



A&L CANADA
LABORATORIES INC.

2019 TISSUE SAMPLING REFERENCE GUIDE



Your
Analytical
Experts



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Crop No	Crop Name	Plant Part	Description	Growth Stage
934	AGAVE tequilana var			
858	Aguacate (Hass)	MRML new growth		
608	Albaricoque enlatado	Hojas maduras de nuevo crecimiento		Verano
609	Albaricoque fruta fresca	Hojas maduras de nuevo crecimiento		Verano
610	Alcachofa	Hoja desarrollada más recientemente madura		Junio-Agosto
600	Alfalfa	15 cm superiores	15 cm superiores antes de floracion	Antes de Floracion
001	Alfalfa	Top 6"	Top 6 inches prior to flowering	Prior to flowering
004	Alfalfa - Bloom	Top 6"	Top 6"	Bloom
601	Alfalfa - Floración	15 cm superiores	15 cm superiores antes de floración	Antes de Floración
322	Alfalfa for Seed	Tops or top 6"		Early Growth
323	Alfalfa for Seed	Tops or top 6"		Bloom
324	Alfalfa for Seed	Tops or top 6"		Bloom-harvest
602	Alfalfa para Semilla	Parte superior o 15cm superiores	Parte superior o 15cm superiores	Edad temprana
603	Alfalfa para Semilla	Parte superior o 15cm superiores	Parte superior o 15cm superiores	Floración
604	Alfalfa para semilla	Parte superior o 15cm superiores	Parte superior o 15cm superiores	Floración-cosecha
926	Algodon	Full bloom		Vegetative Stem
927	Algodon	First squares initial bloom		Vegetative Stem
478	Almond	Most Recently Mature Leaf		Mid Summer
127	Apple	Fruit	Harvest	Harvest
123	Apple (Rosette)	Rosette		
710	Apple - Gala	Fruit	Harvest	Harvest
418	Apple - Golden Delicious			Early
518	Apple - Ida Red			Early
118	Apple - McIntosh			
218	Apple - McIntosh Spur			Early

Crop No	Crop Name	Plant Part	Description	Growth Stage
618	Apple - Northern Spy			Early
318	Apple - Red Delicious			Early
109	Apple Fruitlet	Fruitlet		50-60 grams
110	Apple Fruitlet	Fruitlet		60-70 grams
114	Apple Fruitlet	Fruitlet		70 + grams
202	Apple Fruitlet	Fruitlet		30-40 grams
221	Apple Fruitlet	Fruitlet	Early	40-50 grams
830	Apple Fruitlet	Fruitlet		40-50 grams
836	Apple Fruitlet	Fruitlet		less than 30g
718	Apple Leaf	Recent fully developed leaf	Recent fully developed leaf	Early
018	Apple Leaf	Recent fully developed leaf	Recent fully developed leaf	Mid Season
125	Apple Leaf	Recent fully developed leaf	Recent fully developed leaf	Harvest
700	Apple-Empire	Fruit	Harvest	Harvest
707	Apple-Fuji	Fruit	Harvest	Harvest
703	Apple-Golden Delicious	Fruit	Harvest	Harvest
705	Apple-Honey Crisp	Fruit	Harvest	Harvest
708	Apple-IDA Red	Fruit	Harvest	Harvest
706	Apple-McIntosh	Fruit	Harvest	Harvest
704	Apple-Red Delicious	Fruit	Harvest	Harvest
709	Apple-Spy	Fruit	Harvest	Harvest
059	Apricot Canning	Mature leaves from new growth		Summer
173	Apricot Fresh Fruit	Mature leaves from new growth		Summer
408	Artichoke	Most recently developed leaf		June-August
405	Arugula	most recently expanded leaf		Early
406	Arugula	most recently matured leaf		Mid-season

Crop No	Crop Name	Plant Part	Description	Growth Stage
023	Asparagus	Top 20" fronds	Recent fully developed leaf	New Growth Mid-season
024	Asparagus	Top 20" fronds	Recent fully developed leaf	Late Summer Growth
090	Asparagus	Spear		Spring
019	Banana	Mid-Section Leaf Strips (15+)		Mid-Season
923	Banana	Centre strip across middle of MRML 15.7 cm strips		6-9 mnths old
924	Banana	Mid-Section Leaf Strips (15+)		Harvest
922	Banano	Centre strip across middle of MRML 15.7 cm strips		6-9 mnths old
931	Banano	Mid-Section Leaf Strips (15+)		Harvest
060	Barley	Leaf	Upper leaves, prior to bloom	Emergence of head from boot
061	Barley	Leaf		Early - Pre Boot Stage
077	Barley (Top Leaf)	Leaf		Boot Stage
766	Barley Seed (WC)	Seed		Mature (Survey)
005	Bean - Dry	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Mid-season
007	Bean - Field			
135	Bean - Kidney	Most Recently developed leaves		Mid season to pod set
335	Bean - Lima	leaf		most recently matured leaf
042	Bean - Snap	Upper Leaf - Mature	Recent fully developed leaf, prior to flowering	Mature Pods
078	Bean - Snap	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Early
423	Beet - Sugar	MRML		6 weeks after planting-early growth
185	Beet - Sugar - Early	Leaves		Young Plants 0-60 days
015	Beet - Sugar - Mid Season	Recent Fully Developed Leaf	Center Leaf, fully developed, mid-season	Pre-Bulking
352	Beet - Sugar Petiole	Petiole		EARLY TO MID SEASON
451	Beet - Table	Youngest Mature Leaf Blade		Young to Bulb Forming
452	Beet - Table	Most recently matured leaf		Pre-Bulking (late summer)
453	Beet - Table	Most Recently Matured Leaf		Mid-growth (root dev'p 4-6cm)

