	Located In
URI	http://infx.org/kresl/locatedIn
Namespace	http://infx.org/kresl/
Source Definition	Location will map directly to a namespace at www.geonames.org.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in	

this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Required VES URI (specify): Not allowed Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent
Range	Place
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:locatedIn)

ValueURI (<http://infx.org/kresl/Place/3245>)

)

AP Label	Supplier Of
URI	http://infx.org/kresl/supplierOf
Namespace	http://infx.org/kresl/
Source Definition	Identifies what the supplier is selling.
Comment	Inverse relationship of AP Label: Supplied By.
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI:Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Agent
Range	Foodstuff
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:supplierOf)

ValueURI (<http://www.infx.org/kresl/category/fruit/HarrisonCiderApple>)

)

AP Label	Producer Of
URI	http://infx.org/kresl/producerOf
Namespace	http://infx.org/kresl/
Source Definition	Identifies what the agent produces.
Comment	Inverse relationship of AP Label: Produced By.
Type of Term	Property
Sub-property Of	
Usage in this AP	--
Literal	Not allowed
Non-literal (relationship)	Value URI: Required VES URI (specify): Not Applicable Value String: Not Applicable Language Tag: Not Applicable SES URI (specify): Not Applicable
Domain	Agent
Range	Foodstuff
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:ProducerOf)

ValueURI ("http://www.infx.org/kresl/category/fruit/HarrisonCiderApple")

)

AP Label	Full Name
URI	http://infx.org/kresl/fullName
Namespace	http://infx.org/kresl/
Source	The complete name of an agent, which could be any entity acting as an agent

Definition	whether person or business.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:fullName)

LiteralValueString ('Vintage Virginia Apples')

)

AP Label	Email Address
URI	http://infx.org/kresl/emailAddress
Namespace	http://infx.org/kresl/
Source Definition	Standard email address in the format: "name@address.com"
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required

	Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not Allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:emailAddress)

LiteralValueString (www.vintagevirginiaapples.com)

)

AP Label	Street
URI	http://infx.org/kresl/street
Namespace	http://infx.org/kresl/
Source Definition	Street name as is listed on a local street map.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent
Range	--
Min. Occurrence	0

Max. Occurrence	Infinity
-----------------	----------

Statement (

PropertyURI (infx:street)

LiteralValueString ('2550 Rural Ridge Lane, P.O. Box 210')

)

AP Label	State
URI	http://infx.org/kresl/state
Namespace	http://infx.org/kresl/
Source Definition	A name of a state in the USA.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not Allowed VES URI (specify): Not Allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:state)

ValueString ('VA')

)

AP Label	Zip
URI	http://infx.org/kresl/zip
Namespace	http://infx.org/kresl/
Source Definition	Standard 5 – 9 digit zip code.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent
Range	--
Min. Occurrence	0
Max. Occurrence	1

Statement (

PropertyURI (infx:zip)

ValueString ('22959')

)

AP Label	Phone Number
URI	http://infx.org/kresl/phoneNumber
Namespace	http://infx.org/kresl/
Source Definition	Phone number format will not be standardized to permit for international numbers.
Comment	
Type of Term	Property

Sub-property Of	--
Usage in this AP	
Literal	Required Language Tag: Not Allowed
Non-literal	Value URI: Not allowed VES URI (specify): Not allowed Value String: Yes Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:phoneNumber)

LiteralValueString ('(434) 297-2326')

)

PROPERTIES WITH MULTIPLE DOMAINS

AP Label	Country
URI	http://infx.org/kresl/country
Namespace	http://infx.org/kresl/
Source Definition	The complete name of an agent, which could be any entity acting as an agent whether person or business.
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Not Allowed

	Language Tag: Not Allowed
Non-literal	Value URI: Yes VES URI (specify): Required Value String: No Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent, Place
Range	--
Min. Occurrence	0
Max. Occurrence	Infinity

Statement (

PropertyURI (infx:country)

ValueURI (<http://www.geonames.org/countries/US/united-states.html>)

VES URI (<http://www.geonames.org/>)

)

AP Label	City
URI	http://infx.org/kresl/city
Namespace	http://infx.org/kresl/
Source Definition	City name
Comment	
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Not Allowed Language Tag: Not Allowed
Non-literal	Value URI: Yes VES URI (specify): Required Value String: Not allowed Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Agent, Place

Range	www.geonames.org
Min. Occurrence	0
Max. Occurrence	1

Statement (

PropertyURI (infx:city)

ValueURI (http://www.geonames.org/maps/google_40.746_-74.156.html)

VES URI (<http://www.geonames.org/>)

)

AP Label	DocumentedIn
URI	http://infx.org/kresl/documentedIn
Namespace	http://infx.org/kresl/
Source Definition	The title of the document where foodstuff, use, agent, or place is referenced.
Comment	Inverse relationship of property 'referencesFoodstuff'
Type of Term	Property
Sub-property Of	--
Usage in this AP	
Literal	Not Allowed Language Tag: Not Allowed
Non-literal	Value URI: Not Allowed VES URI (specify): Not Allowed Value String: Required Language Tag: Not allowed SES URI (specify): Not allowed
Domain	Foodstuff, Use, Agent, Place
Range	Document
Min. Occurrence	0
Max. Occurrence	1