Crop No	Crop Name	Plant Part	Description	Growth Stage
532	Black Bean	Most recently matured leaflet		Mature pod set to harvest
533	Black Bean	Most recently matured leaflet		emergence to bloom
551	Black Walnut	MRML		July-August
864	Blackberries	Most recently matured leaf		2-3 weeks postharvest
863	Blackberry	Most recently matured leaf		Flower bud start
835	Blueberries			
021	Blueberry	Leaf from current shoot growth	Recent fully developed leaf	Mid-season
207	Blueberry	Youngest full sized leaf from fruiting shoots		Pre bloom
208	Blueberry	Youngest full sized leaf from fruiting shoots		Bloom to harvest
223	Blueberry	Youngest full sized leaf from fruiting shoots		post harvest
413	Blueberry - Low Bush	Most Recently Matured Leaf		Early
414	Blueberry - Low Bush	Top 4-5 Inches - MRML		Bloom
853	Blueberry Fruit	Fruit		7-May
854	Blueberry Fruit	Fruit		14-Jul
855	Blueberry Fruit	Fruit		14-20
800	Bok Choy			MRML
220	Borage	Youngest fully developed leaf		Pre-Flower
008	Broccoli			
448	Broccoli	Early to pre heading		2 - 6 Weeks
449	Broccoli			6 - 12 Weeks
450	Broccoli	Heading		12 Weeks to Mature
353	Brome Grass	First fully developed stem with leaves		Mid Growth
419	Brome Grass	top		between clippings
009	Brussel Sprouts	Mid-Season		
470	Brussel Sprouts	MRML		early sprout initiation

Crop No	Crop Name	Plant Part	Description	Growth Stage
471	Brussel Sprouts	MRML		mature
439	Buckwheat	Most Recently Matured Leaf		Flowering
011	Cabbage			Mature - harvest
106	Cabbage	Wrapper Leaf		Heads beginning to form
107	Cabbage			8 leaf stage
108	Cabbage			heads forming to mature
111	Cabbage	Whole Plant Early		2-6 Weeks Old
211	Cabbage	Wrapper Leaf Mid		2-3 Months Old
386	Cabbage	Outside part of cabbage		Mature cabbage out of storage
930	Café	MRML		midseason
900	Cana De Azucar	leaf #4-6 from top mid rib removed		June
903	Cana De Azucar	leaf #3-4 from top mid rib removed		3-5 mths old spring
904	Cana De Azucar	leaf #4-6 from top mid rib removed		Summer
338	Canary Seed	leaf		most recently matured leaf
880	Cannabis	most recent mature leaf		Early Vegetative: CV1
881	Cannabis	most recent mature leaf		Pre-Flower: CV2
882	Cannabis	most recent mature leaf		Early Flower: CF1
883	Cannabis	most recent mature leaf		Late Flower: CF2
884	Cannabis	most recent mature leaf		Harvest: CF3
885	Cannabis	most recent mature leaf		Mature Non Flowering: CVMAT
466	Canola	MRML		Buds Visible to Pre flower
075	Canola	Most recently matured leaf 5th from the top		pre-flower to 50% flower
076	Canola	Most recently matured leaf 5th from the top		50% plus flowering to harvest
334	Canola	Upper matured leaf blades prior to flowering		Seedling to bud Development
761	Canola Seed (WC)	Seed		Large Mature (Survey)

Crop No	Crop Name	Plant Part	Description	Growth Stage
151	Cantaloupe	Recent fully developed leaf	Flower start to small fruit	Flower start to small fruit
152	Cantaloupe	Recent fully developed leaf	Small fruit to harvest	Small fruit to harvest
421	Cantaloupe-Muskmelon	MRML		12" vine to flowering
020	Carrot	most recent fully developed leaves.		mature
022	Carrot	most recent fully developed leaves.		Half grown (root 1-3cm) - mature
112	Carrot	whole tops		Young plants to half grown (root 1-3cm)
222	Carrot - Baby Carrot Root	Root		Early
122	Carrot - Mature Root	Root		Mature
025	Cauliflower	Recent fully developed leaf	Recent fully developed leaf	At heading
115	Cauliflower			Early growth to pre-heading
116	Cauliflower			12 week to mature
746	Cebada	Hoja	Hojas superiores, antes del espigamiento	Emergenica de cabeza del embuch
747	Cebada	Hoja		Temprana-etapa de pre embuche
749	Cebada (Hoja superior)	Hoja	Emergenica de hoja del embuche	Etapa embuche
026	Celery	Petiole only	Recent fully developed leaf	Mature
119	Celery	Blade and petioles		Early emerge to 6 weeks
120	Celery	Blade and petioles		Half grown to maturity
027	Cherry	Leaf from midshoot current growth	Recent fully developed leaf	Mid-season
121	Cherry	First Fully mature leaf on new wood spring		Spring Early
051	Cherry - Sweet			Summer
762	Chic Pea Seed (WC)	Seed		Mature (Survey)
239	Chickpea	Most recently matured leaf		Pre-flowering
530	Chinese Brocoli			midseason
531	Chinese Brocoli			8 leaf stage
113	Chinese Cabbage	Wrapper Leaves		Mid-season to harvest

Crop No	Crop Name	Plant Part	Description	Growth Stage
403	Chinese Cabbage	first fully developed leaf		8 leaf stage
535	Chinese Celery	Most recently matured leaf		Midseason to harvest
536	Chinese Celery	Most recently matured leaf		Early to Midseason
225	Chinese Greens	Leaves from fully expanded new leaves		Mid Grown to Mature
425	Chinese Kale	MRML		8 leaf stage
428	Chinese Kale	MRML		midseason
226	Chinese Mustard Greens	Most Recently fully dev'd blades		Mid Grown
526	Chinese Parsley Celantro	most recently matured leaf		Mid-season
527	Chinese Parsley Celantro	most recently expanded leaf		Early
388	Chinese Radish	Most recently matured leaf		Tuber half grown to mature
389	Chinese Radish	Most recently matured leaf		Seedling to bulb half grown
422	Chinese spinach	Most Recently Matured Leaf		midseason
301	Clover			Early bloom
929	Coffee	MRML		midseason
163	Collards	Most recently matured leaf		Early
232	Collards	Most recently matured leaf		Mid-season -Mature
758	Coriander, Cilantro	MRML		6-8 Leaf
002	Corn	Whole Plant	Whole plant (<18") V2-V6	Less than 12 Inches
003	Corn	Ear leaf	Ear leaf, at silking R1-R2	Silking (Bloom)
054	Corn	Stalk segment	Stalk segment	After black layer
099	Corn	Grain	Grain	After black layer
310	Corn - Sweet	Unfurled leaf, 5th from tip		7-8 weeks, tassel start
460	Corn - Sweet	Whole Plant		6-10" Tall
461	Corn - Sweet	Most Recent Mature Leaf		10-15" Tall
462	Corn - Sweet	Unfurled leaf, 5th from tip (8+)		7-8 weeks, tassel start

Crop No	Crop Name	Plant Part	Description	Growth Stage
463	Corn - Sweet	Unfurled leaf, 5th from tip (8+)		Full tassel to silk start
464	Corn - Sweet	Unfurled leaf, 5th from tip (8+)		End of silk
124	Corn grain			Mature harvested grain
103	Corn	Leaf	early growth V6-VT	early growth
203	Corn	Leaf	silking R3-R4	silking
303	Corn	Ear Leaf	R4-R6	Mature
345	Corn RR	Whole Plant		Less than 12"
346	Corn RR	Redcent fully developed leaf		Prior to tasseling
347	Corn RR	Redcent fully developed leaf		Silking
925	Cotton	Full bloom		Vegetative Stem
928	Cotton	First squares initial bloom		Vegetative Stem
067	Cranberry	New shoots	New shoots	Mid-season
028	Cucumber	Recent fully developed leaf	Recent fully developed leaf	Small fruit to harvest
052	Cucumber	5th Leaf from tip (20+)	Omit unfurled leaf	Flower Bud to Small Fruit
128	Cucumber	Recently fully developed leaf	Recent fully developed leaf	Small Fruit to harvest
129	Cucumber	Most recently matured leaf		Flower to Small fruit
465	Cucumber	MRML		Early 3 to 4 leaf stage - early flower
053	Cucumber - European	12 leaf blades with midribs	5th full leaf from tip	Mid Season Flowering to Harvest
416	Current -black	most recently matured leaf		fruit - ripening
768	Durum Wheat Seed (WC)	Seed		Mature (Survey)
162	Eggplant	Recent fully developed leaf	Recent fully developed leaf	Small fruit to harvest
803	Endive	Oldest mature leaf		Early 8 leaf stage
804	Endive	Oldest Mature Leaf		Maturing
857	Endive			
611	Espárrago	20" del follaje superior	Hoja recientemente madura completamente	Media-estaciòn

Crop No	Crop Name	Plant Part	Description	Growth Stage
612	Espárrago	20" del follaje superior	Hoja recientemente madura completamente	Media-estaciòn
613	Espárrago	Brote o brizna	9 cm superiores	Primavera
409	Fababean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Early Bloom
410	Fababean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Early
411	Fababean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Fruiting
412	Fababean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Full Bloom
407	Fescue - tall	most recently matured leaf		mid-season
062	Flax	upper 3rd blossom		
552	Flax	Whole Plant		Seedling stage less than 12 in
767	Flax Seed (WC)	Seed		Mature (Survey)
030	Flower			
319	Flower - Annual Dianthus	Mature leaves from new growth		Survey ranges mature plant greenhouse
201	Flower - Begonia		Most recently matured leaf	
133	Flower - Carnations	Recent fully developed leaf		All season
171	Flower - Chrysanthemum	4th leaf from tip (30+)		Prior to Bud Start
204	Flower - Chrysanthemum	Recent fully developed leaf	4th leaf from tip	Bud start to harvest
175	Flower - Daylily	Mature leaves from new growth		Summer
206	Flower - Gerbera Daisy	Recent fully developed leaf (20+)		Mid-Season
205	Flower - Gladiolus	Recent fully developed leaf (15+)		Mid-Season
325	Flower - Hibiscus	Most Recent Fully Developed Leaf		Mid-season
187	Flower - Hydrangea	Most recently matured leaf		
383	Flower - Impatiens - Bed	Most Recently Matured Leaf		Mature Plants
384	Flower - Impatiens - NG	Most Recently Matured Leaf		Mature Plant
130	Flower - Lily	Leaf		Mature
329	Flower - Lupins	Most recently developed leaf		pre flower