Statement(

PropertyURI (infx:documentedIn)

ValueURI (http://infx.org/kresl/Document/0001)

)

RDF

Soil Type Controlled Vocabulary (unchanged)

```
<?xml version="1.0" encoding="UTF-8" ?>
= <rdf:RDF xmlns="http://www.w3.org/2004/02/skos/core#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:skos="http://www.w3.org/2004/02/skos/core#"
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xmlns:reg="http://metadataregistry.org/uri/schema/registry/">
- <!--
  Scheme: SoilType
  -->
= <skos:ConceptScheme rdf:about="http://sandbox.metadataregistry.org/uri/soilTyp">
<dc:title>SoilType</dc:title>
  </skos:ConceptScheme>
- <!--
  Concept: Sandy
  -->
= <skos:Concept rdf:about="http://sandbox.metadataregistry.org/uri/soilTyp/1001"
  xml:lang="en">
<skos:inScheme rdf:resource="http://sandbox.metadataregistry.org/uri/soilTyp" />
<skos:status rdf:resource="http://metadataregistry.org/uri/RegStatus/1002" />
<skos:prefLabel xml:lang="en">Sandy</skos:prefLabel>
```

```
<skos:broader rdf:resource="Granular" />
<skos:narrower rdf:resource="Porous" />
<skos:definition xml:lang="en">Light soil</skos:definition>
</skos:Concept>
```

```
- <!--
```

```
Concept: Clay
-->
```

```
= <skos:Concept rdf:about="http://sandbox.metadataregistry.org/uri/soilTyp/1004"
xml:lang="en">
```

```
<skos:inScheme rdf:resource="http://sandbox.metadataregistry.org/uri/soilTyp" />
```

```
<skos:status rdf:resource="http://metadataregistry.org/uri/RegStatus/1002" />
```

```
<skos:prefLabel xml:lang="en">Clay</skos:prefLabel>
```

```
<skos:narrower rdf:resource="Dense" />
```

```
<skos:broader rdf:resource="Muddy" />
```

```
<skos:definition xml:lang="en">Heavy soil</skos:definition>
```

```
</skos:Concept>
```

```
- <!--
```

```
Concept: Loamy
-->
```

```
= <skos:Concept rdf:about="http://sandbox.metadataregistry.org/uri/soilTyp/1006"
xml:lang="en">
```

```
<skos:inScheme rdf:resource="http://sandbox.metadataregistry.org/uri/soilTyp" />
```

```
<skos:status rdf:resource="http://metadataregistry.org/uri/RegStatus/1002" />
```

```
<skos:prefLabel xml:lang="en">Loamy</skos:prefLabel>
```

```
<skos:narrower rdf:resource="Rich" />
```

```
<skos:broader rdf:resource="Blocky" />
```

```
<skos:definition xml:lang="en">Medium soil</skos:definition>
```

```
</skos:Concept>
```

- <!--

Status properties used in this document

-->

= <skos:Concept rdf:about="http://metadataregistry.org/uri/RegStatus/1002">

<skos:prefLabel xml:lang="en">New-Proposed</skos:prefLabel>

</skos:Concept>

</rdf:RDF>

XML SCHEMA

Soil Type Controlled Vocabulary

<?xml version="1.0" encoding="UTF-8" ?>

= <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="http://sandbox.metadataregistry.org/uri/soilTyp" targetNamespace="http://sandbox.metadataregistry.org/uri/soilTyp" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" elementFormDefault="qualified" attributeFormDefault="unqualified" version="1.00.000">

= <xs:annotation>

<xs:documentation xml:lang="en">SoilType XML Schema XML Schema for <http://sandbox.metadataregistry.org/uri/soilTyp> namespace Date created: 2009-11-17 08:35:37 Date of last update: 2009-11-17 08:35:37 This controlled vocabulary contains terms to differentiate between general categories of soil types. Further information about this Vocabulary is available at <http://sandbox.metadataregistry.org/uri/soilTyp.html></xs:documentation>