Crop No	Crop Name	Plant Part	Description	Growth Stage
182	Flower - Poinsettia			
045	Flower - Rose	Recent fully developed leaf	Recently developed compound 5-leaflet leaf	Mid-season
271	Flower - Snap Dragon	Leaves	Leaves - New Growth	
420	Flowering Crab apple	30-40 leaves from new growth		Midseason
519	Fraser Fir			Most recently mature foliage in upper
614	Frijol	Hojas más recientemente desarrollada		Inicio de floración a aparición de vaina
916	Frijol	MRML		mid season pod set
615	Frijol - Snap	Hoja superior-madura		Vainas maduras
616	Frijol - Snap	Hoja reientemente madura completamente	Hoja recientemente madura completamente, antes de	Temprana
080	Garlic			Pre-bulbing
136	Garlic			Bulbing
137	Garlic	Most Recently Matured Leaf		Post-bulbing
102	Ginseng			
534	Ginseng			Root dry weight ranges
302	Ginseng Root	Root		2-3 Year
304	Ginseng Root	Root		4-6 Year
158	Grain Sorgham	Recently fully developed leaf		Prior to Bloom
170	Grain Sorgham	Recently fully developed leaf		Prior to Flowering
031	Grape	Recent fully developed leaf	Recent fully developed leaf	Mid-season
034	Grape	Most recently matured leaf blade		Mid- to late summer
087	Grape	Blade		Pre-Bloom
094	Grape	Blade	Ripening	Ripening
096	Grape	Blade		Bloom-Post Bloom
238	Grape	Blade		Post Bloom

Crop No	Crop Name	Plant Part	Description	Growth Stage
032	Grape Petiole	Petiole opposite basal flower clusters	Petiole	Post-Bloom
132	Grape Petiole	Petiole opposite basal flower clusters	Petiole	Ripening
138	Grape Petiole	Petiole		Pre-Harvest
089	Grape Petiole - Flowering			
071	Grapefruit	Mature leaves from new growth (25+)		Mid-Season
006	Grass			
932	Guayaba	MRML		post flowering
474	Hazelnut	MRML		Summer
468	Head lettuce	wrapper leaf		Mature
339	Hemp	10 stems (10 cm section 1m from tip plus		mature mid summer
029	Herb - Chive	Recently fully developed leaf (40+)		Mid-Season
035	Herb - Mint	Recent fully developed leaf	Recent fully developed leaf	Mid-season
070	Herb - Parsley	Most Recently Matured Leaf		New growth May June
316	Herbs	Most Recently Matured Leaf		New growth May June
852	Hops	Most Recently Matured Leaf		Mid Season
868	Hops	MRML		Early Vegetative
869	Hops (Cascade)	Petiole		Early
870	Hops (Cascade)	Petiole		Late Season
871	Hops (Cascade)	Petiole		Mid Season
872	Hops (Chinook)	Petiole		Early
873	Hops (Chinook)	Petiole		Late Season
874	Hops (Chinook)	Petiole		Mid Season
477	Horseradish	Root		
145	Horseradish	12 Blades w/midribes		Through growing season
233	Kale	Most recently matured leaf		Mid-season

Crop No	Crop Name	Plant Part	Description	Growth Stage
915	Kidney Bean	MRML		mid season pod set
084	Kiwi	Recent fully developed leaf (30+)		Mid-Season
807	Leeks	Most Recently Matured Leaf		Mid Season (Aug - Sept)
921	Lemon	MRML		Vegetative shoot
047	Lemon	Mature leaves from new growth (30+)		Mid-Season
763	Lentil Seed (WC)	Seed		Mature (Survey)
146	Lentils	Uppermost Mature Leaf		Early flowering
215	Lentils	Whole Plant		Early Growth
043	Lettuce	Wrapper leaf	Recent fully developed leaf	Mature
469	Lettuce	wrapper leaf		Heads 1/2 size
148	Lettuce - Boston			8 leaf stage
382	Lettuce - Leaf	Oldest leaf		up to 8 leaf stage
385	Lettuce - Leaf	Most recently matured leaf		8 leaf to harvest
160	Lime	Mature leaves from new growth (30+)		Mid-Season
920	Limon	MRML		Vegetative shoot
328	Linola	upper 3rd from top of plant		at budding onset of blossom
630	Maiz	Planta entera	Plant entera <18"	Menos de 12 pulgadas
631	Maiz	Hoja de mazorca	Hoja de mazorca a floracion	Floracion (Bloom)
638	Maiz - Dulce	5ta. Hoja desdoblada de la punta (8+)		Polinizacion complete a flor femenina
919	Mango	MRML		post flowering
910	Mani	Whole Tops (25+)		Early Pegging
605	Manzano Leaf	Hoja recientemente madura completamente	Hoja recientemente madura completamente	Media estación
606	Manzano Leaf	Hoja joven		Temprana
607	Manzano Leaf	Hoja recientemente madura completamente	Hoja recientemente madura completamente	Cosecha
617	Melón	5ta hoja desde la punta	Inicio de flor a fruto pequeno	Inicio de flor a fruta pequena

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619	Melón	5ta hoja desde la punta	Fruto pequeno a cosecha	Fruta pequena a cosecha
044	Melon	Recent fully developed leaf	Recent fully developed leaf	Flower start to small fruit
620	Melón-Muskmelon	HMRM		12" sarmiento a floración
337	Millet	leaf		most recently matured leaf
336	Mustard	leaf		most recently matured leaf
424	mustard greens	MRML		midseason
914	NARANJA	leaves behind fruit MRRML		5-7 mnths
913	Navel Orange	leaves behind fruit MRRML		5-7 mnths
142	Nectarines	Most Recently Matured Leaf		
153	Nectarines	Most Recently Matured Leaf		Mid-season
912	Nogal	Middle pair of leaflets located on a middle leaf		
764	Oat Seed (WC)	Seed		Mature (Survey)
010	Oats	Flag leaf	Upper leaves, prior to bloom	Head emergence from boot
104	Oats	Whole Plant Leaves		Early growth prior to flag leaf
105	Oats	Most Recently Matured Leaf	Boot Stage	Boot Stage
074	Okra	Recently fully developed leaf (12+)		Early flowering
083	Olive	Leaf from new growth (50+)		Mid-Season
154	Onion			1/3 - 1/2 growth
155	Onion			Mature pre-bulking
426	Onion	Bulb	Bulb	Harvest
037	Onions	Whole plant		2-6 leaf stage-from 2leaf to bulb forming
040	Orange	Mature leaves from new growth		Mid-Season
069	Orchard Grass	top		between clippings
805	Orchid	Most Recently Matured Leaf		Mature Plants Flowering Stage
806	Orchid	Most Recently Matured Leaf		Young Plant Non Flowering

Crop No	Crop Name	Plant Part	Description	Growth Stage
209	Pak Choi	MATURE LEAVES		ALL SEASON
933	Papa	Recent fully developed leaf		Mid season
908	Papaya	MRML		midseason
528	Parsley	most recently matured leaf		Mid-season
529	Parsley	most recently expanded leaf		Early
178	Parsnip			Mid-season
537	Parsnips - Mature Root	Root		Mature
240	Passion Fruit	Most recently matured leaf from lateral shoots		Mid-season
033	Pasture Grass			
765	Pea (Field) Seed (WC)	Seed		Mature (Survey)
320	Pea - Field	Recently matured leaf		First Bloom
321	Pea - Field	Recently matured leaf		Pod set to harvest
041	Peach	Recent fully developed leaf	Recent fully developed leaf	Mid-season
141	Peach	Leaves (Spring To Fruit Set)		Early
856	Peach	Fruit		
348	Peanut	Most Recently Matured Leaf		25-30 days after emergence
349	Peanut	Most Recently Matured Leaf		Pre-Flowering
351	Peanut	most recently matured leaf		pegging to mature
161	Pears	Recent fully developed leaf	Recent fully developed leaf	Early to Mid-Season
832	Pears			
039	Peas	Whole Plant	Early	First bloom
179	Peas	Recent fully developed leaf	Recent fully developed leaf	Pre-bloom
180	Peas			Mature
219	Peas	Whole Plant		Early
228	Peas - Snow or Sugar	Most Recently Expanded Leaf		Mid-Season

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101	Pecan	Leaf from mid-portion (25+)		Mid-Season
911	Pecan	Middle pair of leaflets located on a middle leaf		
473	Pepper - Chili	Recent fully developed leaf		First bloom to early fruit set
038	Pepper - Sweet Bell	Recent fully developed leaf	Recent fully developed leaf	First bloom to early fruit set
343	Pepper - Sweet Bell	Most Recently Matured Leaf		Early Harvest
344	Pepper - Sweet Bell	Most Recently Matured Leaf		Seedling to Prior to Blossoming
472	Pepper Chili	Most recent matured leaf		Early fruit set
012	Pepper Sweet Bell	Most recent matured leaf	Early Fruit set	Early fruit set
809	Peppers Bell	Fruit		
525	Persimmon			MRML new growth summer
686	Pimiento	Hoja madura mas reciente	Inicio fruta precoz	Inicio formacion de fruto
918	Pina	first fully expanded leaf set flowering		Flowering
917	Pineapple	first fully expanded leaf set flowering		Flowering
906	Plantain	Centre strip of first fully developed leaf		midseason
315	Plantain	centre strip of first fully developed leaf		mature
907	Plantano	Centre strip of first fully developed leaf		midseason
036	Plum	Recent fully developed leaf	Recent fully developed leaf	Mid-season
867	POA /bentgrass (greens)	clippings		Newgrowth clippings
810	Potato	Tuber		Tuber
016	Potato	Recent fully developed leaf	Leaves - mid season	Mid season
183	Potato			Tuberet analysis
216	Potato	Leaf	Leaves - early	early
244	Potato	30+ Petioles (4th from top)		30 days after emergence
255	Potato	Petiole (4th from top of plant) 30+		50 days After Emergence
274	Potato	Petiole (4th from top of plant) 30+		60 days After Emergence

Crop No	Crop Name	Plant Part	Description	Growth Stage
277	Potato	30+ Petioles (4th from top)		40 days after emergence
287	Potato	Petiole (4th from top of plant) 30+		110+ days After Emergence tuberbulking
297	Potato	Petiole (4th from top of plant) 30+		70-80 days After Emergence tuber development
298	Potato	Petiole (4th from top of plant) 30+		70 days After Emergence
313	Potato	Petiole (4th from top of plant) 30+		80-110 days After Emergence tuberbulking
224	Potato - Sweet	Most Recent Fully Developed Leaf		
245	Potato Atlantic	30+ Petioles (4th from top)		30 days after emergence
257	Potato Atlantic	Petiole (4th from top of plant) 30+		50 days After Emergence
278	Potato Atlantic	30+ Petioles (4th from top)		40 days after emergence
288	Potato Atlantic	Petiole (4th from top of plant) 30+		60 days After Emergence
299	Potato Atlantic	Petiole (4th from top of plant) 30+		70 days After Emergence
356	Potato Atlantic	Petiole (4th from top of plant) 30+		80 days After Emergence
365	Potato Atlantic	Petiole (4th from top of plant) 30+		90-110 days After Emergence
374	Potato Atlantic	Petiole (4th from top of plant) 30+		110+ days After Emergence
248	Potato Kennebec	30+ Petioles (4th from top)		30 days after emergence
258	Potato Kennebec	Petiole (4th from top of plant) 30+		50 days After Emergence
279	Potato Kennebec	30+ Petioles (4th from top)		40 days after emergence
289	Potato Kennebec	Petiole (4th from top of plant) 30+		60 days After Emergence
300	Potato Kennebec	Petiole (4th from top of plant) 30+		70 days After Emergence
355	Potato Kennebec	Petiole (4th from top of plant) 30+		80 days After Emergence
364	Potato Kennebec	Petiole (4th from top of plant) 30+		90-110 days After Emergence
373	Potato Kennebec	Petiole (4th from top of plant) 30+		110+ days After Emergence
246	Potato Norkota	30+ Petioles (4th from top)		30 days after emergence
259	Potato Norkota	Petiole (4th from top of plant) 30+		50 days After Emergence
280	Potato Norkota	30+ Petioles (4th from top)		40 days after emergence