</xs:annotation>

= <xs:simpleType name="DCMIType">

= <xs:restriction base="xs:string">

<xs:enumeration value="Sandy" />

<xs:enumeration value="Clay" />

<xs:enumeration value="Loamy" />

</xs:restriction>

</xs:simpleType>

</xs:schema>

PART III Description Set Profile

```
<?xml version="1.0" encoding="UTF-8"?>
<DescriptionSetProfile xmlns:infx="http://infx.org/kresl/" xmlns:dc="http://purl.org/dc/elements1.1/"
xmlns:dcterms="http://purl.org/dc/terms/ ">
```

```
<DescriptionTemplate ID="FoodStuff" minOccurs="0" maxOccurs="infinity" standalone="no">
<ResourceClass>http://infx.org/kresl/FoodStuff</ResourceClass>
```

```
  <!--DESCRIPTION property -->
```

```
  <StatementTemplate type="literal">
```

```
    <Property>http://purl.org/dc/elements/1.1/description</Property>
```

```
      <LiteralConstraint>
```

```
        <LanguageOccurrence>mandatory</LanguageOccurrence>
```

```
        <Language>en-EN</Language>
```

```
      <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
```

```
    </LiteralConstraint>
```

```
  </StatementTemplate>
```

```
  <!--CATEGORY property -->
```

```
  <StatementTemplate type="nonliteral">
```

```
    <Property>http://infx.org/kresl/category</Property>
```

```
      <NonLiteralConstraint>
```

```
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>
```

```
      <VocabularyEncodingSchemeOccurrence>mandatory</VocabularyEncodingSchemeOccurrence>
```

```
    <VocabularyEncodingScheme>http://infx.org/kresl/categoryList</VocabularyEncodingScheme>
```

```
      <ValueStringConstraint maxOccurs="1"/>
```

```
    </NonLiteralConstraint>
```

```
  </StatementTemplate>
```

```
  <!--DOCUMENTED IN property -->
```

```
  <StatementTemplate type="nonliteral">
```

```
    <Property>http://infx.org/kresl/documentedin</Property>
```

```
      <NonLiteralConstraint descriptionTemplateRef="Document">
```

```
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>
```

```
      <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
```

```
>
```

```
        <ValueStringConstraint maxOccurs="0"/>
```

```
      </NonLiteralConstraint>
```

```
    </StatementTemplate>
```

```
  <!--TRADITION property -->
```

```
  <StatementTemplate type="literal">
```

```
    <Property>http://infx.org/kresl/tradition</Property>
```

```
      <LiteralConstraint>
```

```
        <LanguageOccurrence>mandatory</LanguageOccurrence>
```

```
        <Language>en</Language>
```



```

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!-- U S E D   F O R property -->
<StatementTemplate minOccurs="1" type="nonliteral">
  <Property>http://infx.org/kresl/usedFor</Property>
  <NonLiteralConstraint descriptionTemplateRef="FoodStuff">
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>
  </NonLiteralConstraint>
</StatementTemplate>

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
  <ValueStringConstraint maxOccurs="0"/>
  </NonLiteralConstraint>
</StatementTemplate>

  <!-- REQUIRES GROWTH CONDITIONS property -->
<StatementTemplate minOccurs="1" type="nonliteral">
  <Property>http://infx.org/kresl/requiresGrowthConditions</Property>
  <NonLiteralConstraint descriptionTemplateRef="Growing Conditions">
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>
  </NonLiteralConstraint>
</StatementTemplate>

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
  <ValueStringConstraint maxOccurs="0"/>
  </NonLiteralConstraint>
</StatementTemplate>

<!-- PRODUCED BY property ****this is inverse of PRODUCER OF****-->
<StatementTemplate type="nonliteral">
  <Property>http://infx.org/kresl/producedBy</Property>
  <NonLiteralConstraint descriptionTemplateRef="Agent">
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>
  </NonLiteralConstraint>
</StatementTemplate>

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
  <ValueStringConstraint maxOccurs="0"/>
  </NonLiteralConstraint>
</StatementTemplate>

<!-- SUPPLIED BY property ****this is inverse of SUPPLIER OF-->
<StatementTemplate type="nonliteral">
  <Property>http://infx.org/kresl/suppliedBy</Property>
  <NonLiteralConstraint descriptionTemplateRef="Agent">
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>
  </NonLiteralConstraint>
</StatementTemplate>

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
  <ValueStringConstraint maxOccurs="0"/>
  </NonLiteralConstraint>
</StatementTemplate>

<!-- HERITAGE OF property -->
<StatementTemplate type="nonliteral">
  <Property>http://infx.org/kresl/heritageOf</Property>

```

```

        <NonLiteralConstraint descriptionTemplateRef="Place">
            <ValueURIOccurrence>mandatory</ValueURIOccurrence>
        </NonLiteralConstraint>
    </StatementTemplate>
    <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
>
        <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!-- INDIGENOUS TO property -->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/indigenousTo</Property>
    <NonLiteralConstraint descriptionTemplateRef="Place">
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>
    </NonLiteralConstraint>
    <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
>
        <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

</DescriptionTemplate>

<DescriptionTemplate ID="Document" minOccurs="1" maxOccurs="infinity" standalone="no">
<ResourceClass>http://infx.org/kresl/Document</ResourceClass>

    <!--DESCRIPTION property -->
    <StatementTemplate type="literal">
        <Property>http://purl.org/dc/elements/1.1/description</Property>
        <LiteralConstraint>
            <LanguageOccurrence>mandatory</LanguageOccurrence>
            <Language>en-EN</Language>
        </LiteralConstraint>
        <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </StatementTemplate>

    <!--REFERENCES FOODSTUFF property -->
    <StatementTemplate type="nonliteral">
        <Property>http://infx.org/kresl/referencesFoodstuff</Property>
        <NonLiteralConstraint descriptionTemplateRef="Foodstuff">
            <ValueURIOccurrence>mandatory</ValueURIOccurrence>
        </NonLiteralConstraint>
        <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
>
        <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

    <!--REFERENCES USE property -->
    <StatementTemplate type="nonliteral">
        <Property>http://infx.org/kresl/referencesUse</Property>
        <NonLiteralConstraint descriptionTemplateRef="Use">
            <ValueURIOccurrence>mandatory</ValueURIOccurrence>
        </NonLiteralConstraint>
    </StatementTemplate>