Crop No	Crop Name	Plant Part	Description	Growth Stage
290	Potato Norkota	Petiole (4th from top of plant) 30+		60 days After Emergence
305	Potato Norkota	Petiole (4th from top of plant) 30+		70 days After Emergence
358	Potato Norkota	Petiole (4th from top of plant) 30+		80 days After Emergence
367	Potato Norkota	Petiole (4th from top of plant) 30+		90-110 days After Emergence
376	Potato Norkota	Petiole (4th from top of plant) 30+		110+ days After Emergence
247	Potato Norland	30+ Petioles (4th from top)		30 days after emergence
260	Potato Norland	Petiole (4th from top of plant) 30+		50 days After Emergence
281	Potato Norland	30+ Petioles (4th from top)		40 days after emergence
291	Potato Norland	Petiole (4th from top of plant) 30+		60 days After Emergence
306	Potato Norland	Petiole (4th from top of plant) 30+		70 days After Emergence
357	Potato Norland	Petiole (4th from top of plant) 30+		80 days After Emergence
366	Potato Norland	Petiole (4th from top of plant) 30+		90-110 days After Emergence
375	Potato Norland	Petiole (4th from top of plant) 30+		110+ days After Emergence
252	Potato Onaway	30+ Petioles (4th from top)		30 days after emergence
261	Potato Onaway	Petiole (4th from top of plant) 30+		50 days After Emergence
282	Potato Onaway	30+ Petioles (4th from top)		40 days after emergence
292	Potato Onaway	Petiole (4th from top of plant) 30+		60 days After Emergence
307	Potato Onaway	Petiole (4th from top of plant) 30+		70 days After Emergence
362	Potato Onaway	Petiole (4th from top of plant) 30+		80 days After Emergence
371	Potato Onaway	Petiole (4th from top of plant) 30+		90-110 days After Emergence
380	Potato Onaway	Petiole (4th from top of plant) 30+		110+ days After Emergence
243	Potato Petiole	30+ Petioles (4th from top)		70 - 80 days after emergence
262	Potato R. Burbank	Petiole (4th from top of plant) 30+		50 days After Emergence
283	Potato R. Burbank	30+ Petioles (4th from top)		40 days after emergence
293	Potato R. Burbank	Petiole (4th from top of plant) 30+		60 days After Emergence

Crop No	Crop Name	Plant Part	Description	Growth Stage
308	Potato R. Burbank	Petiole (4th from top of plant) 30+		70 days After Emergence
360	Potato R. Burbank	Petiole (4th from top of plant) 30+		80 days After Emergence
369	Potato R. Burbank	Petiole (4th from top of plant) 30+		90-110 days After Emergence
378	Potato R. Burbank	Petiole (4th from top of plant) 30+		110+ days After Emergence
249	Potato Shepody	30+ Petioles (4th from top)		30 days after emergence
263	Potato Shepody	Petiole (4th from top of plant) 30+		50 days After Emergence
284	Potato Shepody	30+ Petioles (4th from top)		40 days after emergence
294	Potato Shepody	Petiole (4th from top of plant) 30+		60 days After Emergence
309	Potato Shepody	Petiole (4th from top of plant) 30+		70 days After Emergence
359	Potato Shepody	Petiole (4th from top of plant) 30+		80 days After Emergence
368	Potato Shepody	Petiole (4th from top of plant) 30+		90-110 days After Emergence
377	Potato Shepody	Petiole (4th from top of plant) 30+		110+ days After Emergence
251	Potato Snowden	30+ Petioles (4th from top)		30 days after emergence
264	Potato Snowden	Petiole (4th from top of plant) 30+		50 days After Emergence
285	Potato Snowden	30+ Petioles (4th from top)		40 days after emergence
295	Potato Snowden	Petiole (4th from top of plant) 30+		60 days After Emergence
311	Potato Snowden	Petiole (4th from top of plant) 30+		70 days After Emergence
361	Potato Snowden	Petiole (4th from top of plant) 30+		80 days After Emergence
370	Potato Snowden	Petiole (4th from top of plant) 30+		90-110 days After Emergence
379	Potato Snowden	Petiole (4th from top of plant) 30+		110+ days After Emergence
253	Potato Superior	30+ Petioles (4th from top)		30 days after emergence
265	Potato Superior	Petiole (4th from top of plant) 30+		50 days After Emergence
286	Potato Superior	30+ Petioles (4th from top)		40 days after emergence
296	Potato Superior	Petiole (4th from top of plant) 30+		60 days After Emergence
312	Potato Superior	Petiole (4th from top of plant) 30+		70 days After Emergence