```

```

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!-- REFERENCES PLACE property -->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/referencesPlace</Property>
    <NonLiteralConstraint descriptionTemplateRef="Place">
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!-- T I T L E property -->
<StatementTemplate type="literal">
    <Property>http://http://purl.org/dc/elements/1.1/title</Property>
    <LiteralConstraint>
        <LanguageOccurrence>mandatory</LanguageOccurrence>
        <Language>en</Language>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </LiteralConstraint>
</StatementTemplate>

<!-- DATE COPYRIGHTED property -->
<StatementTemplate type="literal">
    <Property>http://infx.org/kresl/dateCopyrighted</Property>
    <Literal Constraint>

<SyntaxEncodingSchemeOccurrence>mandatory</SyntaxEncodingSchemeOccurrence>

<SyntaxEncodingScheme>http://purl.org/dc/terms/W3CDTF</SyntaxEncodingScheme>
    <ValueStringConstraint maxOccurs="1"/>
    </Literal Constraint>
</StatementTemplate>

<!-- DATE property -->
<StatementTemplate type = 'literal'>
    <Property>http://infx.org/kresl/date</Property>
    <NonLiteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<SyntaxEncodingSchemeOccurrence>mandatory</SyntaxEncodingSchemeOccurrence>

<SyntaxEncodingScheme>http://purl.org/dc/dcterm/W3CDTF</SyntaxEncodingScheme>
    <ValueStringConstraint maxOccurs="1"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!-- C R E A T O R property -->

```

```

<StatementTemplate type="literal">
  <Property>http://purl.org/dc/terms/creator</Property>
  <LiteralConstraint>
    <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!-- HAS FORMAT property -->
<StatementTemplate maxOccurs="1" type="nonliteral">
  <Property>http://purl.org/dc/terms/hasFormat</Property>
  <NonLiteralConstraint>
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>mandatory</VocabularyEncodingSchemeOccurrence
>

<VocabularyEncodingScheme>http://infx.org/kresl/formatVoc/</VocabularyEncodingScheme>
  <ValueStringConstraint maxOccurs="0"/>
  </NonLiteralConstraint>
</StatementTemplate>

<!-- A B S T R A C T property -->
<StatementTemplate type="literal">
  <Property>http://purl.org/dc/terms/abstract</Property>
  <LiteralConstraint>
    <LanguageOccurrence>mandatory</LanguageOccurrence>
    <Language>en</Language>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!-- R E C I P E property -->
<StatementTemplate type="nonliteral">
  <Property>http://infx.org/kresl/recipe</Property>
  <NonLiteralConstraint>
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>

  <VocabularyEncodingSchemeOccurrence>http://infx.org/kresl/recipeYN</VocabularyEncodingSc
hemeOccurrence>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
  </StatementTemplate>

</DescriptionTemplate>

<DescriptionTemplate ID="Growing Conditions" minOccurs="0" maxOccurs="infinity" standalone="no">
<ResourceClass>http://infx.org/kresl/GrowingConditions</ResourceClass>

  <!-- DOCUMENTED IN property -->
  <StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/documentedin</Property>
    <NonLiteralConstraint descriptionTemplateRef="Document">
      <ValueURIOccurrence>mandatory</ValueURIOccurrence>

```

```

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!-- PRESENT IN property -->
<StatementTemplate minOccurs="1" type="nonliteral">
    <Property>http://infx.org/kresl/presentIn</Property>
    <NonLiteralConstraint descriptionTemplateRef="Place">
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!-- WATER REQUIREMENTS property -->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/waterRequirements</Property>
    <NonLiteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>http://infx.org/kresl/waterReqs/</VocabularyEncoding
SchemeOccurrence>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!--LIGHT REQUIREMENTS property -->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/lightRequirements</Property>
    <NonLiteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>http://infx.org/kresl/lightReqs/</VocabularyEncodingS
chemeOccurrence>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!--S O I L PH property -->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/soilPH</Property>
    <NonLiteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>http://infx.org/kresl/PHReqs/</VocabularyEncodingSch
emeOccurrence>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

```

```

<!-- DAYS TO MATURITY property -->
  <StatementTemplate type="literal">
    <Property>http://infx.org/kresl/daystoMaturity</Property>
    <LiteralConstraint>
      <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!-- DAYTIME TEMPERATURE property -->
<StatementTemplate type="literal">
  <Property>http://infx.org/kresl/daytimeTemp</Property>
  <LiteralConstraint>
    <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!-- DAY LENGTH property -->
<StatementTemplate type="literal">
  <Property>http://infx.org/kresl/dayLength</Property>
  <LiteralConstraint>
    <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
</LiteralConstraint>
</StatementTemplate>

<!-- H U M I D I T Y property -->
<StatementTemplate type="literal">
  <Property>http://infx.org/kresl/humidity</Property>
  <LiteralConstraint>
    <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!-- S O I L T Y P E property -->
<StatementTemplate type="nonliteral">
  <Property>http://infx.org/kresl/soilType</Property>
  <NonLiteralConstraint>
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>

  <VocabularyEncodingSchemeOccurrence>http://sandbox.metadataregistry.org/uri/soilTyp</Voca
bularyEncodingSchemeOccurrence>
    <ValueStringConstraint maxOccurs="0"/>
  </NonLiteralConstraint>
</StatementTemplate>

<!--PEST PROBLEMS property -->
<StatementTemplate type="literal">
  <Property>http://infx.org/kresl/pestProblems</Property>