Crop No	Crop Name	Plant Part	Description	Growth Stage
363	Potato Superior	Petiole (4th from top of plant) 30+		80 days After Emergence
372	Potato Superior	Petiole (4th from top of plant) 30+		90-110 days After Emergence
381	Potato Superior	Petiole (4th from top of plant) 30+		110+ days After Emergence
812	Potato Tuberette			
159	Pumpkin	Recent fully developed leaf	Recent fully developed leaf	Mid-season
865	Rabbiteye blueberry	Youngest full sized leaf from fruiting shoots		Bloom to harvest
046	Radish	Recent fully developed leaf	Recent fully developed leaf	Seedling to half grown
254	Radish	Most recently matured leaf		Tuber half grown to mature
387	Radish	Most recently matured leaf		Seedling to bulb half grown
065	Raspberry	Recent fully developed leaf	Recent fully developed leaf	Flower bud start
234	Raspberry	Most recently matured leaf		2-3 weeks postharvest
176	Red Clover	top 8 inches		Prior to Bloom Early Bloom
237	Rhubarb	Leaf		Mid-season
165	Rice	Recent fully developed leaf	Upper leaves, prior to bloom	Panicle initiation
859	Rice	MRML Y leaf		Pannicle initiation
860	Rice	Whole plant		Early growth tillering 30 DAT
861	Rice	Flag leaf		flowering
862	Rice	MRML		Mid tillering
143	Romain Lettuce	MRML		8 leaf stage
147	Romain Lettuce	Oldest undamaged leaf wrapper leaf		Mature
057	Rye	25 Whole Tops		Panicle Initiation
404	Rye Grass	whole tops		Vegetative
172	Saskatoon Berries	Leaves		In Season
831	Seed			
131	Shrub - Alstromeria	Leaf		Mature

Crop No	Crop Name	Plant Part	Description	Growth Stage
230	Shrub - Boxwood (Common)	Terminal Cuttings		Summer
200	Shrub - Euonymus			Container Production
199	Shrub - Euonymus (Var.)	Terminal Cuttings		Summer
134	Shrub - Evergreen			
091	Shrub - Yews	Recent fully developed leaf	Recent fully developed leaf	Mid-season
754	Sorgo grano	Hoja recientemente madura completamente		Antes des floracion
757	Sorgo grano	Hoja recientemente madura completamente		De 6 pulgadas a etapa de floracion
517	Soybean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Mature
017	Soybean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Prior to pod set
117	Soybean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Early
217	Soybean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Early Bloom
317	Soybean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Full Bloom
417	Soybean	Recent fully developed leaf	Recent fully developed leaf, prior to flowering	Fruiting
430	Soybean	Whole Plant		Seedling
340	Soybean RR	Recent fully developed leaf		Prior to flowering
341	Soybean RR	Recent fully developed leaf		Early Bloom
342	Soybean RR	Recent fully developed leaf		Prior to Pod set
048	Spinach	Recent fully developed leaf	Recent fully developed leaf	Mature
184	Spinach	Recent fully developed leaf	Recent fully developed leaf	Young plants 30-50 days
241	Spinach	Leaf		8 weeks spring
242	Spinach	Leaf		8 weeks fall
866	Spring Wheat	Upper leaf		Heading to mature
049	Squash	Recent fully developed leaf	Recent fully developed leaf	Mid-season
050	Strawberry	Recent fully developed leaf	Recent fully developed leaf	Flowering
150	Strawberry	Recent fully developed leaf	Recent fully developed leaf	Renovation

Crop No	Crop Name	Plant Part	Description	Growth Stage
250	Strawberry	Most Recently Matured Leaf		Mid Season
350	Strawberry	Recent fully developed leaf	Recent fully developed leaf	Early Spring
550	Strawberry Day Neutrals	Recent fully developed leaf		Flowering
802	Sugar Cane	Most Recently Matured Leaf		
901	sugar cane	leaf #4-6 from top mid rib removed		June
902	Sugar Cane	leaf #3-4 from top mid rib removed		3-5 mths old spring
905	sugar cane	leaf #4-6 from top mid rib removed		Summer
079	Sunflower	Recent fully developed leaf	Recent fully developed leaf	Mid-season
196	Sunflower	Most Recently Matured Leaf		Budding to Maturity
354	Swiss Chard	Most recently matured leaf		Midseason
174	Tangerine	Mature leaves, subtending fruit		5-7 months into growing season
500	Timothy	Whole Tops		Between clippings
520	Timothy			5-Heads emerged
521	Timothy			4-Head beginning to emerge
522	Timothy			3-Early Growth to flag leaf
523	Timothy			2-Early Growth 12"+ before flag
524	Timothy			1-Early Growth 4-12" before flag
014	Tobacco	Recent fully developed leaf	Recent fully developed leaf	Bloom stage
177	Tobacco	Recent fully developed leaf	Flue	60-80 days after planting
186	Tobacco			45-60 days after planting
227	Tobacco			80 days - Mature
275	Tobacco	Leaf		Flue 30 - 45 days after planting
276	Tobacco	Leaf		Pre-Harvest - Harvest
330	Tobacco	Most Recently Matured Leaf		Seedling
332	Tobacco	Most Recently Matured Leaf		Flowering

Crop No	Crop Name	Plant Part	Description	Growth Stage
333	Tobacco	Most Recently Matured Leaf		Mature
331	Tobacco - Burley and Dark	Most Recently Matured Leaf		Early Growth
149	Tobacco - Flue Cured	Most Recently Matured Leaf		Seedling
068	Tomato	Most Recently Matured Leaf		Early leaf non flowering
156	Tomato	Petiole	Recent fully developed leaf	1st Stage
157	Tomato	Petiole	Recent fully developed leaf	2nd Stage
188	Tomato	Petiole		3rd stage
189	Tomato	Petiole of recent fully developed leaf	Late season sizing to 50% ripe	4th stage
808	Tomato	Fruit		
144	Tomato - Greenhouse			Mature Plant
256	Tomato - Greenhouse			Early
326	Tomato - Greenhouse	Most recently mature leaf, with petiole		Before Fruiting
327	Tomato - Greenhouse	Most recently mature leaf, with petiole		During Fruiting
267	Tomato - Stake	12 petioles opposite or below first flower cluster		Mid Bloom first cluster
268	Tomato - Stake	12 petioles opposite or below 2nd flower cluster		Mid Bloom 2nd cluster
269	Tomato - Stake	12 petioles opposite or below 3rd flower cluster		Mid Bloom 3rd cluster
270	Tomato - Stake	12 petioles opposite or below 4th flower cluster		Mid Bloom 4th cluster
272	Tomato - Stake	12 petioles opposite or below 5th flower cluster		Mid Bloom 5th cluster
273	Tomato - Stake	12 petioles opposite or below 6th flower cluster		Mid Bloom 6th cluster
056	Tomato Cherry	Recent fully developed leaf	Recent fully developed leaf	Mid-season
231	Tree - Balsa Fir	25 2-3" Terminal Cuttings		
100	Tree - Balsam Fir	Terminal Cuttings (2-3") from 25 trees		2-5 years
095	Tree - Birch	Recently mature leaves (25+)		Mid Season
229	Tree - Black Ash	Mature Leaves from New Growth		Summer
266	Tree - Blue Spruce	Needles 1 pint from new growth		Mid-season