```

```

        <LiteralConstraint>
            <LanguageOccurrence>disallowed</LanguageOccurrence>

        <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
        </LiteralConstraint>
    </StatementTemplate>

    <!--BENEFICIAL RELATIONSHIP property -->
    <StatementTemplate type="literal">
        <Property>http://infx.org/kresl/beneficialRelationships</Property>
        <LiteralConstraint>
            <LanguageOccurrence>disallowed</LanguageOccurrence>

        <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
        </LiteralConstraint>
    </StatementTemplate>

</DescriptionTemplate>

<DescriptionTemplate ID="Use" minOccurs="0" maxOccurs="infinity" standalone="no">
<ResourceClass>http://infx.org/kresl/Use</ResourceClass>

    <!-- DOCUMENTED IN property -->
    <StatementTemplate type="nonliteral">
        <Property>http://infx.org/kresl/documentedin</Property>
        <NonLiteralConstraint descriptionTemplateRef="Document">
            <ValueURIOccurrence>mandatory</ValueURIOccurrence>

        <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
    >
        <ValueStringConstraint maxOccurs="0"/>
        </NonLiteralConstraint>
    </StatementTemplate>

    <!--DERIVED FROM property *****this is inverse of USED FOR***** -->
    <StatementTemplate type="nonliteral">
        <Property>http://infx.org/kresl/derivedFrom</Property>
        <LiteralConstraint descriptionTemplateRef="Foodstuff">
            <ValueURIOccurrence>mandatory</ValueURIOccurrence>

        <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
        <ValueStringOccurrence maxOccurs="0"/>
        </NonLiteralConstraint>
    </StatementTemplate>

    <!--RECIPE SOURCE property -->
    <StatementTemplate type="nonliteral">
        <Property>http://infx.org/kresl/recipeSource</Property>
        <NonLiteralConstraint descriptionTemplateRef="Document">
            <ValueURIOccurrence>mandatory</ValueURIOccurrence>

        <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
        <ValueStringOccurrence maxOccurs="0"/>
        </NonLiteralConstraint>
    </StatementTemplate>

```

```

<!--M E D I C I N E   U S E property -->
<StatementTemplate type="literal">
  <Property>http://infx.org/kresl/medicineUse</Property>
  <LiteralConstraint>
    <LanguageOccurrence>disallow</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!--C O S M E T I C   U S E property -->
<StatementTemplate type="literal">
  <Property>http://infx.org/kresl/cosmeticUse</Property>
  <LiteralConstraint>
    <LanguageOccurrence>disallow</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
  </LiteralConstraint>
</StatementTemplate>

<!--F O L K   U S E property -->
  <StatementTemplate type="literal">
    <Property>http://infx.org/kresl/folkUse</Property>
    <LiteralConstraint>
      <LanguageOccurrence>disallow</LanguageOccurrence>
      <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccu
    rrence>
    </LiteralConstraint>
  </StatementTemplate>
</DescriptionTemplate>

<DescriptionTemplate ID="Place" minOccurs="0" maxOccurs="infinity" standalone="no">
<ResourceClass>http://infx.org/kresl/Place</ResourceClass>

  <!-- DOCUMENTED IN property -->
  <StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/documentedin</Property>
    <NonLiteralConstraint descriptionTemplateRef="Document">
      <ValueURIOccurrence>mandatory</ValueURIOccurrence>

  <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
  </StatementTemplate>

  <!--COUNTRY Property-->
  <StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/country</Property>
    <NonLiteralConstraint>
      <ValueURIOccurrence>mandatory</ValueURIOccurrence>

  <VocabularyEncodingSchemeOccurrence>mandatory</VocabularyEncodingSchemeOccurrence
>

```



```

<VocabularyEncodingScheme>http://www.geonames.org/</VocabularyEncodingScheme>
  <ValueStringConstraint maxOccurs="1"/>
  </NonLiteralConstraint>
</StatementTemplate>

<!-- CITY Property -->
<StatementTemplate type="nonliteral">
  <Property>http://infx.org/kresl/city</Property>
  <NonLiteralConstraint>
    <ValueURIOccurrence>mandatory</ValueURIOccurrence>
  </NonLiteralConstraint>
  <VocabularyEncodingSchemeOccurrence>mandatory</VocabularyEncodingSchemeOccurrence
>

<VocabularyEncodingScheme>http://www.geonames.org/</VocabularyEncodingScheme>
  <ValueStringConstraint maxOccurs="1"/>
  </NonLiteralConstraint>
</StatementTemplate>

</DescriptionTemplate>

<DescriptionTemplate ID="Agent" minOccurs="0" maxOccurs="infinity" standalone="no">
<ResourceClass>http://infx.org/kresl/agent</ResourceClass>

  <!-- DOCUMENTED IN property -->
  <StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/documentedIn</Property>
    <NonLiteralConstraint descriptionTemplateRef="Document">
      <ValueURIOccurrence>mandatory</ValueURIOccurrence>
    </NonLiteralConstraint>
    <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
      <ValueStringConstraint maxOccurs="0"/>
      </NonLiteralConstraint>
</StatementTemplate>

  <!-- LOCATED IN property -->
  <StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/locatedIn</Property>
    <NonLiteralConstraint descriptionTemplateRef="Place">
      <ValueURIOccurrence>mandatory</ValueURIOccurrence>
    </NonLiteralConstraint>
    <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
      <ValueStringConstraint maxOccurs="0"/>
      </NonLiteralConstraint>
</StatementTemplate>

  <!-- SUPPLIER OF property ***inverse of SUPPLIED BY**** -->
  <StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/supplierOf</Property>
    <NonLiteralConstraint descriptionTemplateRef="FoodStuff">
      <ValueURIOccurrence>mandatory</ValueURIOccurrence>
    </NonLiteralConstraint>
  </StatementTemplate>