Crop No	Crop Name	Plant Part	Description	Growth Stage
055	Tree - Coniferous		Coniferous	
058	Tree - Deciduous		Deciduous	
402	Tree - Douglas Fir	Terminal Cuttings (2-3") from 25 trees		2-5 years
235	Tree - Elm	Most recently matured leaf		Field production
213	Tree - Juniper (Creeping)	25 2-3" Terminal Cuttings		Summer
236	Tree - Linden / Basswood	10 Mature leaves from new growth		New Growth - Summer
126	Tree - Magnolia	Leaves		All Season
098	Tree - Maple	Recent fully developed leaf	Recent fully developed leaf	Mid-season
314	Tree - Northern Catalpa	5 mature leaves from new growth summer		5 mature leaves from new growth
097	Tree - Oak	Recent fully developed leaf	Recent fully developed leaf	Mid-season
833	Tree - Pine - Jack	Current year needles	Recent fully developed leaf	Mid-season - Young
834	Tree - Pine - Red	Current year needles	Recent fully developed leaf	Mid-season - Young
093	Tree - Pine - White	Current year needles	Recent fully developed leaf	Mid-season - Young
166	Tree - Pine - White	Terminal cuttings (2-3") from 25 trees		Mature tree - mid season
167	Tree - Poplar	Most recently matured leaf	Recent fully developed leaf	Field production
092	Tree - Walnut	Recent fully developed leaf	Recent fully developed leaf	Mid-season
212	Tree - White Cedar	25 2-3" Terminal Cuttings		Summer
072	Tree - White Spruce	25 2-3" terminal cuttings		summer
753	Trigo	Hoja recientemente madura completamente	Hojas superiores, antes de floración	Antes de espigamiento
751	Trigo - Invierno			Floración
750	Trigo - Primavera	Toda la parte aérea de la planta		Etapa de crecimiento 4-6
752	Trigo - Primavera	Hojas superiores		Espigamiento a madurez
501	Triticale	Whole Tops		
066	Turf	Recent fully developed leaf	Leaves	Mid-season
063	Turf - Bentgrass Green		Bentgrass Green	

Crop No	Crop Name	Plant Part	Description	Growth Stage
139	Turf - Bentgrass Green	clippings		Newgrowth clippings
064	Turf - POA Green		Poa Green	
140	Turf - POA Green	clippings		Newgrowth clippings
390	Turnip	Most recently matured leaf		8 weeks to harvest
391	Turnip	Most recently matured leaf		up to 8 weeks
504	Turnip	Leaf		
850	Turnip	Petiole		Less than 200g
851	Turnip	Petiole		greater than 200g
415	Vetch	Most Recently Matured Leaf		Prior to Flowering
190	Watermelon	5th leaf from tip		Flower to small fruit
191	Watermelon	5th leaf from tip		Small fruit to harvest
013	Wheat	Recent fully developed leaf	Upper leaves, prior to bloom	Prior to heading
181	Wheat			
760	Wheat (WC)	Seed		Large Mature (Survey)
085	Wheat - Spring	Upper Leaves		Heading to Mature
086	Wheat - Spring			Early
397	Wheat - Spring	All above ground plant parts		GS 3
398	Wheat - Spring	All above ground plant parts		GS 4-6
399	Wheat - Spring	Most recently matured leaf		GS 7-8
400	Wheat - Spring	Most recently matured leaf		GS 9-10
401	Wheat - Spring	Most recently matured leaf		GS 10
081	Wheat - Winter	Whole Plant		Early
082	Wheat - Winter	Most Recently Matured Leaf		Bloom
192	Wheat - Winter			Seeding - fall
194	Wheat - Winter			Mature grain

Crop No	Crop Name	Plant Part	Description	Growth Stage
197	Wheat - Winter			Seeding - fall
198	Wheat - Winter	Upper Leaf		Heading to mature
392	Wheat - Winter	All above ground plant parts		GS 3
393	Wheat - Winter	All above ground plant parts		GS 4-6
394	Wheat - Winter	Most recently matured leaf		GS 7-8
395	Wheat - Winter	Most recently matured leaf		GS 9-10
396	Wheat - Winter	Most recently matured leaf		GS 10
214	Wheatgrass (Crested)	Tops Cut 2cm above Soil		Late Spring
476	White Clover	topleafs 6 inches		Pre Bloom to Early Bloom
467	Winter Wheat	top two leaves		At Heading
210	Yow Chow	Mature Leaves		All Season
621	Zanahoria	Parte entera superior de planta joven		Media-estación
622	Zanahoria	Hoja más recientemente madura		Madura
623	Zanahoria	Planta entera		Emergencia temprana a 1-3 cm de raiz
195	Zuchini	Most recently matured leaf		Flowering to harvest