```

```

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!-- PRODUCER OF property -->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/producerOf</Property>
    <NonLiteralConstraint descriptionTemplateRef="FoodStuff">
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence
>
    <ValueStringConstraint maxOccurs="0"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!--FULLNAME property-->
<StatementTemplate type="literal">
    <Property>http://infx.org/kresl/fullName</Property>
    <LiteralConstraint>
        <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </LiteralConstraint>
</StatementTemplate>

<!--EMAIL ADDRESS property -->
<StatementTemplate type="literal">
    <Property>http://infx.org/kresl/emailAddress</Property>
    <LiteralConstraint>
        <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </LiteralConstraint>
</StatementTemplate>

<!--STREET property -->
<StatementTemplate type="literal">
    <Property>http://infx.org/kresl/street</Property>
    <LiteralConstraint>
        <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </LiteralConstraint>
</StatementTemplate>

<!--STATE property -->
<StatementTemplate type="literal">
    <Property>http://infx.org/ kresl/state</Property>
    <Literal Constraint>
        <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>

```

```

        </Literal Constraint>
</StatementTemplate>

<!--ZIP property -->
<StatementTemplate type="literal">
    <Property>http://infx.org/kresl/zip</Property>
    <LiteralConstraint>
        <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </LiteralConstraint>
</StatementTemplate>

<!--PHONE NUMBER property -->
<StatementTemplate type="literal">
    <Property>http://infx.org/kresl/phoneNumber</Property>
    <LiteralConstraint>
        <LanguageOccurrence>disallowed</LanguageOccurrence>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </LiteralConstraint>
</StatementTemplate>

<!--DESCRIPTION property -->
<StatementTemplate type="literal">
    <Property>http://purl.org/dc/elements/1.1/description</Property>
    <LiteralConstraint>
        <LanguageOccurrence>mandatory</LanguageOccurrence>
        <Language>en</Language>

<SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
    </LiteralConstraint>
</StatementTemplate>

<!--COUNTRY Property-->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/country</Property>
    <NonLiteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

<VocabularyEncodingSchemeOccurrence>mandatory</VocabularyEncodingSchemeOccurrence
>

<VocabularyEncodingScheme>http://www.geonames.org/</VocabularyEncodingScheme>
    <ValueStringConstraint maxOccurs="1"/>
    </NonLiteralConstraint>
</StatementTemplate>

<!--CITY Property-->
<StatementTemplate type="nonliteral">
    <Property>http://infx.org/kresl/city</Property>
    <NonLiteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>

```

```

<VocabularyEncodingSchemeOccurrence>mandatory</VocabularyEncodingSchemeOccurrence
>

<VocabularyEncodingScheme>http://www.geonames.org/</VocabularyEncodingScheme>
  <ValueStringConstraint maxOccurs="1"/>
  </NonLiteralConstraint>
</StatementTemplate>

</DescriptionTemplate>

</DescriptionSetTemplate>

```

PART IV Syntactic Binding

```

<?xml version="1.0"?>
<rdf:RDF xmlns:dc="http://purl.org/dc/elements1.1/" xmlns:dcam="http://purl.org/dc/dcam/"
xmlns:dcterms="http://purl.org/dc/terms/" xmlns:infx="http://infx.org/kresl/"
xmlns:owl="http://www.w3.org/2002/07/owl#" xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:rdfs="http://www.w3.org/2000/02/rdf-schema#">
  <!-- FOODSTUFF entity -->
  <rdf:Description rdf:about="http://infx.org/kresl/Foodstuff/0001">
    <dc:description xml:lang="en">The Harrison is a small, round-oblong apple that is
generally yellow in color, but sometimes, in the Mid-Atlantic States, it is blushed a light pink. Tiny black
spots on the skin surface give it a rough texture. The flavor is similar to a quince, making it suitable for
dessert as well as cider.
  </dc:description>
    <infx:documentedIn rdf:resource="http://infx.org/kresl/Document/000345"/>
    <infx:category>
      <rdf:Description rdf:about="http://www.infx.org/kresl/categoryList/fruit">
        <dcam:memberOf rdf:resource="http://infx.org/kresl/category"/>
      </rdf:Description>
    </infx:category>
    <infx:tradition xml:lang="en">cider festivals</infx:tradition>
    <infx:usedFor rdf:resource="http://infx.org/kresl/Use/7963"/>
    <infx:requiresGrowthConditions
rdf:resource="http://infx.org/kresl/GrowingConditions/12"/>
    <infx:suppliedBy rdf:resource="http://infx.org/kresl/Agent/9834"/>
    <infx:producedby rdf:resource="http://infx.org/kresl/Agent/9834"/>
    <infx:heritageOf rdf:resource="http://infx.org/kresl/places/Mid-Atlantic"/>
    <infx:IndigenousTo rdf:resource="http://infx.org/kresl/Place/3245"/>
  </rdf:Description>
  <!-- DOCUMENT entity -->
  <rdf:Description rdf:about="http://infx.org/kresl/Document/0001">
    <infx:hasFormat>
      <rdf:Description rdf:about="http://infx.org/kresl/hasFormat/5">
        <dcam:memberOf rdf:resource="http://infx.org/kresl/formatVoc"/>
      </rdf:Description>
    </infx:hasFormat>
    <infx:referencesFoodstuff>
      <rdf:Description rdf:about="http://infx.org/kresl/referencesFoodstuff/13">
        <dcam:memberOf rdf:resource="http://infx.org/kresl/fruit/apple"/>
      </rdf:Description>

```

```

</infx:referencesFoodstuff>
<infx:referencesUse rdf:resource="http://infx.org/kresl/Use/7963"/>
<infx:referencesPlace rdf:resource="http://infx.org/kresl/Place/3245"/>
<dc:title xml:lang="en">Harrison Cider Apple</dc:title>
<dc:dateCopyrighted
rdf:datatype="http://purl.org/dc/dcterms/W3CDTF">Unknown</dc:dateCopyrighted>
<dc:date rdf:datatype="http://purl.org/dc/dcterms/W3CDTF">Unknown</dc:date>
<dc:creator xml:lang="en">Ark of Taste</dc:creator>
<dc:abstract xml:lang="en">Abstract about Harrison apple</dc:abstract>
<infx:recipe>
  <rdf:Description rdf:about="http://infx.org/kresl/recipe/Y">
    <dcam:memberOf rdf:resource="http://infx.org/kresl/recipeYN"/>
  </rdf:Description>
</infx:recipe>
</rdf:Description>
<!-- GROWING CONDITIONS entity -->
<rdf:Description rdf:about="http://infx.org/kresl/GrowingConditions/12">
  <infx:presentIn>
    <rdf:Description rdf:about="http://infx.org/kresl/places/Washington"/>
  </infx:presentIn>
  <infx:waterRequirement>
    <rdf:Description rdf:about="http://infx.org/kresl/waterReqs/dry">
      <dcam:memberOf rdf:resource="http://infx.org/kresl/waterReqs"/>
    </rdf:Description>
  </infx:waterRequirement>
  <infx:lightRequirement>
    <rdf:Description rdf:about="http://infx.org/kresl/lightRequirement/fullSun">
      <dcam:memberOf rdf:resource="http://infx.org/kresl/lightReqs"/>
    </rdf:Description>
  </infx:lightRequirement>
  <infx:soilpH>
    <rdf:Description rdf:about="http://infx.org/kresl/soilpH/alkaline">
      <dcam:memberOf rdf:resource="http://infx.org/kresl/pHReqs"/>
    </rdf:Description>
  </infx:soilpH>
  <infx:daystoMaturity>60</infx:daystoMaturity>
  <infx:daytimeTemp>90</infx:daytimeTemp>
  <infx:dayLength>10</infx:dayLength>
  <infx:humidity>40</infx:humidity>
  <infx:soilType>
    <rdf:Description rdf:about="http://infx.org/kresl/soilType">
      <dcam:memberOf
rdf:resource="http://sandbox.metadataregistry.org/uri/soilType"/>
    </rdf:Description>
  </infx:soilType>
  <infx:pestProblems>inch worms</infx:pestProblems>
  <infx:beneficialRelationships>bees</infx:beneficialRelationships>
</rdf:Description>
<!-- USE entity -->
<rdf:Description rdf:about="http://infx.org/kresl/Use/7963">
  <infx:documentedIn rdf:resource="http://infx.org/kresl/Document/0001"/>
  <infx:derivedFrom>
    <rdf:Description rdf:about="http://www.infx.org/kresl/categoryList/fruit/apple">
      <dcam:memberOf rdf:resource="http://infx.org/kresl/category"/>
    </rdf:Description>
  </infx:derivedFrom>

```

```

    <infx:recipeSource>
      <rdf:Description rdf:about="http://infx.org/kresl/Document/WikiHow_AppleCider">
        <dcam:memberOf rdf:resource="http://infx.org/kresl/Document"/>
      </rdf:Description>
    </infx:recipeSource>
    <infx:medicineUse>an apple a day...</infx:medicineUse>
    <infx:cosmeticUse>some text</infx:cosmeticUse>
    <infx:folkUse>apple bobbing</infx:folkUse>
  </rdf:Description>
  <!-- PLACE entity -->
  <rdf:Description rdf:about="http://infx.org/kresl/Place/3245">
    <infx:country>
      <rdf:Description rdf:about="http://www.infx.org/kresl/country/NorthAmerica">
        <dcam:memberOf rdf:resource="http://infx.org/kresl/country"/>
      </rdf:Description>
    </infx:country>
    <infx:city>
      <rdf:Description rdf:about="http://www.geonames.org/maps/google_40.746_-
74.156.html">
        <dcam:memberOf rdf:resource="http://www.geonames.org"/>
      </rdf:Description>
    </infx:city>
    <infx:documentedIn>
      <rdf:Description rdf:about="http://infx.org/kresl/Document/0001">
        <dcam:memberOf rdf:resource="http://infx.org/kresl/Document"/>
      </rdf:Description>
    </infx:documentedIn>
  </rdf:Description>
  <!-- AGENT entity -->
  <rdf:Description rdf:about="http://infx.org/kresl/Agent/9834">
    <infx:locatedIn>
      <rdf:Description rdf:about="http://infx.org/kresl/Place/3245">
        <dcam:memberOf rdf:resource="http://infx.org/kresl/country"/>
      </rdf:Description>
    </infx:locatedIn>
    <infx:supplierOf>
      <rdf:Description
rdf:about="http://www.infx.org/kresl/category/fruit/HarrisonCiderApple">
        <dcam:memberOf rdf:resource="http://www.infx.org/kresl/foodStuff"/>
      </rdf:Description>
    </infx:supplierOf>
    <infx:producerOf>
      <rdf:Description
rdf:about="http://www.infx.org/kresl/category/fruit/HarrisonCiderApple">
        <dcam:memberOf rdf:resource="http://www.infx.org/kresl/foodStuff"/>
      </rdf:Description>
    </infx:producerOf>
    <infx:fullName>Vintage Virginia Apples</infx:fullName>
    <infx:emailAddress>http://www.vintagevirginiaapples.com</infx:emailAddress>
    <infx:street>2550 Rural Ridge Lane, P.O. Box 210</infx:street>
    <infx:city>
      <rdf:Description rdf:about="http://www.geonames.org/maps/google_40.746_-
74.156.html">
        <dcam:memberOf rdf:resource="http://www.geonames.org"/>
      </rdf:Description>
    </infx:city>

```

```

<infx:state>VA</infx:state>
<infx:country>
  <rdf:Description rdf:about="http://www.geonames.org/countries/US/united-
states.html">
    <dcam:memberOf rdf:resource="://www.geonames.org/" />
  </rdf:Description>
</infx:country>
<infx:zip>22959</infx:zip>
<infx:phoneNumber>(434) 297-2326</infx:phoneNumber>
<dc:description
xml:lang="en">http://www.localharvest.org/ark=product.jsp?id=253</dc:description>
  <infx:documentedIn rdf:resource="http://infx.org/kresl/Document/000345"/>
</rdf:Description>
</rdf:RDF>

```

PART V Usage Guidelines

Properties

Description – This is used as a property of FoodStuff. The goal is to capture a description that can be displayed on Ark of Taste’s website the way the Patin Mamey is currently described here:

http://www.slowfoodusa.org/index.php/programs/ark_product_detail/pantin_mamey_sapote/

Category – Category needs a vocabulary encoding scheme built for it. If I were to borrow one for this models use I would first look to Jeremy Darrington’s VES for category as it showed promise. Basically, we’re trying to find logical groupings of foodstuffs ie. fruits, vegetables, dairy, meat, herbs, etc.

Documented In – FoodStuffs, Uses, Agents, and Places all have the potential for something being written about them. At this point, I wouldn’t go searching for documents that discuss any of these entities as we are trying to focus on building from the inside out. If anyone at Ark of Taste writes an article about these entities they should definitely be linked by this property.

Tradition—All FoodStuffs that pass the test of ‘Ark Worthy’ belong to a tradition. Make sure to label it. This property should be considered for a Vocabulary Encoding Scheme, minimally to account for misspellings.

Used For – There are three possible uses for any foodstuff in addition to the one that is taken for granted (as food). They are medicinalUse, cosmeticUse, and folkUse. These are quite voluntary and merely expand our appreciation of the foodstuff.

ProducedBy – This property points to the Agent entity. The producer of the food stuff is someone who either grows or raises the FoodStuff. If the agent also prepares and distributes the foodstuff make sure to tag him as a supplier as well.

SuppliedBy – This property points to the Agent entity. The supplier of the food stuff is someone who prepares or distributes the foodstuff. If this agent also grows and raises the food stuff makes sure to tag him as a producer as well.

Heritage Of – This property points to the Place entity. It sounds close to Indigenous To except that the two don't always go hand in hand. Sometimes the heritage of a people is far removed from the location where the foodstuff is indigenous to.

Indigenous To – see notes on Heritage Of.

Water Requirements, Light Requirements, Soil PH, Days to Maturity, Daytime Temperatures, Day Length, Humidity, Soil Type, Pest Problems, Beneficial Relationship properties should all be knowledge that the producer provides when he is interviewed for Ark of Taste, prior to receiving advertising space on our site.

FolkUse – is a property that captures unique ways of using the food stuff that are neither food, medicinal, or cosmetic in nature. This could be for wool making, dye making, easter egg decorating, instrument making, and ritual use. The idea is to enrich our appreciation for the foodstuff while keeping it realistic.

City and Country –it's felt that a VES is only needed for these two place names for a given location. We want to capture specifically and broadly where a food stuff is grown or raised so that visitors of our community can appreciate the general location. It's not important to locate every city and country that a particular food stuff is produced, the producers address, provided it is on site, is sufficient.